



"Advancing Health Policy and System Research: Lessons for a Resilient Health System in Nepal"

Eighth National Summit of Health and Population Scientists in Nepal

10-12 April 2022, Kathmandu

ABSTRACT BOOK

Abstract Book

Eighth National Summit of Health and Population Scientists in Nepal

**Advancing Health Policy and System Research: Lessons for a
Resilient Health System in Nepal**

10 – 12 April 2022

Kathmandu, Nepal

Published by
Government of Nepal
Nepal Health Research Council (NHRC)
Ramshah Path, Kathmandu, Nepal
April 2022

© Nepal Health Research Council

Editorial Team

Dr. Meghnath Dhimal

Mr. Bijay Kumar Jha

Ms. Namita Ghimire

Mr. Bihungum Bista

Dr. Bishnu Marasini

Ms. Upama Ghimire

Ms. Sitasma Sharma

Ms. Yunima Sapkota

Dr. Suman Sharma Paudel

Ms. Januka Khatri

Mr. Anup Kumar Gupta

Welcome Letter

Dear Summit Delegates

Nepal Health Research Council (NHRC) together with the Advisory Committee, the Steering Committee, the Scientific Committee and the Organizing Committee extend our warm welcome to the Eighth National Summit of Health and Population Scientists in Nepal. The Eighth National Summit is a continuum of previous summits as a part of our initiatives to promote research culture in the country. The primary purpose of the summit is to provide a platform for researchers and academicians to share recent and relevant health evidence; and policymakers to interact with researchers and academia to identify recent evidence. The summit also offers an opportunity for a diverse set of stakeholders (researchers, policymakers, representatives of civil society, regional and international organizations as well as non-governmental organizations) to explore ways and means of applying research evidence generated to improve the wellbeing of the Nepalese people. The Summit is themed with “Advancing Health Policy and System Research: Lessons for Resilient Health System in Nepal”.

Health system resilience is key to learning lesson from country responses to Crisis such as COVID-19. The unprecedented healthcare demand due to sudden outbreak of COVID-19 pandemic has almost collapsed the health care systems especially in the developing world including Nepal. The COVID-19 pandemic has highlighted the critical importance of generating contextually tailored evidence through high-quality health policy and system research and their use in decision making thereby strengthening health systems resilience to tackle future pandemics, shocks and stressors to the system. A comprehensive analysis of the resilience of the health system during the pandemic can therefore pinpoint important lessons and help strengthen countries' preparedness, response, and approach to future health challenges. This summit has the unique opportunity to facilitate discussion on health systems and policy research (HSPR), as well as its advancement, in order to accomplish communal health goals and construct a resilient health system.

The summit will hold pre-summit, symposium, plenary and parallel sessions to discourse on available evidence on national health priorities through oral and poster presentation of selected abstracts as well as the invited presentations. We believe that the summit will have a significant contribution to generate evidence, which in turn provides an insight into the need for quality research in the country within the context of resilient health systems.

Given the rich diversity of participants from academia, research institutes, government, NGO/INGOs and external developmental partners, we also believe that the summit will also foster enduring partnership for innovation in all research and policy making in Nepal. We would like to express our sincere gratitude to researchers, policymakers, external development partners and related stakeholders for supporting us in organizing this summit. We look forward to your active engagement in the summit. Thank you.

Dr Pradip Gyanwali
Executive Chief (Member-Secretary)
Nepal Health Research Council

Prof Dr Gehanath Baral
Chairman
Nepal Health Research Council

Advisory Committee

S.N.	Name	Organization
1	Prof. Dr. Mrigendra Raj Pandey	Emeritus Chairman, NHRC
2	Prof. Dr. Mathura Prasad Shrestha	Ex Chairperson
3	Prof. Dr. Gopal Prasad Acharya	Ex Chairperson, NHRC
4	Dr. Mahesh Kumar Maskey	Ex Chairperson, Nepal Health Research Council
5	Prof. Dr. Chop Lal Bhusal	Ex Chairperson, NHRC
6	Prof. Dr. Dharma Kant Baskota	Past Chairperson, NHRC
7	Dr. Krishna Prasad Adhikari	Ex Chairperson, NHRC
8	Prof. Dr. Anjani Kumar Jha	Former Executive Chairman, Nepal Health Research Council
9	Prof. Dr. Dibya Shree Malla	Ex Vice Chairperson, Nepal Health Research Council
10	Prof. Dr. Buddha Basnyat	Ex Vice Chairperson, NHRC
11	Dr. Sudha Sharma	Past Secretary, MOHP
12	Dr. Praveen Mishra	Ex Secretary, MOHP
13	Dr. Senendra Upreti	Ex-Secretary, MOHP
14	Dr. Kiran Regmi	Ex-Secretary, MOHP
15	Prof. Dr. Jeevan Bahadur Sherchand	Coordinator, Research Laboratory Regulation, Monitoring, Expert Sub-Committee, NHRC
16	Prof. Dr. Madhu Ghimire	Ex Member Secretary, NHRC
17	Dr. Ram Prasad Upreti	Ex Member Secretary, NHRC
18	Dr. Bhojraj Joshi	Ex Member Secretary, NHRC
19	Prof. Dr. Sharad Onta	Ex Member Secretary, NHRC
20	Prof. Dr. Anil Mishra	Ex Member Secretary, NHRC
21	Dr. SP Singh	Ex Member Secretary, NHRC
22	Prof. Dr. Sri Krishna Giri	Ex Member Secretary, NHRC
23	Dr. Sarita Upadhyay	Ex Member Secretary, NHRC
24	Dr. Suniti Acharya	Baluwatar, Kathmandu
25	Dr. Tirtha Rana	Public Health Foundation
26	Dr. Baburam Marasini	Public Health Expert

27	Dr. Dirgha Singh Bam	Dirgha Jeevan Clinic, Kathmandu
28	Dr Dharma S.Manandhar	Ex Vice Chairperson, Nepal Health Research Council
29	Prof. Dr. Ramkanta Makaju	Executive Director, Dulikhel Hospital, KU
30	Prof. Dr. Umesh Mandal	Director, Research Directorate, TU
31	Prof. Dr. Arati Shah	Medical Education Commission
32	Prof. Dr. Dilip Sharma	Medical Education Commission
33	Prof. Dr. Sanga Ratna Bajracharya	Medical Education Commission
34	Dr. Lochan karki	President, Nepal Medical Association
35	Dr. Sailesh Pradhan	Association of Clinical Pathologists of Nepal (ACPN)
36	Dr. Bhim Acharya	Society of Public Health Physician Nepal (SOPHYN)
37	Dr. Bimal Pandey	Association of Spine Surgeons of Nepal (ASSN)
38	Dr. Deewakar Sharma	Cardiac Society of Nepal (CSN)
39	Dr. Bharat Kumar Yadav	General Practice Association of Nepal (GPAN)
40	Dr. Ishwor Lohani	International College of Surgeons (ICS Nepal Section)
41	Dr. Jay Narayan Shah	Nepal Association of Medical Editors (NAME)
42	Dr. Madan Kumar Piya	Nepal Association of TB and Chest Physicians (NATBCP)
43	Dr. Suvit Maskey	Nepal Dental Association (NDA)
44	Dr. Jagadish Lal Baidya	Nepal Association of Urological Surgeons (NAUS)
45	Dr. Saroj Prasad Ojha	Nepal Epilepsy Association (NEA)
46	Dr. Y. P. Singh	Nepal Oncological Society (NEONS)
47	Dr. Rohit Saiju	Nepal Ophthalmic Society (NOS)
48	Dr. Rabindra Lal Pradhan	Nepal Orthopedic Association (NOA)
49	Dr. K.P. Bista	Nepal Pediatric Society (NEPAS)
50	Prof. Dr. Hensan Khadka	Nepal Radiologists Association (NRA) Nepal)
51	Dr. Rajendra Agrawal	Nepal Society of Nephrology (NSN)
52	Dr. Ganesh Dangal	Nepal Society of Obstetricians and Gynecologists (NESOG)

53	Dr. Sanjay Lakhe	Nepalese Society of Critical Care Medicine (NSCCM)
54	Dr. Pradeep Vaidya	Nepalese Society of Gastroenterologists
55	Dr. Mohan Raj Sharma	Nepalese Society of Neurosurgeons (NESON)
56	Dr. Ambuj Karna	Nepalese Society of Therapeutic Radiation Oncology (NESTRO)
57	Dr. Prakash Sayami	Thoracic Society of Nepal
58	Dr. Kusum Lata Mishra	Perinatal Society of Nepal (PESON)
59	Dr. Sudarshan Narsingh Pradhan	Psychiatrists Association of Nepal (PAN)
60	Dr. Joju Nath Pokharel	Society of Anesthesiologists of Nepal (SAN)
61	Dr. Sudip Parajuli	Society of Dermatologists, Venerologists and Leprologists of Nepal (SODVELON)
62	Prof. Dr Arun Maskey	Society of Internal Medicine of Nepal (SIMON)
63	Dr. Narmaya Thapa	Society of Otolaryngologists of Nepal (SOL Nepal)
64	Dr. Bijay Kumar Sharma	Society of Surgeon of Nepal (SSN)
65	Prof. Dr. Prakash Ghimire	Nepalese Society of Microbiology
66	Dr. Ramesh Kumar Maharjan	Nepalese Society of Emergency Physicians (NSEP)
67	Dr. Rabindra Man Shrestha	Ortho Dentist Association Nepal (ODAN)
68	L.D. Maharjan	Infection Control Society of Nepal
69	Man Kumari Rai	Nursing Association Nepal
70	Dr. Sanjay Lakhe	Nepal Society of Critical Care Medicine
71	Dr. Ashesh Dhungana	Nepalese Respiratory Society
72	Dr. Bhagwan Koirala	Chairman, Nepal Medical Council
73	Dr. Mohan Krishna Shrestha	Nepal Health Professional Council
74	Prof. Sarala KC	Nepal Nursing Council
75	Dr. Santosh Kumar Thakur	Nepal Ayurvedic Medical Council
76	Dr. Krishna Kumar Oli	Nepalese Academy of Neurology
77	Mr Prajwal Jung Pandey	Nepal Pharmacy Council
78	Mr Basanta Adhikari	Nepal Public Health Association
79	Prof. Dr. Ramesh Prasad	Medical Education Commission

Acharya		
80	Dr Bhojraj Kafle	Medical Education Commission
81	Prof. Dr. Ramesh Prasad Acharya	Medical Education Commission
82	Vice-Chancellor	Trivuwun University
83	Vice-Chancellor	Kathmandu University
84	Vice-Chancellor	Patan Academy of Health Sciences
85	Vice-Chancellor	National Academy of Medical Sciences
86	Vice-Chancellor	Pokhara University
87	Vice-Chancellor	Purbanchal University
88	Vice-Chancellor	Madan Bhandari Academy of Health Sciences
89	Vice-Chancellor	Madesh Institute of Health Science
90	Vice-Chancellor	Gandaki University
91	Vice-Chancellor	Karnali Academy of Health Sciences
92	Prof. Dr. Pramod Kumar Chhetri	Nepal Society of Nephrology (NSN)

Steering Committee

S.N.	Name	Organization
1	Prof. Dr. Gehanath Baral	Chairman, Nepal Health Research Council
2	Prof. Dr. Gaurav Dhakal	Vice Chairman, NHRC
3	Dr. Sunil Babu Shrestha	Vice Chancellor, NAST
4	Dr. Bishnu Raj Uprety	Executive Chairman, Policy Research Institute
5	Dr. Dipendra Raman Singh	Director General
6	Dr. Shyam Sundar Yadav	Chief Specialist, MoHP
7	Dr. Guna Raj Lohani	Chief Specialist
8	Prof. Dr. Bandana Khanal	Board Member, NHRC
9	Dr. Ram Aadhar Yadav	Board Member, NHRC
10	Dr. Awadhesh Tiwari	Board Member, NHRC
11	Dr. Santosh Shakya	Board Member, NHRC
12	Prof. Dr. Bhagwan Koirala	Chairman, Nepal Medical Council
13	Prof. Dr. Shrikrishna Giri	Vice Chairman, Medical Education Commission
14	Dr. Madan Kumar Upadhyaya	Representative, MoHP
15	Dr. Kiran Rupakheti	Joint Secretary, NPC, Board Member NHRC
16	Prof. Dr. Dibya Singh	Research Committee, IoM
17	Mr. Ishwori Prasad Aryal	Joint Secretary, MoF, Board Member NHRC
18	Prof. Dr. Ramesh Kant Adhikari	ERB, Chairman
19	Prof. Dr. Shankar Man Rai	Chief Editor, JNHRC
20	Dr. Pramod Poudel	Research Director, University Grant Commission
21	Dr. Basudev Upadhyay	Director General, Department of Ayurveda, Ministry of Health and Population
22	Mr. Bharat Bhattarai	DG, DDA
23	Dr. Rajesh Sambhajirao Pandav	WHO Representative, WHO Country Office Nepal,
24	Ms. Latika Maskey Pradhan	UNFPA
25	Ms. Sabita Tuladhar	USAID
26	Mr. Prajwal Jung Pandey	Chairman Nepal Pharmacy Council
27	Dr. Pradip Gyanwali	Executive Chief, NHRC

Scientific Committee

S.N	Name	Organization
1	Dr. Pradip Gyanwali	Executive Chief, Nepal Health Research Council
2	Dr. Krishna Prasad Poudel	Chief, Policy, Planning and Monitoring Division, MoHP
3	Dr. Sangeeta Mishra	Chief, Health Coordination Division, MoHP
4	Dr. Madan Kumar Upadhyaya	Chief, Quality Standard and Regulation Division, MoHP
5	Prof Dr. Rameshwor Adhikari	RECAST, TU
6	Prof. Dr. Janak Koirala	Consultant, NHRC
7	Prof. Madhusudan Subedi	Patan Academy of Health Science (PAHS)
8	Prof. Dr. Shiva Raj Adhikari	HOD, Central Department of Economics, TU
9	Prof. Dr. Abhinav Vaidya	Department of Community Medicine, Kathmandu Medical College
10	Prof. Dr. Sabina Shrestha	Ophthalmologist and ERB Member, NHRC
11	Prof. Dr. Saroj Prasad Ojha	Institute of Medicine
12	Prof. Dr. Lochana Shrestha	Nepalese Army Institute of Health Sciences
13	Prof. Dr. Sujan Babu Marahatta	Manmohan Memorial Institute of Health Sciences
14	Prof. Dr. Ramesh Singh Bhandari	IOM
15	Prof. Dr. Rajeev Shrestha	Head of Research Department, Kathmandu University
16	Prof. Dr. Nisha Jha	KIST Medical College
17	Prof. Dr. Neeti Singh	HOD, Community Medicine and Public Health, KISTMCTH
18	Prof. Dr. Dhana Ratna Shakya	BPKIHS
19	Assoc. Prof. Dr. Ramesh Kumar Maharjan	HOD, Department of Emergency Medicine, IOM, TU
20	Assoc. Prof. Dr. Binod Kumar Yadav	Institute of Medicine
21	Assoc. Prof. Dr. Khem Bahadur Karki	Head, Department of Community Medicine, IOM
22	Assoc. Prof. Dr. Apsara Pandey	Nursing Campus, Birgunj
23	Assoc. Prof. Dr. Archana	Epidemiologist, KU

	Shrestha	
24	Assoc. Prof. Dr. Prenit Pokharel	Associate Professor, Department of OMFS
25	Assoc. Prof. Dr. Umesh Gupta	Pokhara University
26	Assoc. Prof. Megha Raj Banjara	Central Department of Microbiology, TU
27	Assoc. Prof. Dr. Narayan Bahadur Mahotra	Department of Clinical Physiology, IOM, TU
28	Assoc. Prof. Dr. Samir Singh	Associate. Prof. KIST Medical College
29	Assoc. Prof. Dr. Rajendra Gyawali	Kathmandu University
30	Assoc. Prof. Dr. Ajaya Kunwar	Biomedical Expert
31	Dr. Md Khurshid Alam Hyder	Public Health Administrator, Who
32	Dr. Guna Nidhi Sharma	Chief, Policy and Planning Section, MOHP
33	Dr. Suresh Tiwari	Public Health Expert
34	Dr. Sushil Chandra Baral	Executive Director, HERD International
35	Mr. Anil Thapa	Chief, HMIS, DOHS
36	Mr. Kapil Prasad Timalsena	PMIS, MOHP
37	Dr. Mahesh Puri	Associate Director, CREHPA
38	Dr. Suresh Mehata	Government of Nepal
39	Dr. Krishna Kumar Aryal	Public Health Expert
40	Dr. Rajendra Kumar BC	Consultant, NHRC
41	Dr. Mandira Lamichhane	Policy Research Institute
42	Dr. Sameer Mani Dixit	Center For Molecular Dynamics Nepal
43	Mr. Deepak Karki	Health Advisor, UK Embassy, Nepal
44	Dr. Sabitri Sapkota	Director, Implementation Research, Nyaya Health
45	Dr. Sapana Amatya Vaidya	Paropakar Maternity & Women's Hospital
46	Dr. Ram Hari Chapagain	Kanti Children Hospital
47	Dr. Santosh K.C.	DDA
48	Mr. Baburam Humagain	Senior Pharmacist
49	Mr. Pushpa Raj Khanal	Registrar, NHPC
50	Dr. Prabhat Adhikari	Consultant, NHRC

51	Dr. Dipak Kunwar	Psychiatrist, Kathmandu University
52	Dr. Santosh Timilsina	CMC
53	Dr. Bibek Rajbhandari	Nepal Police Hospital
54	Mr. Ashok Bhurtyal	Institute of Medicine
55	Dr. Sushil Koirala	INGO Federation
56	Dr. Shankar Khatiwada	RECAST
57	Mr. Kiran Bajracharya	Planning Section, DDA
58	Dr. Basudev Pandey	Expert
59	Dr. Ratna Mani Gajurel	IOM
60	Dr. Bishal Gyanwali	Queen's University
61	Dr. Dinesh Neupane	Harvard/John Hopkins
62	Dr. Ramesh Dhakal	Advisor
63	Dr. Badri Rijal	General Secretary, Nepal Medical Association
64	Dr. Subarna Pokharel	Expert
65	Dr. Yuba Nidhi Basaula	Director, Kanti Children's Hospital
66	Assoc. Prof. Dr. Chandra Mani Adhikari	Director, Shahid Gangalal National Heart Centre
67	Dr. Manisha Rawal	Director, Sukraraj Tropical and Infectious Disease Hospital
68	Dr. Krishna K.C	
69	Dr. Samarika Dahal	
70	Dr. Ashutosh Kumar Singh	Institute of Medicine
71	Dr. Dipak Kumar Yadav	BPKIHS, Dharan
72	Mr Narayan Prasad Dhakal	Chief, Drug Administrator, MoHP
73	Ms. Namita Ghimire	Ethical Review M & E Section, NHRC
74	Dr. Bishnu Marasini	NHRC
75	Mr. Bihungum Bista	NHRC
76	Dr. Meghnath Dhimal	NHRC

Organizing Committee

S.N.	Name	Designation
1	Dr. Pradip Gyanwali	Member-Secretary, (Executive Chief)
2	Mr. Subodh Kumar Karna	Chief, Account Section
3	Mr. Yubaraj Kharel	Chief Administration Section
4	Dr. Meghnath Dhimal	Chief, Research Section
5	Mr. Chandra Bhusan Yadav	Library and Information Officer
6	Mr. Bijay Kumar Jha	Training Officer
7	Mr. Saraswati Prasad Bhattarai	Store Officer
8	Ms. Namita Ghimire	Research Officer
9	Mr. Sudeep Gyawali	Admin. Officer
10	Ms. Sumita Khanal	Admin. Officer
11	Ms. Sanju Poudel	Account Officer
12	Mr. Bihungum Bista	Senior Research Officer
13	Mr. Bishnu Prashad Marasini	Senior Research Officer
14	Dr. Suman Pant	Research Officer
15	Dr. Shristi Karkee	Research Officer
16	Er. Sudarshan Sharma	Electronic/Communication Officer
17	Dr. Nayanam Pokharel	Research Officer
18	Dr. Prerok Regmi	Research Officer
19	Ms. Sashi Silwal	Research Officer
20	Ms. Kopila Khadka	Research Officer
21	Ms. Neelam Dhakal	Research Officer
22	Mr. Anil Poudyal	Research Officer
23	Mr. Bhuwan Thakurathi	Research Officer
24	Ms. Sudha Poudel	Research Officer
25	Ms. Santoshi Adhikari	Research Officer
26	Mr. Shashi Verma	Research Officer
27	Ms. Rojina Basnet	Research Officer

28	Ms. Richa Acharya	Research Officer
29	Ms. Selina Siwakoti	Research Officer
30	Ms. Sailaja Ghimire	Research Officer
31	Mr. Sandeep Rijal	Research Officer
32	Ms. Urmila Shakya	Research Officer
33	Ms. Elina Khatri	Research Officer
34	Ms. Aashray Manandhar	Research Officer
35	Ms. Rajina Shakya	Research Officer
36	Ms. Uma Kafle	Research Officer
37	Ms. Sitasnu Dahal	Research Officer
38	Ms. Sushma Sharma	Research Officer
39	Ms. Kristina Parajuli	Research Officer
40	Mr. Jot Narayan Patel	Research Officer
41	Ms. Samita Maharjan	Research Officer
42	Ms. Pratima Dawadi	Research Officer
43	Dr. Subhanshi Sharma	Research Officer
44	Dr. Ghanshyam Pandey	Research Officer
45	Dr. Isha Amatya	Research Officer
46	Mr. Bijay Kranti Shakya	Research Officer
47	Ms. Upama Ghimire	Research Officer
48	Ms. Urmila Koirala	Research Officer
49	Ms. Kritee Lamichhane	Research Officer
50	Ms. Jyoti Sharma	Research Officer
51	Ms. Purnima Timilsina	Research Officer
52	Mr. Rabindra Bhandari	Research Officer
53	Ms. Sharmila Baral	Research Officer
54	Ms. Sulochana Prajapati	Research Officer
55	Ms. Shreejana Dangol	Research Officer
56	Ms. Januka Khatri	Clinical Pharmacist

57	Mr. Anup Gupta	Clinical Trial Coordinator
58	Mrs. Bina Devi Sitoula	Assistant Admin. Officer
59	Mr. Pradeep Belbase	Training Assistant
60	Mr. Ghanashyam Chaudhary	Library and Information Assistant
61	Mr. Min Bahadur Ghising	Technical Assistant
62	Mr. Sudip Poudel	Publication Assistant
63	Ms. Usha Parajuli	Admin Asst.
64	Ms.Sarita Thapa (Malla Thakuri)	Admin Asst.
65	Mr. Ajay Kumar Lal Karna	Office Assistant
66	Mr. Subash Ghising	Office Assistant
67	Mr. Bashu Dev Chapagain	Store Assistant
68	Ms. Kamala Luitel	Store Assistant
69	Ms. Janaki Pandey	Asst. Research Officer
70	Mr. Pukalal Ghising	Assistant Account Officer
71	Ms.Sunita Dhakal	Account Asst.
72	Mr. Kewal Budathoki	Account Asst.
73	Mr. Amit Kumar Jha	Account Asst.
74	Ms. Sona Luitel	Asst. Research Officer
75	Mr. Rakesh Yadav	Asst. Research Officer
76	Ms.Sapana Thapa	Asst. Research Officer
77	Ms.Anjana Aryal	Asst. Research Officer
78	Ms.Sabina Jyakho	Asst. Research Officer
79	Ms. Sunita Baral	Asst. Research Officer
80	Ms. Srijana Panta	Asst. Research Officer
81	Mr. Ajnish Ghimire	Asst. Research Officer
82	Mr. Kiran Paudel	Asst. Research Officer
83	Ms. Aastha Acharya	Asst. Research Officer
84	Ms. Sitasma Sharma	Asst. Research Officer
85	Mr. Pushpa Raj Bhattarai	Asst. Research Officer

86	Ms. Rabina Poudel	Asst. Research Officer
87	Mr. Manish Dhakal	Data Entry Manager
88	Ms. Kritika Sharma	Data Entry Manager
89	Ms. Yunima Sapkota	Clinical Pharmacist
90	Mr. Suman Sharma Paudel	Trial Coordinator
91	Mr. Kiran Neupane	Research Assistant
92	Ms. Sarina Gyawali	Research Assistant
93	Mr. Suraj Kumar Mandal	Research Assistant
94	Dr. Rajendra Kumar B.C	Consultant
95	Dr. Umesh Aryal	Consultant
96	Dr. Nisha Rana	Consultant
97	Mr. Dinesh Bhandari	Consultant
Supporting Staff:		
98	Mr. Lal Bahadur Ghising	Driver
99	Mr. Bir Bahadur Ghising	Driver
100	Mr. Mandhwoj Tamang	Driver
101	Mr. Ram Pd. Acharya	Driver
102	Mr. Manoj Luitel	Driver
103	Mr. Lok Bikram Chauhan	Office Helper
104	Mr. Bishanu Prasad Dhungana	Office Helper
105	Mr. Buddhiman Limbu	Guard
106	Mr. Maheshwor Chaudhary	Guard
107	Mrs. Goma Khadka	Gardener
108	Ms. Kamala Pujari	Sweeper
109	Mr. Ambir Ghale Gurung	Technical Assistant
110	Ms. Samali Tamang	Gardener
111	Ms. Renu Sedai	Sweeper

Contents

Welcome Letter	ii
Advisory Committee	iii
Steering Committee	vii
Scientific Committee	viii
Organizing Committee	xi
PRE SUMMIT SESSIONS	
Municipal Preparedness for Managing a Health Emergency for a Resilient Local Health System	1
Burden of Disease and Health System Resilience	1
New Population Perspectives of Nepal	2
Resilience and Health Financing: Reflections for Nepal	3
Understanding responsive health systems in LMICs: insights from Health Policy and System Research	4
Rethinking Urban Health Systems to Respond to Challenges in Cities	4
The Responsive Health Workforce: What Have We Learned From Recent Shocks and Stressors?	5
PLENARY SESSION – I	6
Health Sector Budget Analysis: First Five Years of Federalism in Nepal	6
Research Methods for Health Insurance with Country Examples	7
PLENARY SESSION – II	10
Strengthening mental health systems through collaborative care model: evidence and learnings from rural Nepal	10
Global, Regional and National Initiative on Addressing Health Impacts of Climate Change	11
Efforts for Developing of Climate Resilient Health System in Nepal	12
National and Provincial Situation of Non-communicable Diseases and Mental health in Nepal	13
Implementation Science Research to Address Non Communicable Diseases in Low Resource Setting	14
PARALLEL SESSIONS	
Error! Bookmark not defined.SESION 1: Health Policy and System Research – I	
1.1.1 Rapid Assistive Technology Assessment (rATA) Survey, 2021 in Nepal	16

1.1.3 Understanding and Strengthening Health Governance and Planning for Resilient Local Health Systems: Findings from a Participatory Action Research	19
1.1.4 Assessing Feasibility and Challenges in Adopting 27 Health Financing Reform Initiatives Pertinent to Attaining Universal Health Coverage in Nepal: A Qualitative Study	20
1.1.5 Partial Integration of the Vitamin A Supplementation and Lymphatic Filariasis Elimination Campaigns: Prospects and Challenges in Nepal	22
1.1.6 Non-Communicable Diseases Policy Formulation Process in Nepal: A Qualitative Study	23
1.1.7 Processes of Assistive Technology Service Delivery in Bangladesh, India and Nepal: A Critical Reflection	24
1.1.8 Towards Universal Health Coverage: An Analysis of Health Insurance Program of Nepal	26
SESSION 2: Biomedical, Epidemiological, and Clinical Research – I	28
1.2.2 Laboratory errors in clinical biochemistry: The quality of laboratory testing in B.P. Koirala Institute of Health Sciences, Nepal	28
1.2.3 Evaluation of Basic Cardiovascular Profile And Prevalence of Cardiovascular Risk Factors among The National Level Athletes of Nepal	29
1.2.4 A Causal Model of Promoting Resilience in Long-Term Recovery Phase Among Nepalese Elderly Citizens Experiencing Disaster	30
1.2.5 REMAP-CAP: A Randomized, Embedded, Multi-factorial, Adaptive Platform Trial for Community-Acquired Pneumonia. (Anticoagulation Domain)	31
1.2.6 Carbapenemase-Encoding Blakpc and Bla _{oxa-48} Genes in Carbapenem-Resistant Gram-Negative Bacteria in A Tertiary Hospital in Nepal	33
1.2.7 Neglected Tropical Diseases (NTDs) Service Availability at Local Health Facilities in Eastern Nepal	34
SESSION 3: Health Policy and System Research – II	36
1.3.1 Strengthening SRHR in Pre-service Education of Doctors, Nurses and Midwives	36
1.3.2 The Gendered Experience of Female Community Health Volunteers (FCHVs) in Nepal: Implications for Policy and Practice during and Post COVID-19	37
1.3.3 A Policy Research on Eye Health Services of Nepal	38
1.3.5 Routine Data Quality Assessment in Selected Hospitals of Lumbini Province: System and Data Verification gaps and recommendation for improved data quality	40

1.3.6 A systematic Review and Meta-analysis of Prevalence and Associated Factors of Exclusive Breastfeeding Practices in Nepal	42
1.3.7 Enhancing the Use of Routinely Collected Data in Health System Performance and Accountability in Nepal	43
1.3.8 Factors Associated with Implementation of the Protocol -1 (CVD prevention) of the Package of Essential Noncommunicable Disease (PEN) in Primary Health Care Facilities of Nepal	44
1.3.9 Factors Affecting Implementation, Enrollment and Sustainability of The National Health Insurance in Nepal: A Systematic Review	46
1.3.10 Factors Affecting on Compliance of Childhood Immunization in Ilam District of Nepal: A Case Control Study	47
SESSION 4: Biomedical, Epidemiological, and Clinical Research – II	49
1.4.1 Population Based Cancer Registry in Nepal: Key Findings	49
1.4.2 Scrub Typhus and Molecular Characterization of Orientia tsutsugamushi from Central Nepal	50
1.4.3 Chadox1 Ncov-19 Vaccine and its Self-Reported Adverse Events: A Cross-Sectional Study from Western Nepal	51
1.4.4 Seroprevalence of Dengue Fever in Central Region of Nepal	52
1.4.5 Assessment of Antigenemia of Lymphatic Filariasis among Children Borne after Mass Drug Administration (MDA) in Salyantar, Dhading	53
1.4.6 Patterns of Use of Antibiotics in Hospitalized COVID-19 Patients in a Tertiary Care Centre in Lalitpur District, Nepal	55
1.4.7 The Impact of Basic Police Training and Scale Diet on Body Composition and Aerobic Performance of Nepal Police Officers Trainees	56
1.4.8 Multimorbidity, Stress, Anxiety, Depression, and Quality of Life of Older Nepali Adults	58
1.4.9 Varicella Zoster Outbreak in A Military Training Centre in Nepal: A Clinico Epidemiological Study	60
1.4.10 Occupational Health and Safety among Airline Crew Members (Pilots and Cabin Crew) in Nepal	61
SESSION 5: Responsible Conduct of Health Research in Nepal	63
1.5.1 Responsible Conduct of Health Research	63
SESSION 7: Maternal, Neonatal, and Child Health	65

1.7.1 Investing in Quality Newborn Health for Nepal - A closer look at low cost high impact interventions	65
1.7.2 Preterm Infant Care Practice of Nurses in Neonatal Care Units of Selected Public Hospitals of Kathmandu, Nepal	65
1.7.3 Skin Carotenoid Assessment to Detect Vitamin A Deficiency in Children And Pregnant Women in Nepal	66
1.7.4 Maternal and Newborn Health Emergency Helpline Support: Assisting MNH Service providers from Remote Areas to make Clinical Decision during COVID-19	68
1.7.5 Prevalence and Correlates of Excessive Screen Time among Young Children of 5 to 9 Years in An Urban Area of Nepal: Evidence From a Cross-Sectional Analytical Study	69
1.7.6 Impact of Federalisation in Maintaining Quality of Maternal and Neonatal Care in Nepalese Health System	70
SESSION 8: Interdisciplinary Research and Miscellaneous	72
1.8.1 Satisfaction among Women of Reproductive Age (18-49 Years) Receiving Family Planning Services from Private Health Facilities in Nepal	72
1.8.2 Awareness on Rights Related to Menstrual Hygiene Management (MHM) and its Relation with Their Perception on Risk, Self-Efficacy and Behavior Pertinent to MHM among Female Adolescent Students in Bajura District, Nepal	73
1.8.3 Trend and Determinants of Birth Registration in Nepal: Evidence from Multiple Indicator Cluster Survey	74
1.8.4 The Economic Impact of the COVID-19 Pandemic on the Lives of Persons with Disabilities in the Gorkha District of Nepal	76
1.8.5 Blood, Bleeding and Beliefs: An Ethnographic Echo of Purity Versus Pollution During the Menstrual Practices in Cross Cultural Communities of Nepal	77
1.8.6 Quality of Family Planning Services and Protection from Sexually Transmitted Infections and HIV/AIDS in Nepal	78
	79
POSTER PAPERS	79
THEME 1: Resilient Health Care Delivery System	80
2.1.1 Factors Associated with Renewal of Social Health Insurance in Selected Wards of Bhaktapur Municipality, Province 3	80
2.1.2 Determinants of Uptake and Retention of the National Health Insurance Program in Nepal: A Qualitative Study	81

THEME 2: Covid-19 Pandemic and Related Research	83
2.2.1 Screen time and its correlates among 3-10 years children during COVID-19 pandemic in Nepal	83
2.2.2 Acceptance of Covid-19 Vaccination During Covid-19 Pandemic in Nepal	84
2.2.3 Incidence, Clinical Characteristics and Outcomes Associated with Acute Kidney Injury in Patients Hospitalized with COVID 19 in Sukraraj Tropical and Infectious Disease Hospital, Nepal: A Hospital based Retrospective Study	85
2.2.4 Second Aave of COVID-19 patients – Severity and Treatment in Tertiary Care Center of Nepal	87
2.2.5 Visual Impact of Digital Classroom Among Students Attending Online Education	88
2.2.6 Self and Family Care Knowledge and Practice during COVID-19 in Bagmati Province, Nepal	89
2.2.7 Outcome of COVID 19 Patients with Cardiovascular Disease of Nepal During the Second Wave of COVID Pandemic Era	90
2.2.8 Impact of COVID-19 on Access to Health Service on Lives Of Person With Disabilities in Gorkha District, Nepal	92
2.2.9 Impact of COVID-19 on Livelihood Activities of Person with Disabilities in Gorkha District of Nepal	93
2.2.10 Perception of Persons With Disabilities towards Vaccination Against COVID-19 in Gorkha District of Nepal	94
2.2.11 The Impact of The COVID-19 Pandemic on The Lives of Persons with Disabilities in Rural Nepal	95
2.2.12 Effect of COVID-19 Virus Infection on Pregnancy Outcomes: A Systematic Review and Meta-analysis	97
2.2.13 Mental Health Status of Recovered Covid-19 Patients and its Associated Risk Factors in Nepal	98
2.2.14 Prevalence of Anxiety and Depression among Undergraduate Medical Students Amidst COVID-19 pandemic in a Medical College of Lalitpur, Nepal	99
2.2.15 Impact of COVID 19 Pandemic on Mental Health of Persons with Disabilities in Gorkha District of Nepal	100
2.2.16 Federalism in Nepal: Opportunities and Challenges in the Health System during COVID-19	102

2.2.17 Impact of COVID-19 pandemic in management of Surgical patients during Nationwide COVID-19 Lockdown in a Military hospital	104
THEME 3: Antimicrobial Resistance	106
2.3.1 A Point Prevalence Study of the Use of Antibiotics at Six Tertiary Care Hospitals in the Kathmandu Valley, Nepal	106
2.3.2 Phenotypic Determination of Phage Susceptibility among Multidrug-Resistant Bacteria Isolated from Clinical Samples of Patients of Tertiary Care Center, Nepal	107
2.3.4 Antimicrobial Susceptibility Pattern of Bacterial Isolates from Post-operative Wound Sample in Patients Attending Chitwan Medical College Teaching Hospital	110
THEME 4: Mental Health	112
2.4.1 Psycho-social Wellbeing of Old Adult Patients with Non-communicable Diseases in Selected Hospitals	112
2.4.2 Prevalence of Emotional and Behavioral Problems among Adolescents of Children's Home and Perceptions of Caretakers towards it at Gokarneshwor Municipality in 2021	113
2.4.3 Illicit Drugs/Substances Abuse and Perceived Psychosocial Impacts among Individual Admitted in Registered Drug Rehabilitation Center of Eastern Nepal	114
2.4.4 Socio-Demographic and Clinical Characteristics of Patients with Globus Pharyngeus and its Association with Psychiatric Co-Morbidities, Attending Outpatients Service of a Teaching Hospital in Nepal	115
2.4.5 Sleep Quality and Sleep Disorders among Healthcare Shift Workers at a Tertiary Care Hospital in Nepal	117
THEME 5: Maternal, Neonatal, Child and Reproductive Health	119
2.5.1 Factors Affecting Utilization of Sexual and Reproductive Health Services Among Women With Disabilities- A Mixed-Method Cross-Sectional Study From Ilam District, Nepal	119
2.5.2 Factors Associated with Antenatal Care Visit Dropout among Mothers Attending Immunization Clinics of Morang District	120
2.5.3 Is Nepal's Health Care System Prepared for Responding to Menopausal Women's Needs? Providers' Perspectives on Their Willingness and Requirements for Policies And Programmes	121
2.5.4 Community Perceptions of Facilitators and Barriers to Maternal and Child Health Service Use in Dang and Rukum District of Nepal	123
2.5.5 Spatial-Temporal Patterns and Determinants of Diarrhea and Acute Respiratory Infection among Children under five years in Nepal	124

2.5.6 Factors Associated with Early Child Development in Nepal - A Further Analysis of results from Multiple Indicator Cluster Survey 2019	125
2.5.7 Effect of a Social media-based Health Education Program on Postnatal care (PNC) Knowledge among Pregnant Women using Smartphones in Dhulikhel Hospital: A Randomized Controlled Trial	126
Keywords mobile app; pregnancy; postnatal care knowledge; mHealth; Nepal	128
2.5.8 Exclusive Breastfeeding Practices and Its Associated Factors among Breastfeeding Mothers in Kathmandu, Nepal	128
THEME 6: Non Communicable Diseases	130
2.6.1 Prevalence of Hypothyroidism among Female Students of a Medical College of Nepal	130
2.6.2 Knowledge on Hypertension among Adult People in a Community at Biratnagar Metropolitan	131
2.6.3 Prevalence of Risk Factors of Major Non-communicable Diseases among Sexual and Gender Minorities of Kathmandu valley	132
2.6.4 Barriers and Facilitators to Cardiovascular Disease Preventive Behaviors among Urban Adults, 2021 AD	133
2.6.5 Risk Factors of Type 2 Diabetes among Bankers of Kathmandu Metropolitan City: A Cross-Sectional Study	135
2.6.6 Genetic Polymorphism of Alcohol Dehydrogenase 2 (ADH1B) in Association with Alcohol Consumption in Nepalese Population	136
2.6.8 Distribution of Genetic Polymorphisms in Drug Metabolizing Gene CYP2C9 in Type 2 Diabetes Population	139
2.6.9 Opportunistic Screening of Hyperglycemia among Patients coming for Eye, ENT Consultation	140
2.6.10 Challenges in Effective Referral of Cardiovascular Diseases in Nepal: A Qualitative Study from Health Workers' and Patients' Perspective	142
2.6.11 Counseling on Risk Factors of Non-Communicable Diseases (NCD) in Package of Essential Non-Communicable Diseases (PEN) Implemented Districts of Nepal	143
2.6.12 Health Authorities' Perspective on Facilitators and Barriers to Implement the Package of Essential Noncommunicable Disease (PEN) in Nepal: A Qualitative Study	145
2.6.14 Patients' Perspective on Facilitators and Barriers to Utilise Non-Communicable Disease (NCD) Service at Primary Healthcare Level in Nepal: A Qualitative Study	148

2.6.15 Situational Analysis of Package of Essential Non-Communicable Disease (PEN) Implementation at Primary Health Care Setting in Nepal	150
2.6.16 Prevalence and Associated Factors of Diabetes Measuring Glycated Hemoglobin in Pokhara Municipality of Nepal	152
2.6.17 Situational Analysis of Package of Essential Non-Communicable Disease (PEN) Implementation at Primary Health Care Setting in Nepal	153
2.6.18 Experiences of Nepalese Nurses on Caring Practice for Hospitalized Stroke Patients in Acute Stage: a Qualitative Study	155
THEME 7: Public Health Surveillance	157
2.7.1 Lifestyle Pattern, Status of Mental Health, Renal Function, Liver Function and Stress Marker Among Nepalese Workers in Gulf Countries and Malaysia	157
2.7.2 Association between Cancer Stigma and Cervical Cancer Screening Uptake among Women Of Dhulikhel and Banepa, Nepal	158
2.7.3 Cervical Cancer Screening Knowledge, Attitude, and its Belief among Students, Nepal	160
2.7.4 Intestinal Parasitosis among School Children in Bardiya District In Nepal: And Associated Risk Factors	161
2.7.5 Measuring Progress towards 'First 90' Target among Key Population in Nepal with Context of Southeast Asia Region: Meta-Analysis 2010-2018	162
THEME 8: Rational Use of Medicines and Pharmacovigilance	164
2.8.1 Knowledge, Attitude, and Practice of Pharmacovigilance among Undergraduate Medical and Dental Students of A Teaching Institution	164
2.8.2 Pharmacists' Awareness and Attitude towards Counterfeit Medicines in the Kathmandu Valley	165
2.8.3 Knowledge and Practice on Use of Metered Dose Inhaler among Clients in a Tertiary Level Hospital	166
2.8.4 Knowledge, Attitude and Practice of Pharmacovigilance and Adverse Drug Reaction Reporting among the Dental Students	167
THEME 9: Nutrition and Food Safety	169
2.9. 1 Evaluation of Nutritional Supplements Prescribed, Their Associated Cost, and Patients' Knowledge, Attitude, and Practice towards Nutraceuticals: A Hospital-Based Cross-Sectional Study in Kavrepalanchowk, Nepal	169
2.9.2 Dietary Diversity and its Associated Factors among Lactating Mothers Residing in Tarakeswar Municipality, Kathmandu	170

2.9.3 Nutritional Status and Quality Of Life in an Institutionalized Elderly Population of Tanahun and Kaski Districts of Gandaki Province	171
THEME 10: Violence	173
2.10.1 Prevalence and Adolescents' Perspectives on Cyberbullying in Pokhara, Kaski District, Nepal	173
2.10.2 Developing and Piloting an Intervention to Provide First Line Response to Domestic Violence and Abuse in a Primary Health Care Setting in Nepal	174
2.10.3 Prevalence of Sexual Harassment in Public Places Faced by Female Bachelor's Students of Kathmandu Valley	175
THEME 11: Miscellaneous	177
2.11.1 Neglected Tropical Diseases (NTDs) Service Availability at Local Health Facilities in Eastern Nepal	177
2.11.2 Self-Directed Learning Readiness of the Undergraduate Nursing Students from Selected Nursing Colleges of Purbanchal University	178
2.11.3 Practice of Health Promoting School among Selected Schools of Kathmandu Metropolitan City	179
2.11.4 Nurses' Attitude towards Research and Perceived Barriers in Application of Research Findings in a Tertiary Hospital	180
2.11.5 Understanding the Perception on the Scope of Work of the Female Community Health Volunteers and their Contribution in the Health Sector of Nepal	181

PRE SUMMIT SESSIONS

Municipal Preparedness for Managing a Health Emergency for a Resilient Local Health System

Ajit Karna^{1*}, Hom Nath Subedi¹, Ajay Acharya¹, Tibendra Banskota¹

Affiliations

¹USAID's Strengthening Systems for Better Health (SSBH) Activity, Kathmandu, Nepal

Corresponding Author

Ajit Karna, ajit_karna@ssbhnepal.org

Local health systems are not equipped to address increasingly complex and interconnected health and development challenges brought by the COVID-19 pandemic. The pandemic has further underscored the need for radical change in our local health systems to plan, prepare, respond to protect people at local health service from current and new health threats. Addressing health emergency planning in the decade-long practice of developing and implementing disaster preparedness and response plan at municipal level in Nepal, has never been so timely as it is now due to COVID-19 and unforeseen events of diseases creating health emergencies. The Disaster Risk Reduction and Management Act 2017, National DRRM Policy 2018, and the DRR National Strategic Action Plan 2018-2030, Local Government Operation Act 2017, and Public Health Service Act 2018, are the major regulatory frameworks of Nepal that aid in strengthening municipal capacities for pandemic preparedness.

Realizing the need of strengthening the local health system in the context of current and future pandemics and disasters by the MoHP, the USAID's Strengthening Systems for Better Health (SSBH) Activity is providing technical assistance to the municipalities in consultative with sub-national government for developing municipal health emergency and disaster preparedness and response plan in project areas, all 10 districts of Karnali Province and six terai districts of Lumbini Province. In all 138 municipalities in project areas, SSBH's teams convene a workshop among the municipal stakeholders to conduct vulnerability assessments, by which hazards are stratified and capacity mapped. Multiple clusters are formed and protocols are prepared. Finally, a prototype of the plan is developed and endorsed by the municipality. Thus far, with SSBH support, health emergency and disaster preparedness and response plans of 16 municipalities were prepared, which will be a living document to address emerging health emergencies and disasters.

Keywords: Health Emergency, Disaster, local health system, Pandemic Preparedness

Burden of Disease and Health System Resilience

Meghnath Dhimal¹, Achyut Raj Pandey²

Affiliation

¹ Nepal Health Research Council, Ramshahpath, Kathmandu

² HERD International, Thapathali, Kathmandu

Nepal has repeatedly faced natural disasters, environmental catastrophes and disease outbreaks in the past that pose stress on the health system. Apart from these, changing patterns of disease, population aging, and system changes have posed additional challenges to the Nepalese health system. To be able to deliver essential services during the time of emergency and to effectively address the changing health needs of the population, health systems need to be more resilient.

Non communicable disease (NCDs) was responsible for 30% of total deaths in 1990, 71% of total deaths in 2022 and is projected to be responsible for 78% of total deaths in 2040. The proportion of deaths attributed by communicable, maternal, neonatal and nutritional (CMNN) diseases decreased from 64% of total deaths in 1990 to approximately 20% of deaths in 2022 and will be responsible for approximately 12.5% of total deaths in 2040. The proportion of deaths attributable to injuries have hovered between 6% to 9% between 1990 to 2022 and will also be responsible for 9% of deaths in 2040. This changing pattern of disease can have a significant impact on the types of services to be included in the essential health care service package, skills and capacity required for service delivery, logistics and infrastructures. Together with the increasing burden of NCDs, there has been 92.7% increase in years lived with disability between 1990 and 2019 that demand the changes in type of services being delivered through primary level health care facilities.

Health system in Nepal has recently transitioned to a federal structure with 753 elected local governments. These local governments are responsible for delivery of basic health services to people. This changed context could be an opportunity to continuously improve and strengthen the local health system taking into consideration disease patterns, local socio-cultural, dietary and behavioral patterns.

New Population Perspectives of Nepal

Yagya B. Karki¹

¹Demographer, Former Member of National Planning Commission, Government of Nepal

More than half a century of development efforts in the country has resulted in remarkable success in economic and social development. Demographically, Nepal has achieved the demographic transition characterized by falling birth and death rates and a moderate growth of population. Total fertility rate has declined to below replacement level and the expectation of life at birth has increased. The average annual growth rate of the

population has gone down below one per cent. Depopulation in many districts and internal migration flow from the hills and mountains to the Tarai are major issues. The 2021 census shows highly distorted population distribution by ecological regions; Nepal's 77% of the mountainous land mass inhabits only 46% of the total population while 54% of the population are crammed in 23% of the land. Urbanization as an offshoot of internal migration is becoming increasingly challenging. International migration is increasing and becoming diversified. Labour migrants contribute substantially to Nepal's GDP; the ratio of remittance to GDP is around 30%. The changing age structure provides both opportunities and challenges. Currently there are relatively more working age population compared to the dependent populations leading to a demographic dividend which if well managed can accelerate economic growth. However, in order to reap the benefits of demographic dividend calls for investment in quality education and health and creation of employment opportunities. The changing age structure has also given rise to population ageing. In Nepal, the population aged 65 years and over was only 0.35 million in 1971 which has increased to 5.3 million in 2011. The increasing number of the old age population needs social security programmes including health care.

Keywords: Fertility, mortality, life expectancy, demographic dividend, migration, urbanization, ageing

Resilience and Health Financing: Reflections for Nepal

Dr. Sophie Witter, Professor of International Health Financing and Health Systems, Institute for Global Health and Development, Queen Margaret University, Edinburgh

Resilience is a much-used but often ill-defined concept, which needs more grounded thinking in the context of chronic and acute shocks and stressors in fragile and shock-prone settings. In particular, it is important to understand the underlying capacities that are needed to support resilience in health systems, and how those can be supported, including at the local level in decentralized systems such as Nepal's.

In this presentation, I will present the resilience framework used by the ReBUILD consortium, some of the general lessons which have emerged to date on resilience capacities, and focus on the role of health financing within it. We have clear international norms for effective health financing systems, and ReBUILD has worked with WHO to tailor these to fragile and conflict-affected settings, but how do these link with resilience, and what does that imply for Nepal as it finalizes its new health financing strategy? The session will aim to unpack that in an interactive way, engaging with the audience.

Understanding responsive health systems in LMICs: insights from Health Policy and System Research

Professor Tolib Mirzoev, London School of Hygiene and Tropical Medicine

Health systems responsiveness, is a key and the least researched of health systems goals, is the system's ability to identify and respond to the people's universally legitimate expectations. Central to this are the interactions between the people who decide whether and how to share their expectations within the contexts of their values, beliefs, norms and traditions and health systems often represented by health workers, who usually decide on legitimacy of these people's expectations and consequently address (or not) these within the contexts of political priorities; resource environment and technical capacity. These issues can be particularly important in fragile environments which face resource shortages and competing priorities.

This presentation will provide insights into the current understanding of health systems responsiveness, and possible strategies for making health systems more responsive to the needs and expectations of diverse stakeholders. It will draw upon existing literature and range of relevant health policy and systems research.

Rethinking Urban Health Systems to Respond to Challenges in Cities

Dr. Helen Elsey, Senior Lecturer in Global Health, University of York, UK.

With rapid and unplanned urbanization now a key feature in LMICs, there is an urgent need to find innovative and context appropriate ways to respond to the multiple overlapping challenges facing urban health systems. Yet, those working within health systems are faced with multiple challenges: a lack of data on urban populations, particularly the poorest; a plethora of informal, public and private health care providers delivering care with few mechanisms to regulate and improve quality and reduce costs to patients and the need to responding to a rapidly changing disease burden, addressing increasing rates of non-communicable disease whilst also dealing with continual presence of infectious diseases.

The presentation will include findings from a body of research conducted by partners of the CHORUS research consortium on urban health systems, including: i) analysis of a surveys of 1180 households and qualitative work with urban communities in Nepal highlighting the challenges of identifying the urban poor through traditional survey methods and available data; ii) evidence reviews of challenges to urban health systems, including costs of care for the poorest within cities and iii) qualitative research to understand determinants of health among urban poor. In response to these challenges, a re-conceptualization of the urban health systems will be presented.

The Responsive Health Workforce: What Have We Learned From Recent Shocks and Stressors?

Joanna Raven, Reader in Health Systems, Liverpool School of Tropical Medicine

The health workforce is a key health system component that must be responsive to changing contexts, shocks and stressors to successfully achieve Universal Health Coverage. WHO projects workforce shortages of 18 million by 2030, particularly in low- and middle-income countries. This gap is exacerbated by external shocks and stressors such as epidemics, natural disasters, conflicts and population displacements. There is a need to use the available workforce effectively and be creative with human resource management practices to ensure a workforce that can respond to these shocks and stressors. The COVID-19 pandemic has demonstrated health workforce responsiveness but exposed limitations in current HRM policies and practices.

This presentation will draw upon findings from a range of studies on the health workforce during shocks and stressors. The presentation will centre around several main themes: the experiences of health workers, how managers have managed the workforce, and lessons learned on how decision makers at all levels of the health system can better manage the health workforce to respond to shocks and stressors while ensuring delivery of appropriate, equitable and quality health services.

PLENARY SESSION – I

Strengthening Social Health Protection in Nepal: The Role of Evidence towards Universal Health Coverage

Health Sector Budget Analysis: First Five Years of Federalism in Nepal

Dr. Suresh Tiwari , Hema Bhatt¹, Dhruba Raj Ghimire, Dr. Guna Raj Lohani and Dr. Guna Nidhi Sharma

Corresponding Author: Hema Bhatt. Country Manager, Oxford Policy Management. For the further information, please contact hema.bhatt@opml.co.uk

The report “Health Sector Budget Analysis: First Five Years of Federalism” intends to enable the Federal Government (FG), Provincial Governments (PG), Local Governments (LG) and their entities to understand the trends in health sector budget allocation in the first five years of federalism in Nepal.

Methodology: The results are based on the secondary data analysis using the Redbook and budget-book across all spheres of government. Authors used statistical estimation through regression to provide completeness to the data, especially for FY 2017/18 and FY 2018/19. The adjusted budgets of consecutive FYs have been used to capture final expenditures. As a result, minor changes from the previous budget analysis (BA) report are possible. For FY 2021/22, the initial budget is used in the analysis.

Results

In the first five years of federalism, government spending in health as a share of Gross Domestic Product (GDP) slowly increased from 1.5% in FY 2016/17 to 2.4% in FY 2020/21. This translates to increasing per capita government spending in health from Nepalese Rupee (NPR) 1,821 to NPR 3,432 (United States Dollar 15 to 29) in real terms between FY 2016/17 and FY 2020/21. However, in constant terms (base year fixed to FY 2010/11) within the same period, the share of government spending has increased very little, from NPR 1,080 (USD 7.3) to NPR 1,973 (USD 11.3). The share of the health sector budget against the national budget rose from 4.6% (NPR 60.4 billion) in FY 2016/17 to 8.6% (NPR 179.6 billion) in FY 2020/21. This clear increase in health sector budget can be attributed to the response to the COVID-19 pandemic and resource

1

allocation in health through internal sources in SNGs rising from 0.5% in FY 2017/18 to 14% by FY 2021/22. EDPs predominantly fund the activities of the federal government.

SNGs were found to have spent between 0.3% to 2.9% of GDP on the health sector. Similarly, per capita spending on health for provinces was found to be between NPR 384 and NPR 3,338 in real terms. Health sector allocation against provincial budgets (Province and Palika) were observed to be between 5.8% and 10%. These differences across provinces can be attributed to provinces' share of GDP, population, and volume of provincial budgets. The fiscal transfer from the FG, PGs have started to increasingly allocate their health budgets through internal sources, which rose from 34% in FY 2018/19 to 63% in FY 2021/22.

In the early days of federalism the majority of the budget was spent on administrative ding. Line item-wise, two fifths of the s. However, the absorptive capacity of LGs has actually decreased in recent years while PG expenditure does not follow a definitive pattern.

Conclusion

As is evident, federalism has opened avenues for increased fiscal space in health. Some SNGs have been able to tap into those avenues while others need to be capacitated. A coherent health policy that is acceptable to all spheres of government would help in prioritizing health and securing resource allocation. A comprehensive policy framework advocating the consideration of health issues in all policies would facilitate in harmonizing evidence-based AWPB at all levels of government. A discussion around transitioning away from health conditional grants for PGs and making PGs responsible for planning conditional grants for their LGs should be initiated to facilitate proper planning and budgeting as well as capacity building.

Keywords

Planning, budgeting, expenditure, federalism, spheres of government, equalization, conditional, matching, special, revenue sharing, fiscal space, and functional analysis

Research Methods for Health Insurance with Country Examples

Dr. Swati Srivastava, Heidelberg University, Germany

Various models of health insurance are being used in low-and-middle-income countries (LMICs) to advance towards universal health coverage. Assessments of these schemes have examined the policy development, implementation processes and impacts of these schemes, both for beneficiaries and providers, by utilizing different methodological approaches. In this presentation, we first provide a brief overview of some of the

currently used approaches for the assessment of social or government-funded health insurance schemes in LMICs, including impact and implementation science (process) evaluations, differentiating between the kinds of research questions each seek to address. We then describe in detail a mixed-methods demand and supply evaluation of the Pradhan Mantri Jan Arogya Yojana, a government-funded health insurance scheme in India. This study utilized a mixed and multi-methods concurrent triangulation design to answer multiple research questions: i) a process documentation using qualitative methods was used to examine scheme development and design, and explore implementation processes in three Indian states transitioning from either no or prior health insurance scheme to PM-JAY; ii) a demand evaluation using a quantitative household survey and quasi-experimental methods alongside qualitative methods, to quantify and understand PM-JAY reach and its effect on insurance awareness, health service utilization, and financial protection; and iii) a supply-side evaluation encompassing both quantitative and qualitative elements to assess the effect of PM-JAY on quality of service delivery and to explore healthcare providers' experiences with scheme implementation. The demand and supply evaluations were conducted in seven Indian states. We will conclude with a summary of the key benefits and challenges for each study component, emphasizing the advantages of multi-method and complementary approaches, and draw lessons for potential considerations for similar assessments in Nepal.

India's Experience on National Health Insurance Research and its Policy Implications

Dr. Sharmishtha Basu, GIZ, India

Background

The quality of health service provision is a major concern in India. Evidence shows that the poor-quality health services negatively affect people's satisfaction, treatment outcomes and treatment costs. Furthermore, the extreme high out-of-pocket expenditures are a major concern as they effectively push more than 60 million Indian's into poverty each year.

The Indo-German Programme on Universal Health Coverage (IGUHC) supports the National Health Authority and State Health Agencies to implement Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB PMJAY), India's national health insurance scheme for the poor. PM-JAY is one of the world's largest publicly funded health protection programmes, providing health insurance cover of INR 500,000 per family per year for hospitalization to more than 500 million vulnerable people in India.

Methodology

IGUHC applies a policy-driven, participatory, and highly user-oriented research approach aimed at translating data and evidence into policy-decisions. This includes policy design, monitoring, implementation as well as capacity building and knowledge transfer.

Results

An example of a “data for policy-making”- approach is the design of PM-JAY. A comprehensive evaluation was conducted on the *Rashtriya Swasthya Bima Yojana* (RSBY), the predecessor scheme of PM-JAY. The evidence was used to adjust the design of the PM-JAY scheme.

For example, learnings from RSBY evaluation studies revealed preferential enrollment of male family members because of the enrolment cap of five family members, effectively excluding females in large families. To counteract this effect and improve gender-inclusivity, PM-JAY was developed without a cap on family size. Evidence further suggested that because the annual insurance coverage was too low (INR 30,000) and because there was only one health card per family, females’ access to health care was very restricted under RSBY. Thus, PM-JAY’s insurance coverage was raised to INR 500,000 per year and every family member was provided with their own card to avail health services independently.

Conclusion

IGUHC’s research contributes to evidence-based decision making in high level government agencies. The research undertaken had a major impact on the design and implementation of the new PM-JAY insurance scheme, making it more effective, inclusive and comprehensive; ensuring that no one is left behind.

PLENARY SESSION – II

Global Health and Implementation Research

Strengthening mental health systems through collaborative care model: evidence and learnings from rural Nepal

Pragya Rimal, Senior Mental Health Research Manager, Possible

Authors

Pragya Rimal*, Nandini Choudhury* (*co-first authors), Pawan Agrawal, Madhur Basnet, Bhavendra Bohara, David Citrin, Santosh Kumar Dhungana, Bikash Gauchan, Priyanka Gupta, Scott Halliday, Bibek Kumar Lal, Ramesh Mahar, Duncan Maru, Viet Nguyen, Sanjaya Poudel, Anant Raut, Janaki Rawal, Sabitri Sapkota, Dan Schwarz, Ryan Schwarz, Sikhar Swar, Aradhana Thapa, Poshan Thapa, Rebecca White, Bharat Kadayat, Tula Krishna Gupta
Bibhav Acharya.

Introduction

Despite the high prevalence of depression, patients in low-income countries lack access to effective mental health care. The collaborative care model (CoCM) tested in over 79 randomized controlled trials is highly effective in improving patient outcomes. However, there are limited data from implementation research (IR) on CoCM in low-middle income settings.

Methods

We conducted a two-year mixed-methods study of CoCM using the WHO Mental Health Gap Action Programme protocols to assess the implementation and clinical impact of CoCM in a primary care setting in rural Nepal. We used the framework Capability Opportunity Motivation- Behavior (COM-B) to adapt CoCM and followed a cohort of 201 patients with moderate to severe depression between September 2016- and August 2018. Key informant interviews were conducted with providers to understand their knowledge, attitude, and skills to treat mental illness.

Results

All providers experienced improved clinical knowledge, competency, and attitude to providing care for patients with depression. We observed significant clinical

improvement as measured by decreased PHQ-9 scores in 99 (49%; 95% CI: 42% to 56%) of the 201 cohort patients, with a median seven-point (Q1: -9, Q3: -2) decrease in PHQ-9 scores ($p < 0.0001$) patients.

Conclusion

We successfully adapted and implemented CoCM in rural Nepal using an implementation research framework. Significant clinical improvements were observed among patients with depression. Similarly, all providers experienced improved perceptions and skills in care delivery, and the intervention was acceptable. We recommend using CoCM to expand access to high-quality mental healthcare in other areas in Nepal and similar settings.

Global, Regional and National Initiative on Addressing Health Impacts of Climate Change

Er. Raja Ram Pote Shrestha, National Professional Officer, Environmental Health, WHO Country Office for Nepal

The Lancet in 2009 declared Climate change as the biggest global health threat of the 21st century and emerging evidence confirms that it is indeed like this. WHO estimates that climate change is expected to cause approximately 250, 000 additional deaths per year, from malnutrition, malaria, diarrhea and heat stress in between 2030 and 2050. The review of 31 national Health Vulnerability and Adaptation Assessments (VAA) identifies vector-borne diseases, water and food-borne diseases, direct injuries, heat related illness and mental health issues related with changing climate. It is equally true not only in this region but also in Nepal, which is evidenced by prevalence of VBDs in highland areas, which tend to be limited to Terai region just a few years back. There are several direct and indirect impacts of climate change with increased health risks. At the same time the voice of the global community has been increasing to address this emerging environment and health risks. WHO has been supporting countries on building climate resilient health systems as one of the key areas. As it requires buy-in from all stakeholders, there are several forums at global, regional and country level for multi-sectoral coordination to address this issue. Nepal's engagement in implementing Paris agreement, 2015, Male Declaration 2017 and consistent involvement at COPs are some examples. At COP26, WHO released a special report Climate Change and Health with prescription climate action for the global health community based on the growing evidence. The Ministry of Health and Population made country's health sector commitments for a climate resilient and low carbon health system at the same global forum. In line with this, the MoHP has been conducting the VAA, which results in updating of the health national adaptation plan (H-NAP) and consequently implementation in coming years. There are good

initiatives but many more are yet to be developed and implemented for delivering sustainable health services with due consideration of climate risks.

Efforts for Developing of Climate Resilient Health System in Nepal

Meghnath Dhimal¹ and Dinesh Bhandari¹

Nepal Health Research Council (NHRC), Kathmandu, Nepal

Corresponding Author: Dr Meghnath Dhimal, Chief/Senior Research Officer, NHRC

Large body of evidence suggests that anthropogenic actions, particularly increased emission of greenhouse gasses, have led to significant changes in the global climate system with long lasting consequences. The sixth assessment report of Intergovernmental Panel on Climate Change (IPCC) has reported that global warming of 1.5⁰C relative to 1850-1900 would be exceeded during the 21st century under all emission scenarios. Climate change poses a diverse set of risks to humans, the most visible of which are the increased morbidity and mortality due to heatwaves, extreme weather events. However, the majority of the impacts will be manifested via indirect pathways in the form of disruption in environmental and social systems that affect food and water cycle, the stability of infectious disease patterns, and human migration patterns. Public health emergencies like the ongoing pandemic have exposed the fragile nature of health care systems across the globe. As such, it is important to generate contextually tailored evidence through high-quality research to support evidence-based decision making for strengthening health systems in the context of climate change. A resilient health system can systematically and effectively address the challenges increasingly presented by climate change. It can protect health in an unstable and changing climate.

In the context of Nepal, the health sector has been in the forefront in advocating for actions and responses against climate change. Nepal is committed to acting on climate change in line with the Paris Agreement, despite the country's negligible emissions. Based on the foundational aspects and guiding principles of the WHO's operational framework on building climate resilient health systems, Nepal has developed its own Health National Adaptation Plan (H-NAP). Climate change issues have also been prioritized by National Health Policy 2019. Similarly, National Climate Change Policy 2019 and the ongoing project on national adaptation plan to climate change has included health as one of the sectors most vulnerable to climate change. Prevention and forecasting of vector borne diseases and other climate sensitive diseases has been prioritized by the leadership in the National Climate Change Policy 2019. Under the leadership of Nepal Health Research Council (NHRC), evidence on the impacts of climate change on vector-borne diseases as well as diarrheal diseases have been generated. These research activities have been supporting capacity development of local researchers and fostering international collaboration. Similarly, NHRC has been conducting capacity development research training on climate change and health impacts by inviting leading environmental

and occupational health researchers from all seven provinces. Embracing the WHO framework on developing climate resilient health systems, the Ministry of Health and Population (MoHP) in Nepal has been regularly conducting Vulnerability and Adaptation Assessments to help update national adaptation policy. With the support from WHO, Nepal has implemented a pilot project to forecast the outbreak of diarrheal diseases analyzing the changes observed in meteorological variables (temperature, humidity and rainfall). In addition to these efforts, the MoHP is supporting a feasibility study to establish an integrated surveillance system to assist prevention and management of climate sensitive diseases. In order to materialize climate resilient and sustainable infrastructures, several rural clinics in Nepal are now fitted with solar panels to ensure reliable energy access to provide essential medical services, including during extreme weather conditions. Despite these coordinated efforts from the health sector in Nepal, more coordinated multisectoral collaboration is needed for developing a climate resilient health system in Nepal.

National and Provincial Situation of Non-communicable Diseases and Mental health in Nepal

Dr. Pradip Gyanwali, Dr. Meghnath Dhimal, Dr. Anjani Kumar Jha , Bihungum Bista

Background

Non-communicable diseases are a major public health problem in Nepal accounting for more than 70% of the total annual deaths in 2019 (WHO). This is due to the many social determinants like unhealthy lifestyles, globalization, trade and marketing, demographic and economic transitions. The change in the status of these determinants has affected behavioral and metabolic risk factors of the general population to the NCDs. In Nepal, along with non-communicable diseases, mental health disorder is also one of the concerning issues. However, it is a highly overlooked and neglected issue in Nepal. Furthermore, there is serious paucity of mental health information at the population level. So, this review attempt to explore available information related with NCDs and its risk factors and mental health diseases at the national and provincial level

Methodology

This paper explored major national level NCDs surveys and mental health surveys conducted by Nepal health research council. It includes: Nepal STEPS survey 2019, National selected chronic diseases survey and National Mental health survey 2020.

Results

In Nepal, there is about 12% Chronic obstructive Pulmonary diseases(COPD), 8.5% diabetes, 6% chronic kidney diseases and 3% coronary artery diseases among the population aged 20 years and above with variation among the provinces. Similarly, the situation of NCDs related risk factors are as follows: 17% tobacco user, 24% alcohol consumer, 7% physical inactivity, overweight, 24% raised blood pressure. Regarding mental health conditions among adults, there is about 4.3% of adults suffering from any mental disorder currently. Among the provinces, current mental disorder is highest in Bagmati province (5.9%) and lowest in Madhesh province (1.5%).

Conclusion

The magnitude of NCDs and mental health disorders is high. Regarding provincial level information of NCDs and mental disorders, it varied from province to province.

Implementation Science Research to Address Non Communicable Diseases in Low Resource Setting

Dr. Archana Shrestha, Kathmandu University, Dhulikhel, Nepal

Non Communicable diseases, specifically cardiovascular diseases (CVD), chronic respiratory diseases, diabetes and cancer are rapidly rising in low and middle income countries. CVD and other non-communicable diseases (NCD) are responsible for 71% of the global deaths; two-thirds of all NCD deaths occur in LMIC. Implementation Science (IS) is the scientific study of methods to promote the systematic uptake of research findings into routine practice to improve health services. IS studies the intervention adoption, acceptance, feasibility, cost and sustainability within various domains to bridge the gap between evidence-based interventions and real-world practice to address NCDs. However, there are certain challenges to conduct IS-NCD research in low resource setting, including the complexity of stakeholder engagement, perception of research as a short-term project, changing study designs, health system bureaucracy, inadequate embedded evaluation ongoing programs, lack of routine health care data, lack of trained researchers, disconnect between implementing and evaluating bodies and lack of common understanding among different diasporas. However, opportunities such as potential to make a huge public health impact, new funding opportunities and new capacity building opportunities exist. Therefore, low resource countries like Nepal can take up the road to IS research to utilize the already existing evidence-based interventions and deliver contextual strategies to address the ever increasing NCD burden.

PARALLEL SESSIONS

SESSION 1: Health Policy and System Research – I

1.1.1 Rapid Assistive Technology Assessment (rATA) Survey, 2021 in Nepal

Dr. Pradip Gyanwali¹, Dr. Krishna Prasad Paudel², Mr. Bihungum Bista¹, Dr. Rabindra Baskota³, Ms. Sitasnu Dahal¹, Ms. Prakriti Koirala¹, Dr. Phanindra Prasad Baral², Dr. Guna Nidhi Sharma⁴, Dr. Kedar Marhatta⁵, Dr. Meghnath Dhimal¹

Affiliations

¹Nepal Health Research Council

²Epidemiology and Disease Control Division, DoHS

³Leprosy Control and Disability Management Section, DoHS

⁴Ministry of Health and Population

⁵World Health Organization

Background

Evidence based research findings on the use, need and unmet need is a key global metric for planning and improving access to Assistive Products (AP). It is estimated that only 5-15% of people in low- and middle-income countries (LMICs) who need assistive technology (AT) have access to them with few availability, affordability and trained personnel. In Nepal, accurate data on the needs of AP is still not yet known. With a growing population of older age, increasing prevalence of non-communicable diseases in Nepal, the number of people needing AT is certain to rise. Therefore, the study aims to measure access to AT in Nepal.

Methods

A nationwide population-based household survey was conducted from 7 – 27 December 2021 using the WHO rapid Assistive Technology Assessment (rATA) questionnaire. Two-stage cluster sampling technique was used to select 2970 households and the total number of participants interviewed was 11,230. Participants included all the family members of the selected household. Complex survey analysis was performed using SPSS version 22 and the data was presented using frequency and percentage (weighted).

Results

The mean age of the total participants was 34±21.5 years. More than half of the participants (52.6%) were female. Majority of the sampled population (55.3%) were from rural areas. The prevalence of use, need and unmet need of AP were found to be 27.7%, 39.6% and 19.7% respectively. The need (39.6%) and unmet need (70.9%) of AP were

seen highest among participants who could not do any activities without assistance (severe functional difficulties). Similarly, the use, need and unmet need of AP increased with increase in age, with higher prevalence of these indicators in older age groups. There was no variation in the use of AP across gender (male vs. female: 27.6% vs 27.8%), however, need (female vs. male: 40.7% vs 38.2%) and unmet need (female vs. male: 21.4% vs 17.6%) were seen higher among females as compared to males. Additionally, the use (28.2%) and need (40.0%) of AP were higher in urban region than in rural region, however, unmet need of AP was higher in rural region (21.2%) as compared to urban region (19.6%). The most commonly used assistive products were spectacles (22.3%), canes/sticks (3.3%) and spinal orthoses (1.8%). The unmet need of AP was highest for spectacles (10.1%), spinal orthoses (4.8%) and hearing aids (3.4%). Assistive Products were predominantly sourced from private sector: private facility/hospital/clinic/shop/store (64.3%), followed by public sector: government facility/public hospital (22.0%). Majority (57.1%) of the participants obtained their AP through out-of-pocket expenditure followed by friends/family (38.9%) who paid for their AP. The most commonly reported barriers to access AP were unaffordability (23.1%) followed by lack of time (17.5%) and lack of support (16.6%) to buy AP. 91.2% of the participants were satisfied with respect to their products, 70.6% of the participants were satisfied with respect to the assessment and training they received and 78.1% of the participants were satisfied with the repair, maintenance and follow-up services based on their last experience. Increase in AP services, subsidy on AP and provision of AP free of cost for economically challenged people were the most commonly reported ways of improving access to AP.

Conclusion

The nationwide rATA survey has demonstrated clear gaps in access to assistive products in Nepal with high prevalence of use, need and unmet needs and the indicators varied across age groups, sex, residence and level of functional difficulties. The survey calls for creative solutions from the policy makers to improve access to assistive products that are population specific, affordable and can be easily sourced.

Keywords

Assistive Products, Use, Need, Unmet needs, Nepal

1.1.2 Understanding Health System Resilience to Respond to COVID-19: A Case Study of COVID-19 Policies Formulation, Communication and Health Workforce Management in Nepal

Shophika Regmi¹, Prabita Shrestha¹, Abriti Arjyal¹; Suprich Sapkota¹; Tim Martineau², Maria Bertone³, Joanna Raven², Sophie Witter³, Sushil Baral¹

Corresponding Author

Ms. Shophika Regmi, HERD International, Kathmandu, Nepal, Email:
shophika.regmi@herdint.com

Affiliations

¹HERD International, Kathmandu, Nepal

²Liverpool School of Tropical Medicine, UK

³Queen Margaret University, Edinburgh

Background

Nepal's federalization reform was still in its initial stages when the COVID-19 pandemic started, further challenging the municipalities to respond to COVID-19, while keeping basic healthcare delivery intact. One of the key challenges relates to health workforce management in order to address the surge in demand for services. Our study, therefore, aimed to describe health sector policy response to COVID-19 with specific attention to policies affecting health workforce, and to examine processes of policy formulation, communication and implementation at the three tiers of governments and their dynamic interactions, applying the elements of resilience framework.

Methodology

We adopted a cross-sectional exploratory case-study design, using mix methods. We carried out a document review of all policy documents introduced in response to COVID-19 from January-December 2020, and collected qualitative data through 22 key informant interviews at three tiers, including policy-makers, technical experts, provincial and local managers, health workers and development partners. Two municipalities were purposively selected for data collection in Lumbini province.

Results

Health sector policies for COVID-19 were largely formulated at the federal level with very limited strategic vertical coordination with sub-national governments, owing to the emergency situation. Communication of policies and decisions were considered one-way top-down that resulted in lack of clarity to implement decisions among health workers. Lack of orientation, physical protection, motivation and psychological support; low decision-space; social stigma; and prolonged working hours were the factors impeding performance of frontline health workers. Furthermore, delay in budget distribution from federal, poor coordination and guidance in mobilizing various structural bodies, etc. were the challenges to local governments in dealing with the pandemic.

Conclusion

The COVID-19 showed that the health sector responses have not been sufficient and effective in dealing with the pandemic and thus demands explicit and targeted policies for effective implementation. Stronger governance and leadership from federal and local governments is needed to support and sustain health workers during the pandemic.

Keywords

COVID-19, health systems, health workforce, human resource for health, resilient health system, health policy

1.1.3 Understanding and Strengthening Health Governance and Planning for Resilient Local Health Systems: Findings from a Participatory Action Research

Sushil Chandra Baral¹, Shophika Regmi¹, Abriti Arjyal¹, Shreeman Sharma¹, Santosh Giri¹, Suprich Sapkota¹, Achyut Raj Pandey¹

Corresponding Author

Mr. Achyut Raj Pandey, HERD International, Kathmandu, Nepal, Email: achyut.pandey@herdint.com

Affiliations

¹HERD International, Kathmandu, Nepal

Background

Shocks and stressors like disease outbreak, natural disaster, violence and conflict are critical development challenges, affecting, eroding and hampering efforts in building healthy societies. In this context, this study aims to understand and support building resilient local health systems by strengthening health sector governance and planning.

Methodology

This paper is a part of ongoing multi-year (2020-2026) participatory action research in Kaphilvastu district. In the first stage, the resilience capacity of the health system is mapped and potential actions for improvement are identified through document review (n=19), key informants' interviews (KIIs) (n=15) and health facility assessment. In the second stage, an action plan for improving resilience capacity is developed through group model building workshops (n=2) and progress is reviewed through critical reflection meetings and process documentation. At the end, stakeholders' opinion, experience and perspective regarding innovation tried in improving resilience is documented through

KIIs (n=10). Qualitative data involve thematic framework analysis whereas quantitative data are analyzed descriptively in terms of frequency and percentage.

Results

This paper presents preliminary findings on resilience capacity and potential options for improvements. Although having locally elected governments is an opportunity for prompt and contextualized decision making, lack of quality data and its use, unavailability of health workers and essential logistics pose challenges to a resilient health system. Maintaining comprehensive database of health facilities and resources, revision of sanctioned positions of health workforce, mapping of workforce capacity and granting more decision space for local governments for recruitment and resource mobilization, maintaining dashboard of hospitals displaying information about hospital bed availability and preparing non-health sector for emergency response were among initiatives to strengthen health system resilience.

Conclusion

Providing more decision space for local levels, improving database and evidence use capacity, improved availability of health workers and logistics, and preparing the non-health sector for emergency response could be useful in strengthening local health system resilience capacity.

Keywords

Governance, Planning, Resilience, Local Health System

1.1.4 Assessing Feasibility and Challenges in Adopting 27 Health Financing Reform Initiatives Pertinent to Attaining Universal Health Coverage in Nepal: A Qualitative Study

Bikesh Bajracharya¹, Padam Simkhada¹, Ann-Louise Caress¹, Simon Rushton²

Corresponding Author

Prof. Simon Rushton, School of Human and Health Sciences, University of Huddersfield, Huddersfield, United Kingdom, Email: simon.rushton@sheffield.ac.uk

Affiliations

¹School of Human and Health Sciences, University of Huddersfield, Huddersfield, United Kingdom

²Department of Politics and International Relations, University of Sheffield, Sheffield, United Kingdom

Background

The Government of Nepal is dedicated to attaining Universal Health Coverage (UHC) by 2030. Health financing is a critical component of health-care systems that enable progress towards UHC. In Nepal, health-financing schemes coexist without a coherent health financing strategy and sufficient evidence of progress toward UHC. The aim of the study is to assess feasibility and challenges in adopting 27 health financing reform initiatives related to revenue raising (7), pooling (6), purchasing (8) and benefit package (6) in Nepal.

Methodology

An in-depth key informant interview was conducted between 25 January- 25 February 2022 with 24 stakeholders from ministries and government agencies, federal hospitals, external development partners, and academia, engaged in drafting Health Financing Strategy. The content analysis was performed based on identified themes from interviews.

Results

Lack of political commitment and leadership are hindrances for **raising revenue** and introducing earmarked health tax. Stakeholders pinpointed weak institutional capacity and leadership of Health Insurance Board (HIB) and policy overlaps for **pooling risk** and for being unable to introduce compulsory enrolment of all population and merging fragmented social security schemes. Respondents also stressed weak institutional capacity of HIB for poor purchasing function and inability to introduce payment mechanisms as Diagnostic Related Groups and performance-based payment as hindering factors. They highlighted lack of fiscal space for health, inefficient fragmented schemes, lack of standard treatment protocol for introducing comprehensive benefit packages and accreditation system as challenges for adopting these initiatives.

Conclusion

Despite challenges, most of the stakeholders are highly positive towards adopting the majority of health financing reforms initiatives by the Government of Nepal. It is recommended to increase fiscal space for health through innovation revenue raising as medical tourism, gradually integrate payment mechanism of all social security schemes into health insurance through inter-ministries coordination, strengthen institutional capacity through improved autonomy of HIB, gradually expand benefit package and form autonomous accreditation body for strengthening health financing arrangements to progress towards UHC.

Keywords

Health Financing, Universal Health Coverage, Nepal, Reform

1.1.5 Partial Integration of the Vitamin A Supplementation and Lymphatic Filariasis Elimination Campaigns: Prospects and Challenges in Nepal

Sumitra Devi Shrestha^{1&2}, Padam Bahadur Chand¹, Sushil Karki¹, Eva Bazant³

Corresponding Author

Dr. Sumitra Devi Shrestha, HEAL Group, Nepal and CEPH Nepal, Email: goodfriendktm@hotmail.com

Affiliations

¹Health, Education, Agriculture and Logistics (HEAL) Group, Kathmandu, Nepal

²Centre for Evidence based Public Health (CEPH), Kathmandu, Nepal

³Health Campaign Effectiveness/The Task Force for Global Health, Inc. Decatur, GA, USA

Background

In Nepal, Vitamin A supplementation (VAS) and Lymphatic Filariasis (LF) elimination campaigns have been running for over two decades. The VAS campaign achieved high mass drug administration (MDA) coverage levels, while LF elimination goals are not met yet. Planning campaigns collaboratively emerged as a potential approach for increasing coverage of the MDA-against-LF. This pilot study examined the prospects and challenges for the partial integration of these vertically ran campaigns in the Rainas Municipality.

Methodology

Of two strategies developed for this study, one applied for conducting collaborative planning meetings. The other was the 'Complementary monitoring and supervision (CMS) model'. Primary data was collected from thirty stakeholders: Focus group discussions (n=8, FCHVs); In-depth interviews (n=2, individuals); Key informant interviews of officials (municipality=7), provincial health directorate (n=4), health divisions (n=7), and ministry (n=2). Data were transcribed and thematically analyzed.

Results

The strategies employed may have contributed to increased coverage of the MDA-against-LF in the Rainas Municipality (90%, 2021 vs. 85%, 2020). The LF campaign was scheduled closer to the VAS campaign's date the first time. FCHVs could use the CMS model during house-to-house visits of the VAS campaign. FCHVs identified individuals who missed MDA in the preceding LF campaign (Chaitra month), informing them of the drug availability, and were referred to a nearby health facility. In total, sixty-nine individuals undertook the drug-against-LF in the following months (Baisakha - Jestha).

Local officials and health workers stated that this year's LF campaign (2021) was more effective, and the integrated campaigns should continue. The prospect of collaborative campaigning was well perceived and received by the provincial and federal stakeholders. The challenges identified were policy, programmatic and implementation. One of the potential solutions raised was policy updates.

Conclusion

The pilot study can be replicated to offer Evidence from additional settings in Nepal on the optimized process and outcomes of partially integrated Vitamin A supplementation and lymphatic filariasis elimination campaigns.

Keywords

Health Care Delivery Systems; Coverage; Mass Drug Administration/MDA; Vitamin A Supplementation; Lymphatic Filariasis

1.1.6 Non-Communicable Diseases Policy Formulation Process in Nepal: A Qualitative Study

Anju Vaidya¹, Padam Simkhada¹, Andrew Chee Keng lee², Susan Jones¹

Corresponding Author

Dr. Anju Vaidya, University of Huddersfield, Email: Anju.vaidya@hud.ac.uk

Affiliations

¹ University of Huddersfield

²University of Sheffield

Background

Burden of Non-Communicable Diseases (NCD) has been increasing at an alarming rate particularly in Low- and Middle-Income Countries (LMIC), including Nepal, accounting for 85% of premature deaths. Health policy plays a vital role in guiding the utilization of resources, eventually impacting implementation of strategies and health outcomes of the country. Therefore, a nuance understanding of the health policymaking and factors influencing the process is essential. However, there is limited evidence about the process through which NCDs policies were formulated in the context of Nepal. To fulfill this gap, this study aims to explore the process of NCDs policy formulation in Nepal.

Methodology

A qualitative approach was applied to gain a comprehensive understanding of NCDs policy formulation process. Participants involved in NCDs policy formulation process at federal level government were selected using purposive and snowball sampling

techniques. In-depth interviews were conducted with 13 policy actors using semi-structured interview guides. Data was analyzed using thematic framework analysis approach and Nvivo software.

Results

NCDs policies evolved progressively over many years in Nepal. Visibility of NCDs related evidence at sub-national and global level, series of advocacy, interplay of political factors and actors played an important role in recognition of NCDs issues and its policy formulation. The Package of Essential Non-communicable diseases intervention (PEN) was adopted as a strategy and a multisectoral action plan was developed at national level consistent with WHO global NCD action plan. However, multi-sectoral coordination, lack of capacity, unfinished prior agendas, implementation ability, and financial constraints were the challenges faced during the policy process.

Conclusion

Policy actors had the will to develop NCDs policy but they faced gaps in multi-sectoral co-ordination and needed enhanced political commitments to support policy formulation process for prevention and control of NCDs. Further research is needed that focuses on strategies to address challenges faced during the policy process, improve multi-sectoral co-ordination among different sectors and establish mechanisms to attain better policy outcomes.

Keywords

Non-Communicable Diseases, PEN, Policy Formulation

1.1.7 Processes of Assistive Technology Service Delivery in Bangladesh, India and Nepal: A Critical Reflection

Jiban Karki^{1*}, Simon Rushton², Sunita Bhattarai³ Gift Norman⁴, Shagoofa Rakhshanda⁵ and Prof Luc De Witte¹

Corresponding Author

Dr. Jiban Karki, School of Health and Related Research, The University of Sheffield, Sheffield, UK , Email: j.karki@sheffield.ac.uk

Affiliations

¹School of Health and Related Research, The University of Sheffield, UK

²Department of Politics and International Relations, The University of Sheffield, UK

³PHASE Nepal, Kathmandu, Nepal

⁴Bangalore Baptist's Hospital, India

Background

After the United Nations Convention on the Rights of Persons with Disabilities (CRPD) mandated access to assistive technology (AT) services for people in need of such services in 2006, Nepal, India, and Bangladesh formulated various policies and laws, and allocated funding to improve access to these services to persons with disabilities (PWDs). However, despite clear evidence of the benefits of a well-functioning AT service delivery system, there is still a lack of evidence on the effectiveness of AT service delivery processes in these countries. This paper critically reviews and reflects on the existing assistive technology (AT) service delivery processes in these countries for providing AT services to PWDs.

Methodology

We carried out a descriptive, qualitative exploratory study in Bangladesh, India (Bangalore) and Nepal by conducting key informant interviews with policymakers (n = 5), AT service providers (n = 22) and mobility and hearing related AT service users (n = 21). We used a directed content analysis approach guided by a seven-point AT service delivery process model to thematically analyze the existing AT service delivery processes.

Results

This study discovered sub-optimal AT service delivery in all three countries, and that process improvements are needed. We found no common AT service delivery process, although there are common features. It is easier for PWDs in India and Nepal to access AT than in Bangladesh, but all three countries are failing to live up to their commitments to uphold the human rights of PWDs.

Conclusion

Although some good elements of the AT service delivery process can be identified, the systems in all three countries are fragmented and generally weak. A more holistic approach to looking at the process of AT service delivery, from first contact right through to follow-up and device maintenance, with a single-door service delivery system, free at the point of service, is necessary in these countries.

Keywords

Assistive Technology, Disability, Service delivery, Assistive Devices, Persons with Disabilities

1.1.8 Towards Universal Health Coverage: An Analysis of Health Insurance Program of Nepal

Shrestha Junu¹, Bhatia Mrigesh², Sharma Guna Nidhi³

Corresponding Author

Ms. Junu Shrestha, International Agency for the Prevention of Blindness

Email: shresthajunoo@gmail.com

Affiliations

¹International Agency for the Prevention of Blindness, London, UK

²London School of Economics and Political Sciences & London School of Hygiene and Tropical Medicine

³Ministry of Health and Population, Nepal

Background

National health insurance is the priority program of the Nepal government. It is a national risk sharing program launched formally in April 2016 by piloting in three districts: Kailali, Baglung and Ilam. Nepal government considers this program as a foundation for universal health coverage and is envisioned for protecting Nepalese people from financial risk. The objective of this study is to analyze the formulation of the national health insurance program of Nepal and its implementation status.

Methodology

This study is a qualitative country case study. Review of national policies, acts, guidelines and work plans along with international declarations and commitments is the method of choice, while the information is substantiated by key informant interviews with policy makers and stakeholders involved in the health insurance program in Nepal. The Walt and Gilson framework was used to analyze the health insurance program, and the implementation status is compared to the three dimensions of Universal Health Coverage.

Results

The right to free basic health services is the fundamental right of every citizen as guaranteed by the Constitution of Nepal. While the services not included in the basic health services have been mentioned to be provided through insurance in the National Health Policy 2019. Garnering the high out of pocket expenditure in health services of Nepali citizens pushing them towards poverty, the concept of health insurance emerged

in the health system of Nepal. However, the services are fragmented and poorly regulated. The program's progress has been much slower than anticipated.

Conclusion

The subsidy groups are difficult to be identified while the rate of dropouts is high due to compromised quality of health services to the insured. Because the programme is still in its early stages, some adjustments are required, and a strong sense of responsibility and accountability among all levels of stakeholder is essential for success.

Keywords

Universal Health Coverage, Health Insurance, Walt and Gilson, Country Case Study

SESSION 2: Biomedical, Epidemiological, and Clinical Research – I

1.2.2 Laboratory errors in clinical biochemistry: The quality of laboratory testing in B.P. Koirala Institute of Health Sciences, Nepal

Niraula A¹, Das BKL², Sherchand O², Mishra B², Choudhary RM², Tamang S², Lamsal M²

Corresponding Author

Dr. Apeksha Niraula, Institute of Medicine, Tribhuvan University Teaching Hospital (TUTH), Email: apeksha.niraula@iom.edu.np

Affiliations

¹Institute of Medicine, Tribhuvan University Teaching Hospital, Kathmandu, Nepal

²B.P. Koirala Institute of Health Sciences, Dharan, Nepa

Background

Quality laboratory reports contribute about 70% to medical diagnosis and treatment. Substantial development of automation in the field of clinical chemistry has aided in the significant improvement in medicine and laboratory science, but the errors in the pre-analytical phase pertain to maximum in the whole laboratory cycle. The aim of the study was to evaluate the common pre-analytical errors occurring in routine biochemistry laboratory and subsequently imply strategies applicable in our laboratory setting to minimize their occurrence.

Methodology

This is a hospital-based cross-sectional study conducted in the routine biochemistry laboratory, BPKIHS. All the samples in the routine biochemistry laboratory were screened for a period of 1 year from December 2018 to November 2019 respectively. All the types of pre-analytical errors were assessed and recorded. Data were entered in Microsoft Excel and analyzed using SPSS version 11.5. Descriptive statistics were used to depict the frequency of the errors.

Results

A total of 34,540 samples were screened during the study period. Out of the total samples, 1015 samples were subjected to rejection which accounted for a total of 2.94%. Among the rejected samples, maximum were due to hemolyzed samples (1.5%), wrong identification (0.6%), samples misplaced (0.4%), improper sample collection (0.2%),

inappropriate sample collection time (0.12%), missing samples(0.1%) and lipemic samples (0.02%) respectively.

Conclusion

The study revealed a significant number of pre-analytical errors existed in our laboratory which has a direct impact on quality laboratory results and patient service.

Keywords

Clinical Chemistry Tests, Clinical Laboratory Techniques, Diagnostic Errors / statistics & numerical data, Laboratories

1.2.3 Evaluation of Basic Cardiovascular Profile And Prevalence of Cardiovascular Risk Factors among The National Level Athletes of Nepal

Reeju Manandhar¹, Kunjang Sherpa¹, Dipanker Prajapati¹, Kiran Acharya¹, Amrit Bogati¹, Madhu Roka¹, Chandra Mani Adhikari¹

Corresponding Author

Dr. Reeju Manandhar, Department of Cardiology, Shahid Gangalal National Heart Centre, Kathmandu, Nepal, Email: reejuman@gmail.com

Affiliations

¹Department of Cardiology, Shahid Gangalal National Heart Centre, Kathmandu, Nepal

Background

Intense physical training is associated with morphologic and physiologic cardiac changes often referred to as the athlete's heart. ECG and Echocardiography are the most reliable ways to detect the adaptive changes of athlete's heart to intense exercise, which if used along with clinical examination and history taking, have great effectiveness in detecting underlying heart disease that may imply a risk for people practicing sports. The main objective of this study is to evaluate the baseline cardiovascular status and prevalence of cardiovascular risk factors among the national level athletes of Nepal.

Methodology

It was a cross sectional study, which included national level football players, who underwent basic cardiovascular evaluation with their baseline characteristics, prevalence of cardiovascular risk factors was also recorded and analyzed accordingly.

Results

Total of 102 national football players were recruited in the study among which 79(77.4%) were male, with an overall mean age of 23.8 ± 1.5 years. Average resting heart rate was 56.8 ± 3.2 . Sinus bradycardia (63.7%) was most common findings in ECG, followed by early repolarization (40.2%), Left ventricular hypertrophy pattern (20.6%), sinus arrhythmia (15.6%) and first degree AV block (9.8%). The mean Left Ventricular internal diameter in diastole was 51 mm and 41mm in male and female players respectively, with overall mean LV ejection fraction of $62.8 \pm 4.5\%$, with concentric remodeling(2.9%), structural heart disease(1.9%) were also detected by echocardiography. Mean BMI and BSA among all players were $23.6 \pm 2.3 \text{ kg/m}^2$ and $1.69 \pm 0.08 \text{ m}^2$ respectively with 4.9% of players had body mass index more than 25 kg/m^2 , mean total cholesterol level and LDL was 3.8 and 1.9mmol/L respectively.

Conclusion

This study provides valuable information about the cardiac condition of national level athletes of Nepal and the adaptive changes of their heart to regular intense exercise. This study also helps in detecting underlying heart disease that may imply a risk for sports participation and risk of sudden cardiac death among the Nepalese athletes.

Keywords

Athletes, ECG, Echocardiography

1.2.4 A Causal Model of Promoting Resilience in Long-Term Recovery Phase Among Nepalese Elderly Citizens Experiencing Disaster

Rekha Timalisina¹ Praneed Sonwathana² Wipa Sae-Sia²

Corresponding Author

Dr. Rekha Timalisina, School of Nursing and Midwifery, Patan Academy of Health Sciences, Sanepa, Lalitpur, Email: rekha.timalisina@gmail.com

Affiliations

¹ School of Nursing and Midwifery, Patan Academy of Health Sciences, Sanepa, Lalitpur

² Graduates of Faculty of Nursing, Prince of Songkla University, Hat Yai, Thailand

³ Faculty of Nursing, Prince of Songkla University, Hat Yai, Thailand

Background

Nepal is at high risk of natural disasters that might push Nepalese elderly citizens into psychosocial vulnerability and cause psychosocial health problems.

Methodology

A cross-sectional path analytical study design was adopted to develop and test the hypothesized causal model of promoting resilience in the long-term recovery phase among 324 randomly selected Nepalese elderly citizens experiencing a disaster. Ethical approval was obtained from the Nepal Health Research Council, and Faculty of Nursing, Prince of Songkla University, Thailand. Data were collected using ten sets of valid and reliable standard instruments for measuring exogenous (self-esteem, optimism, mental health, life satisfaction, perceived stress, loneliness, spirituality, and social support) and endogenous variables (self-efficacy and resilience). Data were analyzed after testing assumptions of multiple regression and path analysis using SPSS and AMOS software. Then, the assessment of the model fit was done based on 303 samples after deleting 21 cases of multivariate influential outliers. The hypothesized model was modified by adding one path from perceived stress to self-efficacy.

Results

The modified model shows a better fit with the empirical data that explained 74.7% of variance by (1) self-efficacy, (2) perceived stress, (3) spirituality, (4) self-esteem, and (5) social support on resilience ($R^2 = .747$). Further, the significant direct and positive effect of spirituality and self-efficacy, and the significant direct and negative effect of perceived stress, on resilience were revealed. Additionally, the significant indirect and positive effects of self-esteem and social support, and the significant indirect and negative effects of perceived stress, on resilience through self-efficacy were proved.

Conclusion

In conclusion, self-efficacy is the strong and significant factor explaining resilience of elderly citizens. It is necessary to design resilience-focused interventions to enhance self-efficacy, self-esteem, and spirituality; lower the perceived stress, and promote social support for fostering resilience and positive and successful psychosocial and spiritual adaptation among elderly citizens in the long-term post-disaster phase.

Keywords

disaster, elderly citizens, long-term, recovery phase, resilience

1.2.5 REMAP-CAP: A Randomized, Embedded, Multi-factorial, Adaptive Platform Trial for Community-Acquired Pneumonia. (Anticoagulation Domain)

Diptesh Aryal¹, on behalf of REMAP-CAP Investigators

Corresponding Author

Dr. Diptesh Aryal, NICRF, Email: diptesharyal@gmail.com

Affiliations

¹National Principal Investigator, REMAP-CAP (Nepal)

Intensivist and Research Physician

Nepal Medciti (previously)

Research Physician (Honorary), Mahidol Oxford Tropical Medicine Research Unit (MORU) and NICRF

Background

Thrombosis and inflammation may contribute to morbidity and mortality among patients with coronavirus disease 2019 (Covid-19). We hypothesized that therapeutic-dose anticoagulation would improve outcomes in critically ill patients with Covid-19.

Methods

In an open-label, adaptive, multiplatform, randomized clinical trial, critically ill patients with severe Covid-19 were randomly assigned to a pragmatically defined regimen of either therapeutic-dose anticoagulation with heparin or pharmacologic thromboprophylaxis in accordance with local usual care. The primary outcome was organ support-free days, evaluated on an ordinal scale that combined in-hospital death (assigned a value of -1) and the number of days free of cardiovascular or respiratory organ support up to day 21 among patients who survived to hospital discharge.

Results

The trial was stopped when the pre-specified criterion for futility was met for therapeutic-dose anticoagulation. Data on the primary outcome were available for 1098 patients (534 assigned to therapeutic-dose anticoagulation and 564 assigned to usual-care thromboprophylaxis). The median value for organ support-free days was 1 (interquartile range, -1 to 16) among the patients assigned to therapeutic dose anticoagulation and was 4 (interquartile range, -1 to 16) among the patients assigned to usual-care thromboprophylaxis (adjusted proportional odds ratio, 0.83; 95% credible interval, 0.67 to 1.03; posterior probability of futility [defined as an odds ratio <1.2], 99.9%). The percentage of patients who survived to hospital discharge was similar in the two groups (62.7% and 64.5%, respectively; adjusted odds ratio, 0.84; 95% credible interval, 0.64 to 1.11). Major bleeding occurred in 3.8% of the patients assigned to therapeutic-dose anticoagulation and in 2.3% of those assigned to usual-care pharmacologic thromboprophylaxis.

Conclusion

In critically ill patients with Covid-19, an initial strategy of therapeutic-dose anticoagulation with heparin did not result in a greater probability of survival to hospital

discharge or a greater number of days free of cardiovascular or respiratory organ support than did usual-care pharmacologic thromboprophylaxis.

Keywords

COVID-19, Pneumonia , Therapeutic Anticoagulation, Critical care

1.2.6 Carbapenemase-Encoding *bla_{KPC}* and *bla_{OXA-48}* Genes in Carbapenem-Resistant Gram-Negative Bacteria in A Tertiary Hospital in Nepal

Smriti Kattel¹, Susil Pyakurel¹, Mandira Adhikari¹, Prasha Shrestha^{2*}, Anil Kumar Sah³, Ganesh Rai¹, Ujjwal Laghu³, Dhiraj Shrestha¹, Shiba Kumar Rai¹

Corresponding Author

Ms. Prasha Shrestha, Key Laboratory of Fujian-Taiwan Animal Pathogen Biology, College of Animal Sciences, Fujian Agriculture and Forestry University, Fuzhou, China., Email: prashastha502@gmail.com

Affiliations

¹Department of Microbiology, Shi-Gan International College of Science and Technology, Kathmandu, Nepal.

²Key Laboratory of Fujian-Taiwan Animal Pathogen Biology, College of Animal Sciences, Fujian Agriculture and Forestry University, Fuzhou, China.

³Department of Microbiology, Annapurna Research Centre, Kathmandu, Nepal

⁴Grande International Hospital, Kathmandu, Nepal

Background

Carbapenems are still the last-resort treatment for multidrug-resistant (MDR) Gram-negative bacteria (GNB). Carbapenemases are becoming more common in GNB worldwide, posing a severe public health crisis. As data on carbapenem-resistant (CR) bacteria in developing countries are scarce, we explored the burden of carbapenem resistance as well as carbapenemase-encoding genes among GNB in a healthcare setting in Nepal.

Methodology

A cross-sectional research was conducted in a tertiary setting in Nepal. After the 4,919 samples were processed following standard laboratory methods, CR GNBs were screened with meropenem susceptibility. The modified Kirby-Bauer disc diffusion method was used to assess the antibiotic susceptibility of CR isolates. The modified Hodge test (MHT) was used to phenotype CR isolates, while PCR and gel electrophoresis were used to genotype carbapenemase-encoding genes, *bla_{KPC}* and *bla_{OXA-48}*.

Results

During the study period, 186 CR GNBs were identified. Out of 186 CR isolates, 42 (22.6%) isolates were MHT positive. The *bla*_{KPC} and/or *bla*_{OXA-48} genes were confirmed in 29 (69.0%) isolates. The MHT was significant in *E. coli* (p=.026, FET, OR= 0.27), and *bla*_{KPC} gene was significant in *A. baumannii* (p= .035, FET, OR= 0.17). Among the tested antibiotics, most isolates showed susceptibility to colistin and tetracycline. All 186 CR isolates were MDR, 9 (4.8%) isolates were extensive drug-resistant and 6 (3.2%) isolates were possible pan drug-resistant.

Conclusion

The carbapenemase-encoding *bla*_{KPC} and *bla*_{OXA-48} genes were common among CR GNB, indicating their rapid spread in Nepal. This warrants the need for immediate interventions to contain this raging public health threat.

Keywords

blaKPC, blaOXA48, carbapenemases, carbapenem resistance, Gram-negative bacteria, Nepal.

1.2.7 Neglected Tropical Diseases (NTDs) Service Availability at Local Health Facilities in Eastern Nepal

Deependra Kaji Thapa^{1, 2}, Chiranjibi Nepal¹, Nirmala Sharma³, Bhuwan Baral³, Bed Prakash Sharma³, Harsha Raj Dahal⁴, Anjalina Karki¹, Janak Thapa¹, Michelle Cleary²

Corresponding Author

Dr. Deependra Kaji Thap, Nepal Public Health Research and Development Center (PHRD Nepal), Kathmandu, Nepal, Email: deependrakajithapa@gmail.com

Affiliations

¹Nepal Public Health Research and Development Center (PHRD Nepal), Kathmandu, Nepal

²School of Nursing, Midwifery and Social Sciences, CQUniversity, Australia

³Fairmed Foundation, Kathmandu, Nepal

⁴Nepal Public Health Association, Kathmandu, Nepal

Background

Neglected Tropical Diseases (NTDs) are a public health concern with leprosy, lymphatic filariasis (LF), visceral leishmaniasis (VL), soil-transmitted helminths, and trachoma most common in Nepal. This study assessed the availability of NTD services in three NTD prevalent districts in eastern Nepal.

Methodology

A cross-sectional facility-based study was conducted across 36 public health facilities (health posts and primary health care centers) in Jhapa, Morang, and Sunsari districts. The survey included checklists for the availability of service, human resources, national guidelines, diagnostics, and medicines for leprosy, LF, VL, and rabies, based on the *WHO Service Provision and Readiness Assessment framework*.

Results

Majority (81.6%) of facilities were offering services for leprosy, 11.1% for LF, and 8.3% for VL. One-third of facilities (33.3%) were providing both treatment and diagnostic services, while 39% were only providing a treatment service, and 19.4% had no service for leprosy. Most of the facilities (89%) did not have diagnosis and treatment services for LF. In the case of VL, only 3 facilities reported providing both diagnostic and treatment services, with 3 other facilities having only diagnostic services. An anti-rabies vaccine was available in 2 facilities (5.6%) only. Two-thirds (66.7%) had national guidelines for leprosy, with fewer proportions having national guidelines available for VL (13.9%), LF (5.6%), and rabies (8.3%). Most of the health facilities did not have health workers trained on NTDs, except for leprosy (72% had at least one health worker with leprosy training). Health workers identified a lack of trained human resources (63.9%), lack of technology and logistics (47.2%), laboratory services (36.1%), and medicine (16.7%) as the reasons for unavailability of services.

Conclusion

Despite the high prevalence of NTDs in the eastern *Terai* region, there is a need to strengthen the health system by ensuring trained personnel, availability of diagnostics and medicines, and use of national guidelines for providing NTD services at local health facilities.

Keywords

Neglected Tropical Diseases, Leprosy, Lymphatic filariasis, Visceral Leishmaniasis, Rabies, Service availability, Local health facility

SESSION 3: Health Policy and System Research – II

1.3.1 Strengthening SRHR in Pre-service Education of Doctors, Nurses and Midwives

Binjwala Shrestha¹, Chandra Kala Sharma², Kiran Bajracharya², and Parnil Man Singh Pradhan²

Affiliations

¹Institute of Medicine, Central Department of Public Health, Kathmandu, Nepal

²Institute of Medicine, Maharajgunj Nursing Campus, Kathmandu, Nepal

Background

Safe Motherhood and Reproductive Health Act, 2018 Government of Nepal (GON), every woman and teenager shall have the right to obtain an education, information, counseling and services relating to sexual and reproductive health. Evidence from all over the world suggests that freshly graduated health workers are not adequately competent to provide quality services necessary to achieve national health targets. To address this knowledge gap, governments spend a lot of resources providing in-service training to fresh graduates.

Methodology

Qualitative methods were applied including relevant policy document review and key informant interviews with concerned person of the Family Welfare Division (FWD), National Health Training Centre (NHTC), Medical and Nursing Colleges, Medical Council and Nepal Nursing Council) along with the National Medical Education Commission,

Results

On review of existing standards of accreditation on SRH related subjects, it was found that most guidelines did not have specific components of SRH that were necessary to demonstrate competency as per the government's policies, programs and job description of respective cadres. There was no consistent format and specification of structure, time allocation or duration of the course for theory, practical and clinical posting for hands-on training. The Medical Education Commission (MEC) is responsible to develop standard guidelines for the development of curricula for competent Human resources for health production in Nepal. Presently, MEC is in the process of developing curriculum

guidelines for all programs under all medical institutions in consultation with concerned professional councils and experts from universities.

Conclusion

There is a clear gap between Government stakeholders, councils and academia when drafting the minimum criteria of curriculum for Nursing and Medical education programs to meet the required competency for SRHR service delivery. Now MEC should take initiatives to develop standard guidelines consulting all stakeholders from academia, Councils, NHTC, FWD, Nursing and Social Security Division, Curative Division of MoHP-to harmonize curriculum with government priorities, existing national legal and policy framework and international benchmarks.

Keywords

Preservice, Education, SRHR, Curriculum, Guideline Medical, Nurse, Midwives

1.3.2 The Gendered Experience of Female Community Health Volunteers (FCHVs) in Nepal: Implications for Policy and Practice during and Post COVID-19

Abriti Arjyal¹, Ayuska Parajuli¹, Obindra Chand¹, Shophika Regmi¹, Sushil Baral¹

Corresponding Author

Ms. Ayuska Parajuli, HERD International, Email: ayuska.parajuli@herdint.com

Affiliations

¹HERD International, Kathmandu, Nepal

Background

The Female Community Health Volunteers (FCHVs) are increasingly mobilized to reach the most marginalized in the communities. However, during COVID-19, FCHVs find it challenging to balance work and family while managing community and health system expectations. Thus, this study explored their roles and gendered experiences during COVID-19 in Nepal.

Methodology

Following the document review, data collection was conducted through in-depth interviews (IDIs) and key informant interviews (KIIs) between Dec 2020 and Jan 2021. After receiving ethical approval from NHRC, the study was conducted in Gulariya and Chandragiri municipalities. Total thirteen IDIs with FCHVs and nine KIIs with range of stakeholders were conducted.

Results

FCHVs have gained trust in the community but they lacked adequate support from men while performing their roles during COVID 19. Most FCHVs preferred female supervisors as they believed this could create a more gender-sensitive environment which facilitates communication, particularly when discussing sensitive topics. Additionally, COVID-19 increased workload for FCHVs due to disruption in the health facilities and more engagement for counseling. Defined gendered norms and stereotype about division of labor at household level made the work challenging for FCHVs. Not all FCHVs received support from their family members. There was limited formal training and orientations about COVID-19. Lack of safety equipment and ignorance from the health system demotivated FCHVs during the pandemic. Inadequate support on safety equipment and ignorance from the health system demotivated FCHVs to do their work during pandemic. The FCHVs were stressed by the fact that they were infected with COVID-19, but no formal mental and psychosocial support was provided. The participatory decision-making was lacking while engaging FCHVs.

Conclusion

While designing, implementing and engaging FCHVs in various community health programs, more attention must be paid to the FCHV's multiple responsibilities as a woman and community health worker.

Keywords

FCHVs, gender, experience, COVID-19

1.3.3 A Policy Research on Eye Health Services of Nepal

Sah Dipak Kumar¹ Karki Khem¹ Sharma Guna Nidhi²

Corresponding Author

Mr. Dipak Kumar Sah, Institute of Medicine, Maharajgunj Medical Campus, Tribhuvan University, Email: dipakiom2047@gmail.com

Affiliations

¹Institute of Medicine, Maharajgunj Medical Campus, Tribhuvan University

²Ministry of Health and Population, Nepal

The eye health system in Nepal is governed mainly by philanthropic social organizations with a history of service dating back to more than three decades. However, the national policies addressing the six building blocks of the eye health system are scarcely available and the organizations are running the services on their own. So this study aims to find out existing gaps in national policies, strategies, and programs in the eye health of Nepal and recommend the way forward.

This policy research applies scoping review as the methodology. A total of 82 documents comprising policy documents, research articles, annual reports of eye health facilities and

organizations, global documents on commitments and targets have been reviewed. All the documents were entered into a data charting form and the information regarding the six building blocks of the eye health system was collated and summarized. Furthermore, stakeholders in the eye health of Nepal were consulted.

Eye health services in Nepal have not been integrated into the government health system although stated in National health policy 2076. The human resources for eye health are disproportionately distributed in the country and still suffer a lack of government recognition. The regulation of ocular devices is not governed by existing policies. The data from eye health services are not fed directly into the National Health Information Management System. The government fund has the least share in financing eye health covering only about five percent. The roles and responsibilities of the governing body have not been well documented.

The eye health care system is not adequately addressed by policies, strategies, and programs in Nepal. Moreover, proper implementation of existing policies and plans is required. Expansion of health insurance can be an effective way of financing eye health. Monitoring mechanisms of eye health information and supplies like spectacles and ocular devices should be developed and executed.

Keywords

Eye health, health insurance, scoping review, health system

1.3.4 Gaps in Generation and Use of Gender and Social Stratifiers in Evidence Based Policy and Planning: A Case Study of Health Information System of Public and Private Sectors in Nepal

Sushil Baral¹, Sampurna Kakchapati¹, Puja KC¹; Helen Elsey², Ghazala Mir³, Shophika Regmi¹

Corresponding Author

Dr. Sushil Baral, HERD International, Kathmandu, Nepal, Email: sushil@herdint.com

Affiliations

¹HERD International, Kathmandu, Nepal

²University of Leeds, UK

³University of York, UK

Background

The availability of routine, reliable and timely disaggregated data based on gender and social stratifiers allows policy makers to conduct gender and intersectional analysis to improve health outcomes and address inequities in health to leave no one behind. Therefore, this study aimed at exploring availability of gender and other social stratifiers

in the information management system of public (Health Management Information System/HMIS) and private health sectors, assess use of disaggregated data in health planning and decision making and design an evidence-informed framework that promotes gender equitable delivery of health services.

Methodology

We adopted a cross-sectional exploratory case-study design, using a mix of qualitative methods and document review. A total of ten key informant interviews from health facilities, municipalities and health offices were conducted and review included existing policies, guidelines, forms, formats, including national health policy documents. We selected two health facilities (one public and one private) in two municipalities (Chandragiri Municipality and Kathmandu Metropolitan City) of Kathmandu district of Province 3.

Results

The importance of gender and social stratifiers are increasingly included in health policies and strategies, however very few social stratifiers are available in current recording and reporting forms of HMIS and information systems of the private sector, which do not allow intersectional analysis to identify populations not reached by the health services. Unavailability of physical resources, lack of designated and trained human resources for recording and reporting and no provision of regular/refresher training were major challenges in implementation of HMIS.

Conclusion

Existing HMIS recording and reporting forms require major reforms in order to consider diverse gender and social stratifiers. This is a major step for the federal government and needs to ensure coordination with sub-national governments to make revisions during the routine HMIS amendment process. Conducive environment to generate quality data through designated and trained human resources and resources should be assured through strong and dedicated leadership at all levels of governments.

Keywords

Information management system; HMIS; information technology; gender, equity and justice; health systems; health policy and planning

1.3.5 Routine Data Quality Assessment in Selected Hospitals of Lumbini Province: System and Data Verification gaps and recommendation for improved data quality

Yangzi Sherpa¹, Dr. Binod Kumar Giri², Roshan Lal Chaudhary³, Tuk Prasad Pokhrel⁴

Corresponding Author

Mr. Harsharaj Dahal, Purbanchal University of Nepal, Email: harsha@nhssp.org.np

Affiliations

¹ IMPH, Braun School of Public Health and Community Medicine, Hebrew University, Jerusalem, Israel

² MPH, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

³ MPH, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

⁴ BBS, Management Department, Tribhuvan University, Kathmandu, Nepal

Health Service data are used to inform decisions about planning and implementation as well as to evaluate performance and outcomes, and the quality of those data are important. Routine Data Quality Assessment (RDQA) affords the opportunity to assess two domains mainly system factors and data verification and facilitate the formulation of an action plan for improved quality of health data and generate system in health service delivery outlet settings. The Government of Nepal's Ministry of Health and Population is committed to providing quality health services to all its citizens. The quality of the data reported from health service delivery outlets is therefore important to ensure improvement in their service quality. The findings of this study have determined existing gaps for improved data quality using the RDQA tool in Selected Hospitals of Lumbini Province.

It is a descriptive cross-sectional study comprising an observation of data of selected indicators and interviewing with hospital staff (Medical Recorder). Structured electronic checklist was used to interview hospital staff to assess system factors while record register, tally sheet, monitoring sheet and report was observed thoroughly to check data quality in data verification factor. Standardized Web based RDQA tool was adapted in randomly selected referral hospitals from 5th August to 5th September 2021 in Lumbini province with its result analyzed in scores in range of 0-3 in system assessment and using descriptive analysis in data verification assessment in percentage.

Lumbini provincial hospital has achieved a score of 1.94, Rapti provincial hospital as 2.15 and Bheri hospital as 1.63 as an average score for all five domains in system assessment. Both under reporting and under reporting were observed in verification of register, report and tally sheet.

Initiation of practice of cross verification, use of tally sheets, monitoring and supervision, timely feedback mechanism and use of data for decision making was recommended for improved data quality in hospitals.

Keywords

Routine Data Quality, Data Verification, Monitoring and Supervision, Under reporting, Over Reporting, Hospital Reporting

1.3.6 A systematic Review and Meta-analysis of Prevalence and Associated Factors of Exclusive Breastfeeding Practices in Nepal

Sharada P Wasti¹, Ayushka Shrestha², Pushpa Dhakal³, Vijay S GC⁴

Corresponding Author

Dr. Sharada Prasad Wasti, University of Huddersfield, UK, Email: spwasti@gmail.com

Affiliations

¹School of Health and Human Sciences, University of Huddersfield, Huddersfield, UK

²Nepal Disabled Women Association, Kathmandu, Nepal

³National Academy of Medical Sciences, Bir Hospital, Kathmandu, Nepal

⁴Centre for Health Economics, University of York, York, United Kingdom

Introduction

Despite the global emphasis on breastfeeding, exclusive breastfeeding (EBF) practices still lag behind the global recommendations in low-and middle-income countries. The major objective of this study is to estimate the prevalence of EBF in the first six months of life and associated factors determining EBF practices in Nepal

Methodology

We searched PubMed/MEDLINE, Embase, Scopus, Web of Science, Cochrane Library, MIDIRS, Directory of Open Access Journals (DOAJ), and the Nepal Journals Online to retrieve studies published up to July 2021. The findings of this review are reported following the PRISMA checklist and the study protocol was preregistered on PROSPERO. The quality of studies was assessed using the JBI quality appraisal checklist. Analyses were performed in R statistical software and statistical analysis figures with a $p < 0.05$ were considered statistically significant.

Results

A total of 10,031 mothers with a child above six months old from 28 studies contributed to meta-analyses. The overall prevalence of EBF in Nepal was 43% (95% CI 35 to 52). The pooled prevalence rate was higher among younger mothers (20 to 24-year-olds; 70.1%), and older mothers (29 to 32 years) had the lowest prevalence (13.4%). Types of delivery (OR=1.59; 1.24-2.05), ethnic minority groups (OR=1.33; 1.02-1.75), prelacteal feed (OR=0.47; 0.34-0.64) and first-birth orders (OR=1.89; 1.33-2.67) were found significant predictors for EBF practices. Parents' level of education, knowledge of the duration of EBF, lack of milk secretion, mother's age, occupation and busy work schedule were identified as barriers for EBF practices.

Conclusion

This study underlines low levels of EBF practices in Nepal. Multifaceted, effective, and evidence-based efforts should be implemented to address those underlying barriers to EBF practices. The inclusion of the EBF component in existing health care counseling packages would be helpful for exclusive breastfeeding practices in Nepal.

Keywords

Exclusive breastfeeding, Prevalence, Systematic Review, Meta-analysis, Nepal

1.3.7 Enhancing the Use of Routinely Collected Data in Health System Performance and Accountability in Nepal

Pushkar Silwal¹, Deepak Kumar Karki²

Corresponding Author

Mr. Pushkar Silwal, University of Auckland, Email: p.silwal@auckland.ac.nz

Affiliations

¹ Health Systems and Policy Department, University of Auckland, New Zealand

² British Embassy Kathmandu, Nepal

Background

The Nepalese health system is transitioning to a federal structure. The federalization of the health system evolves the stewardship functions for the federal sector ministry. Evidence generation and its use is critical to take the functions. Nepal has established and run a health information system nationwide for over two decades. However, various data systems are yet to be integrated and used not only to monitor the (trends of) health outputs but also to track health systems performance improvement. Review and reflect the options for improving the use of routinely collected data in health system performance and accountability in Nepal.

Methods

We used the public management framework developed by Bouckaert and Halligan in 2008 and its subsequent development by Van Dooren, Bouckaert, and Halligan in 2010 and 2015. The framework identifies ‘measurement’, ‘incorporation’, and ‘use of performance information’ as the fundamental elements in public performance management. We explored the linkages and disconnects between the elements and outlined potential solutions in data use for performance improvement.

Results and implications

The existing policy mechanisms support the ‘measurement’ function, but the ‘incorporation’ and ‘use of performance information’ are not clearly defined. As the data systems are not fully integrated and comprehensive and lack robust performance

measurement and management framework in the health systems, the incorporation and use of information are not integrated into the governance and accountability mechanisms. Furthermore, most of the indicators identified record primarily to the inputs and processes. The data are intended to be used mainly for annual review and meet reporting requirements. Enhancing the use of routinely collected data in performance improvement requires a well-defined framework that identifies the measurement, incorporation and use of information (e.g., performance audit, benchmarking, performance comparison) functions that support the financial and programmatic decision-making.

Keywords

Performance-based management, Health systems, Quality improvement, Nepal

1.3.8 Factors Associated with Implementation of the Protocol -1 (CVD prevention) of the Package of Essential Noncommunicable Disease (PEN) in Primary Health Care Facilities of Nepal

Dinesh Timalsena^{1,2}, Chadani Singh Nakarmi³, Aarati Dhakal³, Alina Bharati³, Anupama Bishwokarma³, Asmita Adhikari³, Bikram Poudel³, Binuka Kulung Rai³, Sangita Manandhar³, Surakshya KC³, Sushmita Mali³, Pramita Shrestha³, Sashi Silwal⁴, Meghnath Dhimal⁴, Phanindra Prasad Baral⁵, Sanju Bhattarai⁶, Lonim Dixit⁷, Elizabeth Rhodes⁸, Donna Spiegelman⁹, Archana Shrestha^{1,8,10,11}

Corresponding Author

Mr. Dinesh Timalsena, Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal, Pratyashil Community Development Society (PRAYAS-Nepal), Nepal, Email: dinesh@kusms.edu.np

Affiliations

¹Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

²Pratyashil Community Development Society (PRAYAS-Nepal), Dhading, Nepal

³Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel, Nepal

⁴Nepal Health Research Council, Ramshahpath, Kathmandu, Nepal

⁵NCD and Mental Health Section, Epidemiology and Disease Control Division (EDCD), Department of Health Services(DoHS), Ministry of Health and Population(MoHP), Government of Nepal

⁶Norwegian University of Science and Technology, Norway

⁷World Health Organization, Kathmandu, Nepal

⁸Center for Methods in Implementation and Prevention Science, Yale School of Public Health, New Haven, USA

⁹Department of Biostatistics, Yale School of Public Health, New Haven, USA

¹⁰Department of Chronic Disease Epidemiology, Yale School of Public Health, New Haven, USA

¹¹Institute for Implementation Science and Health, Kathmandu, Nepal

Background

The Government of Nepal (2016) adopted the PEN package in primary health care (PHC) facilities to address the burden of non-communicable disease (NCD). This study assessed the factors associated with the PEN protocol 1 (CVD) services implementation at primary health care (PHC) level facilities in Nepal.

Methodology

We conducted a cross-sectional study in 105 PHC facilities, selected by multistage random sampling from all 7 provinces in Nepal. We interviewed the health personnel using a structured questionnaire. We assessed the association of CVD risk chart use, BMI assessment, and Glucose measurement with providers ((age, gender, designation, experience, perception) and health facility-level (type, location, equipment, medicine and services) using a generalized estimating equation with logistic regression.

Results

All healthcare workers measured blood pressure, 56% tested glucose, 28% used CVD risk chart and 27% assessed BMI. CVD risk chart use was associated with urban setting (OR: 0.39; 95% CI:0.17-0.92) and metformin access (OR: 3.89; 95% CI: 1.01-14.98). BMI assessment was associated with access to weighing-scale (OR: 3.45; 95% CI: 66.56-1791.07), stadiometer (OR: 3.19; 95% CI: 1.20-8.51), glucometer (OR: 3.24; 95% CI:1.16-9.02), knowledge (OR:1.08;95%CI:1.00-1.17) and motivation (OR:0.78; 95% CI: 0.64-0.95). Glucose measurement was associated with being at PHC (OR:5.15;95% CI: 2.49-10.68), laboratory (OR:54.94; 95% CI: 19.97-151.14) and glucometer (OR:2.42; 95%CI:1.23-4.76); motivation (OR:0.87; 95% CI:0.77-0.99), self-efficacy (OR:0.80; 95% CI:0.66-0.95) and positive expectancy from protocol-use (OR:0.80; 95% CI: 0.64-0.99).

Conclusion

The PEN protocol 1 use could potentially be improved through increasing availability of equipment, medicines in the health facilities and improving the self-efficacy of health workers.

Keywords

PEN Package, NCD, Hypertension, Diabetes, Health Services

1.3.9 Factors Affecting Implementation, Enrollment and Sustainability of The National Health Insurance in Nepal: A Systematic Review

Bikesh Bajracharya¹, Padam Simkhada¹, Ann-Louise Caress¹, Simon Rushton²

Corresponding Author

Mr. Bikesh Bajracharya, University of Huddersfield, Huddersfield, United Kingdom,
Email: bikesh.bajracharya@hud.ac.uk

Affiliations

¹Univeristy of Huddersfield, Huddersfield, United Kingdom

²Univeristy of Sheffield, Sheffield, United Kingdom

Background

The Government of Nepal introduced the National Health Insurance (NHI) in 2016. The NHI strives to achieve universal health coverage by improving access to quality health care. This systematic review assesses barriers and facilitators affecting implementation, enrollment and sustainability of the NHI in Nepal.

Methodology

We searched four electronic databases. We included quantitative and qualitative studies written in English languages, published from 2013 to 2021. One reviewer was responsible for screening, while three reviewers double-checked the screening process independently to complete study selection, data abstraction, and assessment of methodological features. We synthesized findings based on thematic analysis, categorized according to the ecological model into individual, interpersonal, community and systems levels.

Results

Of 172 citations, 29 met the eligibility criteria. Individual factors included awareness and understanding of the concept of the NHI, trust in scheme, perceived financial risk, service quality, service satisfaction and demographic characteristics, which influenced implementation, enrollment, and sustainability. Being older, married, having at least one child or elderly person in households are positively associated with uptake and renewal of the NHI.

Interpersonal factors such as household dynamics, type of family unit, place of residence, and peer pressure influenced enrollment and renewal of membership. There are no community factors reported in any studies regarding their influence in the NHI.

System-level factors encompassed governance, financial, delivery and accessibility arrangements, which influenced implementation, uptake, and sustainability of the NHI.

Poor health facility environment, lack of supplies, long waiting times, rude service provider behaviors, and lack of availability and accessibility of services were factors in people's unwillingness to enroll or decide to drop-out.

Conclusion

There are a multitude of interrelated factors at the individual, interpersonal, and systems levels that drive the implementation, enrollment, and sustainability of the NHI in Nepal. To guarantee that scheme objectives are met, these should be effectively addressed in scheme design and execution and harmonized across levels.

Keywords

Health Insurance, implementation, enrolment, sustainability

1.3.10 Factors Affecting on Compliance of Childhood Immunization in Ilam District of Nepal: A Case Control Study

Bina Sigdel ¹, Yan Jin ², Pushpa Dhakal ³, Tika Luitel ⁴, Pushpa Kumari Ghimire ⁵, Sharada P Wasti ⁶

Corresponding Author

Mrs. Bina Sigdel, Neonatal Intensive Care Unit, Kanti Children's Hospital, Kathmandu, Nepal, bina.sigdel1@gmail.com, +977-9842742657, Email: bina.sigdel1@gmail.com

Affiliations

¹Neonatal Intensive Care Unit, Kanti Children's Hospital, Kathmandu, Nepal, bina.sigdel1@gmail.com, +977-9842742657.

²Xiang Ya Nursing School of Central South University, Changsha, China; Nursing Department, the Third Xiangya Hospital of Central South University, Changsha, China.

³Hemodialysis Unit, National Academy of Medical Sciences, Bir Hospital, Kathmandu, Nepal.

⁴Emergency department, Ilam Hospital, Ilam, Nepal

⁵Pediatric Intensive Care Unit, Kanti Children's Hospital, Kathmandu, Nepal.

⁶Senior Research Fellow, School of Human and Health Sciences University of Huddersfield, UK.

Background

Childhood immunizations remain one of the most important public health interventions to reduce child morbidity and mortality. This study aimed to identify the factors affecting compliance to childhood immunization in children aged 16-36 months.

Methods

A community based unmatched case control study was conducted with 250 (83 cases and 167 controls) respondents in Ilam district of Nepal. Respondents were randomly selected and interviewed using a pre-tested questionnaire. Ethical approval was obtained from Nepal Health Research Council and the reference number was 19. Logistic regression analysis was carried out to identify the factors influencing the compliance of childhood immunization of the sampled respondents.

Results

More than two thirds (66.8%) of the sampled children were fully immunized and 19.3% children were defaulted of the Measles Rubella vaccine. Only 19.2% of the respondents had good knowledge about the type of vaccine and more than half (59.2%) of the respondents had a positive attitude towards immunization. Multivariate logistic regression analysis showed that no information about vaccine (AOR= 49.4, 95% CI= 12.94-188.59), father education (AOR= 2.1, 95% CI= 1.05- 4.30), not getting immunization on the day of appointment (AOR=4.8, 95% CI= 2.30-9.89), don't know about immunization schedule (AOR= 2.4, 95% CI= 1.14-4.84) and negative attitude towards immunization (AOR= 2.1, 95% CI= 1.03-4.19) independently impeded on compliance on the childhood immunization.

Conclusion

Majority of the children were defaulted on the Measles and Rubella vaccines where the targeted intervention health promotion activities at the household level should be promoted, regular outreach activities should be encouraged. This could be achieved through integrating the immunization service to other elements of primary health care.

Keywords

Factors affecting, compliance of immunization, case control study, Nepal

SESSION 4: Biomedical, Epidemiological, and Clinical Research – II

1.4.1 Population Based Cancer Registry in Nepal: Key Findings

Uma Kafle Dahal, Kopila Khadka, Sitasnu Dahal, Manish Dhakal, Bihangum Bista, Meghnath Dhimal, Atul Budukh, Pradip Gyanwali, Nepal Health Research Council, Kathmandu, Nepal

Background

The emergence of cancer has been growing as a major public health problem globally with debilitating impact on health and economy of the country. It is known to be the fifth leading cause of death in Nepal, despite that, systematic cancer control plan has not been launched until recently in Nepal. Recognizing the needs and importance of evidence for the prevention and control of cancer, Nepal health research council has been conducting population based cancer registry (PBCR) in nine districts of Nepal in collaboration with MoHP, WHO and IACR since 1st January 2018. PBCR is the process where information is collected continuously and systematically on all reportable malignancies in the specified population. The major objective of PBCR is to identify the incidence, mortality, patterns and trends of cancer in specified populations over time. It is the most important element of cancer prevention and control activities as it gives an unbiased profile of cancer burden as well as supports for identifying epidemiological determinants of cancer.

Methodology

PBCR is primarily a surveillance type research, and has been based on a census method for data collection where all the new cancer cases and death due to cancer, of a specified population in a defined year were collected. An estimated 6,249,770 populations of the nine districts had been covered by PBCR in 2019 which was 21% of the total population of Nepal. The specified geographical regions selected for PBCR are Kathmandu, Lalitpur, Bhaktapur, Siraha, Saptari, Dhanusha, Mahottari, East Rukum and West Rukum. The data for the PBCR were collected from various sources such as hospitals, laboratories, hospices, alternative treatments centers and communities. After collecting data from multiple sources, data clarification was done through various processes such as residence confirmation through phone call to each case, checking for duplication, verification of tumor profile with available medical reports and information, and distinct code was given to each verified case before entry to CanReg5 software. Finally, data analyses were done through CanReg5 and excel software to generate findings. The findings calculated were age adjusted using world standard population to provide age standardized incidence rate.

Results

Altogether 12,336 cancer cases of 2019 were studied; out of them 3295 new cases 1427 death cases were registered in the year 2019. Among the three registry sites, Incidence and mortality of cancer (AAR) was found to be the highest in the Kathmandu valley than in SSDM and Rukum registry. The cancer of lung and stomach respectively were found to be the leading cancer sites in males in both Kathmandu valley and Rukum regions whereas, cancer of the mouth and lung respectively were found to be the leading cancer sites in males in SSDM registry. In females, Breast cancer is the leading cancer site in Kathmandu valley and SSDM, and surprisingly, lung cancer was found to be the leading cancer site in females in the Rukum registry.

Conclusion

PBCR can give clear picture of cancer burden of specified community by sex and by age group. The findings generated from PBCR will be the milestone for planning and implementing evidence based cancer prevention and control activities, however, government of Nepal needs to give priority for the sustainability of PBCR in order to reduce future burden on the health and economy of the country due to cancer through evidence based systematic plan for cancer control and prevention activities.

Keywords

Population Based Cancer Registry, Incidence, mortality, Nepal

1.4.2 Scrub Typhus and Molecular Characterization of *Orientia tsutsugamushi* from Central Nepal

Rajendra Gautam ¹, Keshab Parajuli ¹, Mythili Tadevall ², Stephen Graves ², John Stenos ², Jeevan Bahadur Sherchand¹

Corresponding Author

Mr . Rajendra Gautam, Institute of Medicine, Email: gautamrajen@gmail.com

Affiliations

¹ Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

² Australian Rickettsial Reference Laboratory, Geelong, VIC 3220, Australia

Scrub typhus is a vector borne, acute febrile illness caused by *Orientia tsutsugamushi*. Scrub typhus continues to be an important but neglected tropical disease in Nepal. Information on this pathogen in Nepal is limited with serological surveys with little information available on molecular methods to detect *O. Tsutsugamushi*. Limited information exists on the genetic diversity of this pathogen. A total of 282 samples were obtained from patients with suspected scrub typhus from central Nepal and 84 (30%)

were positive for O Tsutsugamushi 16S rRNA qPCR. Positive samples were further subjected to 56 kDa and 47 kDa molecular typing and molecularly compared to other O. tsutsugamushi strains. Phylogenetic analysis revealed that Nepalese O. tsutsugamushi strains largely cluster together and cluster away from O. tsutsugamushi strains from Asia and elsewhere. One exception was the sample of Nepal_1, with its partial 56 kDa sequence clustering more closely with non-Nepalese O. tsutsugamushi sequences, potentially indicating that homologous recombination may influence the genetic diversity of strains in this region. Knowledge on circulating strains in Nepal is important to the development of diagnostic tests and vaccines to support public health measures to control scrub typhus in this country.

Keywords

Scrub Typhus, Vector , Molecular typing, 56kDa, 46kDa

1.4.3 Chadox1 Ncov-19 Vaccine and its Self-Reported Adverse Events: A Cross-Sectional Study from Western Nepal

Arun Gautam¹, Nixon Dangol², Urza Bhattarai³, Sandesh Paudel², Bipin Poudel⁴, Shankar Gautam⁵, Prabhat Sharma⁶, Surendra Uranw¹, Sanjib Kumar Sharma¹

Corresponding Author

Dr. Arun Gautam, B.P. KOIRALA INSTUTE OF HEALTH SCIENCES, DHARAN, NEPAL, Email: arungautam5990@gmail.com

Affiliations

¹B.P. Koirala Institute of Health Sciences, Dharan, Nepal

²Galkot Primary Health Care Center, Baglung, Nepal

³All India Institute of Medical Sciences, New delhi, India

⁴Nepal College of Management, Kathmandu, Nepal

⁵National Institute of Ayurveda, Jaipur, India

⁶Shankarapur Hospital, Kathmandu, Nepal

Background

As the vaccination drive against COVID 19 is increasing, the reports of adverse events following immunization (AEFI) are increasingly reported. This research aims to document the adverse events and their determinants following COVID-19 vaccination.

Methodology

This was a cross-sectional study conducted in a primary healthcare setting of Western Nepal. Those individuals who took the first dose of the ChAdOx1 nCoV-19 vaccine in

the health care center (N=425) were eligible for the study. Patients were contacted via phone calls by investigators. Information on demographic details, comorbidities and experiences of any sort of adverse events following vaccination was collected using pre-structured questionnaires. The categorical variables were described in frequency and percentage whereas mean, median, standard deviation and interquartile range were calculated for quantitative variables. Binary logistic regression was carried out to explore the potential determinants of AEFI.

Results

A total of 302 (71.05%) people were randomly selected from 425 targeted people for vaccination at the primary health care center. A total of 276 (91.3%) people vaccinated with ChAdOx1 nCoV-19 vaccine responded to telephone calls. Mean age of participants was 33.63 (\pm 11.14) years and the majority of them were males (54.74%). 91.6% of participants developed some form of AEFI. Among them, 46.6% developed mild AEFI, and 53.4% developed moderate AEFI. Pain on the injection site, generalized weakness, fever, headache, joint and muscle pain, dizziness, and loss of appetite are found to be the “Very common” adverse events. Females tend to develop moderate AEFI than males (OR 2.369; 95% confidence interval, CI=1.398-4.014; P=0.001). Age did not seem to be the determinant of AEFI (OR 0.977; CI=0.954-1.002; P=0.067).

Conclusion

Adverse events following COVID-19 immunization are common but not severe. The severity of AEFI is more in females compared to males. Age did not come out as a predictor for severity of AEFI. Post-vaccination counseling targeting women will improve the acceptance of the vaccine.

Keywords

Covid-19, vaccine, Adverse events, Chadox1 nCoV-19 vaccine, AEFI

1.4.4 Seroprevalence of Dengue Fever in Central Region of Nepal

Mandira Adhikari¹, Basu Dev Pandey², Smriti Kattel¹, Saurav Khanal³, Prasha Shrestha⁴, Shiba Kumar Rai¹, Ganesh Rai¹, Kishor Pandey⁵, Dhiraj Shrestha^{1*}

Corresponding Author

Mr. Dhiraj Shrestha, Shi-Gan International College of Science and Technology, Kathmandu, Nepal, Email: hiraj.diamond@gmail.com

Affiliations

¹Department of Microbiology, Shi-Gan International College of Science and Technology, Kathmandu, Nepal.

²Institute of Tropical Medicine, Nagasaki University, Japan.

³Department of Microbiology, Kantipur College of Medical Science, Kathmandu, Nepal.

⁴Key Laboratory of Fujian-Taiwan Animal Pathogen Biology, College of Animal Sciences, Fujian Agriculture and Forestry University, Fuzhou, China.

⁵Central Department of Zoology, Tribhuvan University, Kathmandu, Nepal.

Background

Dengue virus (DENV) infections affect millions of individuals worldwide. Dengue surveillance is still insufficient, especially in developing countries like Nepal. DENV is an emerging disease in Nepal and multiple outbreaks have already occurred. We investigated the serology coupled with demographic features to describe the regional epidemiology of dengue fever in Nepal.

Methodology

A descriptive cross-sectional study was conducted in 3 different health settings in Nepal. Following the clinical diagnosis, 216 blood samples were collected from dengue suspected patients. These samples were used for routine laboratory examination and IgM-capture enzyme linked immunosorbent assay (ELISA) for dengue serological detection.

Results

Of 216 samples, 39 (18.1%) cases were seropositive for anti-dengue IgM antibodies. The highest number of dengue seropositive cases were in males than females and the 15 to 50 age group. The higher dengue seropositive cases were found in the Terai region, and in the post-monsoon season. The most common clinical feature along with fever was a severe headache.

Conclusion

The study presents baseline seroprevalence data for dengue fever, indicating high seroprevalence. So, serological surveillance on larger geography should be conducted frequently.

Keywords

Dengue; DENV; IgM; Nepal; seroprevalence

1.4.5 Assessment of Antigenemia of Lymphatic Filariasis among Children Borne after Mass Drug Administration (MDA) in Salyantar, Dhading

Pramod Kumar Mehta¹ and Mahendra Maharjan²

Corresponding Author

Mr. Pramod Kumar Mehta, Central Department of Zoology, Institute of Science and Technology, Tribhuvan University, Kirtipur, Nepal, Email: pramodmehta89@yahoo.com

Affiliations

^{1,2}Central Department of Zoology, Institute of Science and Technology, Tribhuvan University, Kirtipur, Nepal

Background

Dhading is lymphatic filariasis(LF) endemic district of Nepal. Under a global program to eliminate lymphatic filariasis, Nepal government has completed six rounds of mass drug administration (MDA) in 2013 with aims of eliminating lymphatic filariasis by 2020. Antigenemia survey is one of methodologies used to evaluate effectiveness of MDA program with aim of assessing antigenic prevalence in children borne after MDA program to understand LF transmission pattern present study has been carried out.

Methods

Antigenemia survey was carried out in 202 children from selected 174 houses of Salyantar, dhading. Before conducting the survey ethical clearance (Reg.no. 629/2018) was taken and consent form was filled up. Antigenemia testing was performed using Filarial Test Strip (Alere, Scarborough ME) by finger prick method. In a plastic micropipette, 75 microliter of blood was directly placed onto the Filarial Test Strip(FTS) sample application pad and a single operator was read FTS at 10 minutes. Visual Filariasis Test Strip (vFTS) results were scored semiquantitatively. Each strip was labeled with patient ID, date and result scored. Obtained result was analyzed using Minitab 17 version 19.2.0 software

Results

A total of 202 individual 5-12years old children samples in Salyantar Dhading district were examined for CFA (Circulating Filarial Antigen), hydrocele and elephantiasis. The overall male to female ratio was 1.1 and mean age of the participants was 9.1years (range of 6-12years). Of 202 individuals screened for LF infection 20/202(9.9%) had CFA positive. Among the infected people, the antigen infection was not co-operatively varied between male and female ($X^2=0.470$, $df=1$, $p=0.493$) and of 2 individuals found with the chronic clinical manifestation of LF, 2/202(1.0%) had hydrocele and no individuals had elephantiasis. None of the individuals with hydrocele or elephantiasis were found to have CFA.

Conclusion

The result indicated the existence of a cluster of new filarial infection in Salyantar, Dhading. Hence to understand the transmission dynamics of disease in present context further filarial survey along with xenomonitoring is recommended.

Keywords

Key Words: Elephantiasis, Hydrocele, Programme, Wuchereria bancrofti

1.4.6 Patterns of Use of Antibiotics in Hospitalized COVID-19 Patients in a Tertiary Care Centre in Lalitpur District, Nepal

Bibechan Thapa,¹ Samyam Bickram Pathak,² Nisha Jha,³ Milesch Jung Sijapati,⁴ Pathiyil Ravi Shankar⁵

Corresponding Author

Dr. Bibechan Thapa, Department of Emergency Medicine, Kirtipur Hospital, Kathmandu, Nepal, Email: bibechanthapa@gmail.com

Affiliations

¹Department of Emergency Medicine, Kirtipur Hospital, Kathmandu, Nepal.

²Department of Intensive Care Unit, Nepal Medciti Hospital, Lalitpur, Nepal.

³Department of Clinical Pharmacology, KIST Medical College and Teaching Hospital, Lalitpur, Nepal.

⁴Department of Internal Medicine, KIST Medical College and Teaching Hospital, Lalitpur, Nepal.

⁵IMU Centre for Education, International Medical University, Bukit Jalil, Kuala Lumpur, Malaysia.

Background

Bacterial co-infection can occur in Coronavirus Disease of 2019 (COVID-19) patients which is the basis for the use of antibiotics in management. COVID-19 has seriously impacted antibiotic stewardship and drastically increased global antibiotic consumption, escalating the already existing global antimicrobial resistance (AMR) problem. The incidence of antibiotic resistance is ever increasing. The widespread and improper use of antibiotics during the COVID-19 pandemic is of great concern. This study explored the patterns of use of antibiotics in the management of hospitalized COVID-19 patients.

Methods

A cross-sectional study was conducted at KIST Medical College and Teaching Hospital among 106 hospitalized COVID-19 patients after ethical approval. All hospitalized (106) COVID-19 patients from April 2021 to June 2021 were enrolled and classified as mild,

moderate, and severe disease. The required data were collected in proforma retrospectively by reviewing the patient's medical records during the three months' study period. The data was analyzed using Statistical Package for the Social Sciences version 21. Descriptive statistical tests and Chi-square tests were used.

Results

The rate of use of antibiotics was very high (98% of patients). Almost 70% of patients received two or more antibiotics. Cephalosporin (80.2%) and Macrolides (53.8%) were the most used class of antibiotics. Meropenem was exclusively used in patients on ventilator support. The number of antibiotics used, and the estimated cost of antibiotics was significantly associated with the patient being admitted to the intensive care unit and patients on ventilatory support.

Conclusions

The overall rate and number of antibiotics used in COVID-19 patients were very high. Though higher classes of antibiotics were mostly used in critical patients, judicious use of antibiotics is of utmost importance. A robust antibiotic stewardship program and surveillance system must be instituted to prevent AMR during the COVID-19 pandemic.

Keywords

Antibiotics, Antimicrobial resistance, Bacterial co-infection, COVID-19, Nepal.

1.4.7 The Impact of Basic Police Training and Scale Diet on Body Composition and Aerobic Performance of Nepal Police Officers Trainees

Bibek Rajbhandari¹, Suman Pant², Bikram Adhikari³, Minani Gurung⁴, Lisasha Poudel³, Olita Shilpakar⁵, Sukadev Karki⁶, Motilal Yonjan Tamang⁷, Purushottam Khadka⁸, Bikash Shrestha⁹, Bhupal Baniya¹⁰, Bikal Shrestha¹¹, Bishal Jung Thakuri¹², Ashmita Maharjan¹³, Ela Singh¹⁴, Babita Gajmer¹⁵, Sumi Singh¹⁶, Amuda Regmi¹², Prabina Maskey¹², Bhuwaneshwar Tiwari¹³, Anish Mali¹⁴

Corresponding Author

Dr. Bibek Rajbhandari, Department of Emergency Medicine and General Practice, Nepal Police Hospital, Kathmandu, Nepal, Email: bibekrajbhandaring@gmail.com

Affiliations

¹Department of Emergency Medicine and General Practice, Nepal Police Hospital, Kathmandu, Nepal,

²Nepal Health Research Council, Kathmandu, Nepal,

³Department of Community Programs, Dhulikhel Hospital Kathmandu University Hospital, Dhulikhel, Nepal

⁴Department of Research and Development, One Health Research and Training Center, Kathmandu, Nepal,

³Department of Community Programs, Dhulikhel Hospital Kathmandu University Hospital, Dhulikhel, Nepal

⁵Department of Emergency Medicine, Prehospital Care and EMS, Grande International Hospital, Dhapasi NAMS, Kathmandu, Nepal,

⁶Nepal Youth Fitness & Calisthenics, Kathmandu, Nepal,

⁷Nepal Police Academy, Kathmandu, Nepal,

⁸Nepal Police Tactical Training College, Kathmandu, Nepal,

⁹Department of Physiotherapy, Nepal Police Hospital, Kathmandu, Nepal,

¹⁰Diet Department, Nepal Police Hospital, Kathmandu, Nepal,

¹¹Department of Community Medicine, Nepalese Army Institute of Health Sciences, Kathmandu, Nepal,

¹²Department of Surgery, Nepal Police Hospital, Kathmandu, Nepal

¹³Department of Public Health, Nepal Institute of Development Studies, Kathmandu, Nepal

¹⁴Innovative Foundation for Health and Research (IFHR), Kathmandu, Nepal,

¹⁵Department of Medicine, Hepatology, Nepal Police Hospital, Kathmandu, Nepal,

¹⁶Department of Emergency Medicine and General Practice, Nepal Police Hospital, Kathmandu, Nepal,

¹²Department of Surgery, Nepal Police Hospital, Kathmandu, Nepal,

¹²Department of Surgery, Nepal Police Hospital, Kathmandu, Nepal,

¹³Traffic Police Office, Surkhet, Nepal,

¹⁴Blue Cross Hospital, Kathmandu, Nepal

Background

Body composition and aerobic performance have a significant impact on a police officer's capacity to execute professional responsibilities. This study aimed to determine the impact of basic police training and scaled diet (BPTSD) on body composition and aerobic performance among Nepal police officer trainees.

Methodology

We conducted a cross-sectional analytical study among 570 Nepal Police recruits from Nepal Police Academy of Butwal and Kathmandu. We enrolled police recruits from March to May, 2019 using systematic random sampling. We collected data from the field on body weight, body fat, body mass index (BMI) and aerobic performance of each participant before and after BPTSD. BPTSD was based on Nepal police basic exercise and diet protocol. We used Microsoft Excel 2013 for data entry and R program (version: 4.0.3) for statistical analysis. We presented numerical parametric data as mean and

standard-deviation. Paired-t test was used to compare mean between before and after. The p-value <0.05 was considered statistically significant.

Results

The body fat and BMI of the participants decreased significantly from 14.3±4.3% to 9.7±3.3% and 22.2±1.9kg/m² to 21.9±1.9kg/m² respectively after BPTSD. There was a significant rise in aerobic performance (4.51±3.39ml/kg/min) and remarkable reduction in body fat (-4.49±2.33%) and BMI (-0.433±1.00kg/m²) after BPTSD among participants with normal BMI at the time of recruitment. Body fat was significantly reduced (-4.36±2.3%) and aerobic performance was significantly increased (6.93±4.70ml/kg/min) among overweight participants at the time of recruitment.

Conclusions

The methodology adopted in BPTSD of Nepal Police was effective in reducing body mass index and fat, improving the physical capacity.

Keywords

Aerobic Performance, Body Fat, Body Mass Index, Physical Training, Scale Diet, VO₂max

1.4.8 Multimorbidity, Stress, Anxiety, Depression, and Quality of Life of Older Nepali Adults

^{1,2}Uday Narayan Yadav, ³Ranju Mehta, ⁴Saruna Ghimire, ⁴Isha Karmacharya, ²Krishna Kumar Yadav, ⁵Suresh Mehta, ⁵Roshan Pokhrel

Corresponding Author

Dr. Uday Narayan Yadav, Australian National University , Email: unyadav1@gmail.com

Affiliations

1. National Center for Epidemiology and Population Health, The Australian National University , Acton, Canberra, Australia
2. Centre for Research Policy and Implementation, Biratnagar, Nepal
3. Little Buddha College of Health Science, Kathmandu, Nepal
4. Department of Sociology and Gerontology and Scripps Gerontology Center, Miami University, Oxford, OH
5. Ministry of Health and Population, Government of Nepal, Kathmandu, Nepal

Background

The prevalence of single and multiple chronic conditions is increasing globally as well as in Nepal. Health-related quality of life (HRQOL) of older Nepali adults in general and in the context of physical and mental wellbeing is poorly understood. This study aims to assess the HRQOL of older Nepali adults and its relationship with multimorbidity and depression. A community-based cross-sectional survey was conducted in two districts (Sunsari and Morang) of eastern Nepal. Using a multistage cluster random sampling design, 847 older adults (≥ 60 years) were interviewed.

Methods

HRQOL was quantified using the 13-item Older People's Quality of Life (OPQOL) scale, which captures participants' views in terms of a 5-Likert scale ranging from 1= Strongly agree to 5= Strongly disagree. The items are summed, then positive items are reverse coded so that higher scores represent higher QoL. The Depression, Anxiety and Stress Scale assessed depressive symptoms. Simple and multiple linear regression was used to draw the inferences while adjusting for important confounders.

Results

The mean (\pm SD) OPQOL score was 42.8 ± 7.1 . Three in ten participants showed depressive symptoms and had multiple chronic conditions. In adjusted regression analyses, compared to participants without any chronic conditions, those with single morbidity ($\beta = -3.41$, 95% CI: -4.38, -2.45) and multiple morbidities ($\beta = -2.84$, 95% CI: -4.06, -1.62) experienced lower QOL score. Similarly, quality of life lowered among those with moderate ($\beta = -3.23$, 95% CI: -4.74, -1.72) to severe ($\beta = -2.96$, 95% CI: -5.05, -0.87) depression. Lower quality of life was also observed among those with moderate to severe anxiety and stress.

Conclusion

Our findings suggest that poor physical and mental health may negatively affect HRQOL among older Nepali adults. As the Government of Nepal works towards addressing the quality of life of older Nepali adults, it's important to emphasize their physical and mental wellbeing and devise policies to promote overall health.

Keywords

Older adults, Health-related quality of life, Anxiety, Depression, Multimorbidity

1.4.9 Varicella Zoster Outbreak in A Military Training Centre in Nepal: A Clinico Epidemiological Study

Lee Budhathoki¹, Parag Karki², Anita Poudel³, Swojay Maharjan³, Manoj Khadka³, Leela Paudel¹, Lochana Shrestha¹

Corresponding Author

Dr. Lee Budhathoki, Department of Community Medicine, NAIHS, Nepal, Email: leebudhathoki@gmail.com

Affiliations

¹Department of Community Medicine, NAIHS, Nepal

²Department of Internal Medicine, Shree Birendra Hospital, Nepal

³NAIHS, Nepal

Background

Chickenpox (Varicella) is an acute, highly infectious disease caused by primary infection of varicella-zoster virus. Outbreaks can occur in adults in closed institutional settings like hotels and military barracks. This study investigates the outbreak of Varicella zoster in a military training centre of Nepal.

Methodology

This is an outbreak investigation of chickenpox in Shree Mahabir Ranger Regiment Training School, Nagarkot and Shree Birendra Hospital. The index case was reported on 5th February 2020. Case definitions were prepared as per Centres for Disease Control and Prevention criteria. Data was collected using questionnaires. Clinical examination of cases and observation of the living area, dining area and classrooms were done. Preventive strategies like suspending classes and closed activities, improvement of ventilation and overcrowding were done. Observation for cases was done till 31 March 2020 and epidemiological curve was drawn. Ethics approval was taken from the Institutional Review Committee of Nepalese Army Institute of Health Sciences.

Results

Out of the 167 male personnel in the training centre, 90 were susceptible to varicella. During the study period, 18 cases of varicella were seen in trainees with a 29.41% secondary attack rate. The mean age of the patients was 22.33 ± 1.72 years. The mean days of admission was 5 ± 2.275 days. The primary case was found to have occurred on 7 December 2019 who had been exposed to a case of Herpes zoster. No secondary wave

was seen. Most common clinical features were generalised rash in 18 (100%) cases, fever in 15 cases (83.3%), and body ache in 12 cases (66.7%).

Conclusion

This outbreak investigation has studied the natural history of Varicella and observed the clinic-epidemiological features in an ongoing outbreak. Various preventive strategies applied along with the strict implementation of them in a military training set up appears to have prevented the subsequent waves of infection.

Keywords

Chickenpox, military, outbreak

1.4.10 Occupational Health and Safety among Airline Crew Members (Pilots and Cabin Crew) in Nepal

Sheela Thapa¹, Namra Kumar Mahato², Bidhya Basnet³, Biwesh Ojha⁴, Binod Neupane⁵

Corresponding Author

Ms. Sheela Thapa, Karnali Academy of Health Sciences, Email: thapasheela@gmail.com

Affiliations

¹Karnali Academy of Health Sciences, Jumla, Karnali Province, Nepal

²Madan Bhandari Academy of Health Sciences, Hetauda, Bagmati Province, Nepal

³Biratnagar Nursing Campus, TUIOM, Biratnagar, Province no. 1, Nepal

⁴Abt Associates, Kathmandu, Bagmati Province, Nepal

⁵Civil Aviation Authority of Nepal, Kathmandu, Bagmati Province, Nepal

Background

Occupational Health and Safety (OHS) in the workplace is a global issue. The pilots and cabin crew face many occupational hazards that are endemic to their jobs; they are an understudied occupational cohort. This study aimed to assess the status of OHS vulnerability among airline pilots and cabin crew in Nepal and assess their reported health problems.

Methodology

A cross-sectional quantitative study was conducted among 141 pilots and cabin crew of different airlines through email in 2021 AD. The respondents were selected using the census method. The Occupational Safety and Health Vulnerability tool along with a self-developed knowledge assessment tool was used to collect data on an online platform via

Google form. The data was analyzed in SPSS 16. The univariate analysis was performed on recommended variables and descriptive statistics were performed.

Results

Only 141 (19.40%) crew members (pilots and cabin crew) responded to the study. Female respondents were only 26.20%. Among the crew members, 56.7% were pilots. Of the crew members who had reported health problems in the past 6 months were 92.20%. Poor knowledge of OHS was seen among 28.40%. The prevalence of OHS vulnerability was 100%. The access to workplace policies and procedures was inadequate for 39%. The crew members who had inadequate empowerment to participate in injury and illness prevention were 36.1%.

Conclusion

The crew members, due to unique occupational and environmental characteristics, are one of the most vulnerable groups exposed to different occupational health hazards. The crew members had poor knowledge of OHS and inadequate access to policy and procedures. Aviation policies should focus more on the OHS of the cabin crew in a more noteworthy way. The authority should maximize the participation of the cabin crew in the OHS matters.

Keywords

Occupational Health and Safety (OHS), Aviation, Crew members, Pilots, Nepal

SESSION 5: Responsible Conduct of Health Research in Nepal

1.5.1 Responsible Conduct of Health Research

Namita Ghimire¹, Subhanshi Sharma¹, Richa Acharya¹, Rojina Basnet¹, Santoshi Adhikari¹, Shashi Verma¹, Pradip Gyanwali¹, Ramesh Kant Adhikari¹

¹Nepal Health Research Council, Kathmandu, Nepal

Responsible conduct of research (RCR) is defined as "the practice of scientific investigation with integrity." It involves the awareness and application of established professional norms and ethical principles while conducting the research. Nepal Medical Research Council (NMRC) was established on 15 April 1982 A.D and the Ethical Review Body was formed under NMRC. On 12 April 1991 A.D., Nepal Health Research Council (NHRC) and Ethical Sub-committee was formed under NHRC Act no. 129. In 2001 A.D, the National Ethical Guideline was published and an Ethical Review Board (ERB) was formed as per the guideline. ERB is an autonomous body and is responsible for promoting responsible conduct of research by setting norms and standards in Nepal. As per the NHRC Act, any individual or organization must seek approval from ERB, NHRC before conducting any research. The ERB, NHRC has special rights to stop/halt the study if the study is not conducted adhering to the basic principles of ethics. ERB, NHRC received accreditation from Forum for Ethical Review Committees in the Asian and Western Pacific Region (FERCAP) in 2019. The ERB consists of 11 to 15 members appointed by the Executive Committee of NHRC. ERB consists of members with various expertise i.e. clinicians, basic medical scientists, social scientist, lawyer, lay person with the balance of age and gender.

ERB cannot possibly review and monitor all the research activities being conducted in the country. So, Institutional Review Committees (IRCs) have been formed in different institutions and are responsible to provide ethical clearance to research proposals from researchers within the institution associated with a specific IRC. However, proposals with high risk and those with external funding must receive ethical clearance from ERB. Proposals are submitted in the online portal of ERB which are then screened and sent to appropriate reviewers based on the area of research. Based on the risk categorization of the submitted proposal, the expedited review sub-committee decides the type of review to be conducted. ERB basically carries out three types of review i.e. exemption from review, expedited review or full board review.

The nature of medical and social sciences research has changed significantly in the last decades with advancement of technology and awareness among research participants. The research process has become multifaceted and more complex. This change has in turn led to challenges to the ethics committee for the protection of research participants. The commonly faced challenges are delayed submission of protocol and early expectation for approval, finding appropriate subject expert for review, lack of coordination between the ethics committees leading to double burden to the researcher during review by both NHRC and IRC, delay in submission of amendment and continuing review report by the researcher leading to protocol deviation/violation. Likewise, some special challenges are faced during implementation of collaborative research i.e. lack of skilled human resources and infrastructure, mechanism of risk assessment and benefits sharing, post-trial access to the study participants, data management and sharing. Despite the challenges, ERB has carried out monitoring of different proposed and ongoing studies based on the categorization of risk. ERB has also strengthened the capacity of the IRCs by involving them in joint review and monitoring of the various studies, periodic capacity building training. The ethics committee must take into consideration the changing needs of both study participants and researchers, for promoting responsible conduct of research and generation of scientific evidence.

1.5.2 Quality of Review: International Standards

Arthur M. Navarro, FERCAP Program Manager

In an effort to address the fundamental ethical gaps and challenges encountered in global health research, the Strategic Initiative for Developing Capacity in Ethical Review (SIDCER) was founded in 2001 by the World Health Organization under the Special Program for Research and Training in Tropical Diseases (WHO-TDR). The Strategic Initiative in Developing Capacity in Ethical Review (SIDCER)-Forum for Ethical Review Committees in Asia and the Pacific (FERCAP) Recognition Program has developed a framework for international standard for quality ethical review in externally evaluating ethics committees (ECs) in the Asia-Pacific region. The framework is based on ethical guidelines (both international and national) and good practices in ethical review. Given this framework, the SIDCER-FERCAP Recognition Program has the following international standards for surveying and evaluating ECs: 1) structure and composition; 2) adherence to specific policies; 3) completeness of the initial review process; 4) completeness of the post-approval review process; and 5) documentation and archiving. Each of the above-mentioned components are equally important for evaluating the capacity of the ethics committee for promoting responsible conduct of research and protection of the human participants.

SESSION 7: Maternal, Neonatal, and Child Health

1.7.1 Investing in Quality Newborn Health for Nepal - A closer look at low cost high impact interventions

Dr Asheber Gym, Health Specialist, UNICEF ROSA
Matthew Reeves, Nossal Institute, Melbourne University

The baseline neonatal mortality rate (NMR) for Nepal is 20/1,000 live births. To meet the Sustainable Development Goals (SDG), target of 12/1,000 live births, Nepal needs an annual rate of reduction (ARR) in NMR of 4.8%. This is only slightly higher than its current ARR of 4.0% (2000-2018, Inter-agency Group for Child Mortality Estimation [IGME]). Achieving the SDG target in Nepal would save 27,116 additional newborn lives, prevent 16,434 stillbirths and avert 2,208 maternal deaths, as compared to no change in coverage of the package of interventions. Additionally, 5,935 newborns would have significant lifelong disability averted. The additional cost over ten years, discounted at the standard 3% annual rate, would be USD 260 million. This investment will provide economic returns of USD 6 for every dollar invested.

1.7.2 Preterm Infant Care Practice of Nurses in Neonatal Care Units of Selected Public Hospitals of Kathmandu, Nepal

Tumla Shrestha¹, Archana Bista Pandey¹, Sarala Shrestha²

Affiliations

¹Maharajgunj Nursing Campus, Institute of Medicine, TU, Kathmandu

²Nepal Army Institute of Health Science, Kathmandu Nepal

Corresponding Author: Tumla Shrestha, PhD Scholar, Maharajgunj Nursing Campus, Institute of Medicine, TU, email address: tumlashrestha@gmail.com, Mobile No.: 9851149687

Background

Preterm infants (PTIs) are vulnerable to morbidity, mortality, and disability. Special nursing care to PTIs with parental support is worth paying for better short and long-term outcomes. Though PTI care in NCUs is a collaborative and team effort, nurses have a key role. Nonetheless, a dearth of information is available about the practice situation in the

Nepalese context. Therefore, this study aimed to explore the PTI care practice of nurses in NCUs.

Methods

The qualitative study was part of the exploratory mixed-method study. The study was conducted in the NCUs of three public hospitals in Kathmandu from December 2019 to March 2020. After obtaining ethical approval, six focus group discussions were conducted among purposively selected 40 NCU nurses. The qualitative data were analyzed using thematic analysis.

Findings

Five themes emerged regarding PTIs care practice of nurses: standard survival care (thermal care, safe oxygen administration, nutritional care including breast milk feeding, and infection prevention), sub-standard developmental supportive care (proper positioning, sleep promotion, supportive sensory environment, and pain management), insufficient parental support (infant-parent attachment, communication, emotional support, and care guidance), insufficient human and materialistic resources, and need for continuing professional development.

Conclusion

The findings show that having standard survival care practice, there is compromised practice in some developmental supportive care components and parental support. The practice was influenced by the available infrastructure, essential resources including human resources, and availability of related training. The findings can be utilized to strengthen the existing practice.

Key Words: Neonatal care units, nurses, preterm infant care, public hospitals

1.7.3 Skin Carotenoid Assessment to Detect Vitamin A Deficiency in Children And Pregnant Women in Nepal

Raba Thapa¹, Sanduk Ruit², Emmanuelkofi Addo³, Paul S. Bernstein⁴

Corresponding Author

Dr. Raba Thapa, Tilganga Institute of Ophthalmology, Kathmandu, Nepal, Email: rabathapa@live.com

Affiliations

^{1,2}Tilganga Institute of Ophthalmology, Kathmandu, Nepal

^{3,4} John A Moran Eye Center, University of Utah, USA

Background

Vitamin A deficiency (VAD) is a continuing public health problem among children and pregnant women of Nepal. We conducted a comparative cross-sectional study to assess skin carotenoid measurement as a rapid noninvasive screening tool for VAD in children and pregnant women.

Methodology

We enrolled 162 pregnant women and 164 children (8 to 12 years old) from three public hospitals in three ecological regions (Mountain, Hill and Terai) of Nepal in this study. Skin carotenoid levels were assessed using the Veggie Meter® (Longevity Link Corporation, Salt Lake City, Utah, USA). The primary outcome was whether skin carotenoid measurement can successfully identify subjects with VAD. Detailed eye evaluations were conducted in subjects with low skin carotenoid scores and those with night blindness. Serum retinol and serum carotenoid levels were measured using high performance liquid chromatography technique. Intra-class correlation coefficients were calculated. P values were considered significant if less than 0.05.

Results

A total of 8.6% of pregnant women and 12.8% of children were VAD (serum retinol <200 ng/ml) even though only four had present or past ocular clinical signs of VAD. There was significant positive correlation of total skin carotenoids with serum retinol among the pregnant women ($r= 0.255$, $p= 0.001$) and children ($r=0.253$, $p=0.001$), skin carotenoids with serum carotenoids among the pregnant women ($r=0.314$, $p <0.001$) and children ($r=0.510$, $p < 0.001$). Using 146 Reflection score (RS) skin carotenoids level cut off, pregnant women had sensitivity of 57.1% and specificity of 82.7%, and children had sensitivity of 61.9% and specificity of 75.9% in detecting severe VAD.

Conclusion

Although sensitivity and specificity were moderate for detecting VAD with the Veggie Meter, skin carotenoid assessment using this rapid noninvasive portable device could have immense value as a biomarker for high-risk VAD screening in Nepal and similar developing countries with limited access to laboratory measurement of serum vitamin A levels.

Keywords

Skin Carotenoids, serum carotenoids, serum retinol, vitamin A, Veggie Meter, Nepal

1.7.4 Maternal and Newborn Health Emergency Helpline Support: Assisting MNH Service providers from Remote Areas to make Clinical Decision during COVID-19

Sajana Maharjan¹, Kusum Wagle¹, Liladhar Dhakal¹, Bhagawati Shrestha¹, Surya Bhatta¹, Swaraj Bhandari¹

Corresponding Author

¹Ms. Sajana Maharjan, One Heart Worldwide, Nepal, Email: sajana@oneheartworldwide.org

Affiliations

¹One Heart Worldwide, Nepal

Background

Situation of Covid-19 and its restrictions created challenges for mothers to access maternal and newborn health services in Nepal. In this context, we conceptualized and implemented MNH helpline program where MNH service providers working in remote birthing centers can consult clinical experts through phone during any MNH related emergency. Our main objective was to assess the effectiveness and feasibility of the helpline program.

Methodology

We conducted an implementation study following explanatory study design and using REAIM framework. The study was carried out in 551 public health facilities from 14 OHW working districts of Province 1 and Bagmati Province. We collected both quantitative and qualitative data from Nursing staff and clinical experts from July 2020 to June 2021.

Results

Of the 551 public health facilities, 29% used MNH helpline. A total of 429 cases were consulted in the facilities using helpline. Most cases were consulted for delivery and ANC related problems that included prolonged labor, retained placenta, postpartum haemorrhage, eclampsia and post-dated pregnancy. More than one fifth (21%) of the cases were managed without making a referral to next health facility which would otherwise be referred. Majority of clinical experts and nursing staffs expressed their satisfaction on MNH helpline and shared experiences on how it helped to save lives of mother and newborn. However, implementation challenges like underreporting/no reporting on uses of helpline, frequent change in clinical experts, difficulties to co-

ordinate with referral centers and lack of readiness of HFs for emergency services were identified.

Conclusion

Clinical decisions made through experts' consultations and timely referral through MNH helpline can help improve maternal and neonatal health outcomes in Nepal. Thus, this program should be scaled up at national level with engagement of provincial level stakeholders, by strengthening the pool of experts, by improving readiness of HFs and by maintaining strong linkages between health facilities and referral centers.

Keywords

Maternal health, Newborn health, helpline, telehealth

1.7.5 Prevalence and Correlates of Excessive Screen Time among Young Children of 5 to 9 Years in An Urban Area of Nepal: Evidence From a Cross-Sectional Analytical Study

Bimala Sharma^{1*}, Nirmala Shrestha¹, Nisha Gurung¹, Bishnu Raj Tiwari², Sharad Koirala¹, Shreejana Wagle²

Corresponding Author

Associate Professor. Bimala Sharma, 1Department of Community Medicine, Gandaki Medical College Teaching Hospital and Research Center, Pokhara, Nepal, Email: bimalasharma@gmail.com

Affiliations

¹Department of Community Medicine, Gandaki Medical College Teaching Hospital and Research Center, Pokhara, Nepal

²School of Health and Allied Science, Pokhara University, Nepal

Objective

The objective of the study was to find out the prevalence and correlates of excessive screen time among young children in an urban area of Nepal.

Methodology

A cross-sectional analytical study was conducted among children aged 5 to 9 years attending schools in Pokhara metropolitan. Face to face interview was conducted with one of the parents of 352 children. The study was carried out from March to October,

2020. Excessive screen time (ST) was defined as >2 hours' screen viewing a day. Bivariate analysis and multiple logistic regression analysis were applied at 5% level of significance.

Results

A total of 47.4% of children comprising of 54.2% of boys and 39.5% of girls had ST >2 hours a day. Mean ST was 2.63 (95% CI, 2.35-2.91) hours of boys, 2.09 (95% CI, 1.82-2.37) hours of girls and 2.38 hours (95% CI, 2.18-2.58) of both. Among socio-demographic factors, being boys (adjusted odds ratio (AOR), 1.81; 95% CI; 1.18-2.77), living in a nuclear family (AOR, 0.62; 95% CI, 0.39-0.99) and attending private school (AOR, 2.00; CI, 1.28-3.13) were significantly associated with ST >2 hours. In the adjusted model of all variables, age, being television at home, parental ST, offering screen devices to children were significant. The likelihood of reporting of excess ST was 8.97 (95% CI, 3.65-22.00) times higher among those who had one television at home as compared to those who do not have. Excessive ST was 259% (AOR, 3.59; 95% CI, 1.55-8.31) higher among those whose parents offered ST for food and 229% higher among whose parents Offered to have free time for themselves (AOR, 3.29; 95% CI, 1.64-6.61).

Conclusion

Sex, family type, type of school, availability of electronic devices, parental ST and parental offering of screen devices were significantly correlated with ST >2 hours. Interventions should target electronic device accessibility, parental screen time and parenting practices.

Keywords

Screen time, TV viewing, Mobile Use, Young Children, Pokhara

1.7.6 Impact of Federalisation in Maintaining Quality of Maternal and Neonatal Care in Nepalese Health System

Pasang D Tamang¹, Padam Simkhada¹, Bibha Simkhada¹, Edwin van teijlingen²

Corresponding Author

Ms. Pasang D Tamang, University of Huddersfield, Huddersfield, UK, Email: pasang.tamang@hud.ac.uk

Affiliations

¹University of Huddersfield, Huddersfield, UK

²University of Bournemouth, Bournemouth, UK

Background

The Ministry of Health and Population (MoHP) was responsible for meeting the health needs of people in Nepal prior to the federalisation. However, after the federalisation, the authority and the responsibility have been shifted to the local authorities which will have an impact in the delivery of health services at all levels. Hence, this study aimed to explore the impact of federalisation in maintaining the quality of maternal and neonatal care in the Nepalese health system.

Methodology

This study employed a qualitative approach using semi-structured interviews with health service users (N=15), health service providers (N=16) and health managers'/policy makers (N=17) in Nepal using purposive sampling technique. Semi-structured interview guidelines were used, and data were analysed using the thematic analysis framework in NVIVO.

Results

The health service users did not find any difference in the service that they received after the federalisation. However, they did find that the health workers were present in the health facilities most of the time after the federalisation. Health managers at the local level perceived the existing health structure as the main challenge in maintaining quality of care in maternal and neonatal health. They believed that the existing health system needs to train health workers and enhance their capacity building via onsite coaching or mentoring opportunities so that they can provide quality care. All the health service providers and health managers agreed that the political leaders seemed motivated and responded positively to their action plan. However, the implementation challenges still exist.

Conclusion

Federalisation has brought both opportunities as well as challenges in maintaining quality of maternal and neonatal healthcare. Further research is needed to explore the strategies that can tackle the implementation challenges.

Keywords

Federalisation, Health system, Maternal health, Neonatal health, Quality of care

SESSION 8: Interdisciplinary Research and Miscellaneous

1.8.1 Satisfaction among Women of Reproductive Age (18-49 Years) Receiving Family Planning Services from Private Health Facilities in Nepal

Pratik Khanal^{1*}, Mirak Raj Angdembe¹, Alina Maharjan¹, Mahesh Paudel¹

Affiliation

¹Population Services International, Lalitpur, Nepal

Corresponding Author: Pratik Khanal, Krishna Galli, Pulchowk, Patan, GPO Box 21976 | Tel: 977-01-5553190, 5550620 | Fax: 977- 01-5550619 | Mob: 977-9847574845 | Email: pratikkhanal@psi.org.np ; iampratikkhanal@gmail.com

Background

Client satisfaction is a fundamental indicator of family planning (FP) service delivery. By measuring clients' satisfaction, PSI intends to identify the area of the services that can be improved among its private network health facilities (HFs). This study aims to measure client satisfaction and its predictors among women receiving FP services from private HFs.

Methodology

A quantitative, cross-sectional study was conducted in 58 PSI-supported private HFs from four Provinces of Nepal. Face-to-face exit interviews were conducted with 505 women (18-49 years) receiving FP services in August-September 2021. Multi-stage random sampling was adopted for HF selection while clients were recruited sequentially. Data were digitally collected using a standardized questionnaire. Client satisfaction was measured by three Likert scale indicators: clients recommending the facility, clients likely to return, and clients' experiences meeting expectations. Multivariable logistic regression was used to identify the predictors of overall client satisfaction (scoring five in all three indicators).

Results

The majority of the clients said that the provider provided a clear explanation (94.1%), informed them about the possibility of switching the method (85.1%), and received information about side effects (87.8%). Likewise, 4.6% mentioned that the provider pressured them to use the FP method, and 52.6% mentioned that the provider did not promote condom use in addition to the method of choice.

Nineteen percent of clients were overall satisfied with the FP services received, 58% were satisfied, and 23% were dissatisfied/neutral. Those clients pleased with the length of time spent in the HF had higher odds of being satisfied (OR= 5.81, 95% CI 1.09, 31.1) while clients from Lumbini were less likely to be satisfied (OR= 0.17, 95% CI 0.03, 0.81).

Conclusion

Nearly four out of five clients were satisfied with the FP services received from the private HFs. Reducing waiting time and setting up a client feedback mechanism could contribute to improving client satisfaction.

Keywords

Client satisfaction, family planning, private health facilities, Nepal

1.8.2 Awareness on Rights Related to Menstrual Hygiene Management (MHM) and its Relation with Their Perception on Risk, Self-Efficacy and Behavior Pertinent to MHM among Female Adolescent Students in Bajura District, Nepal

Ram Naresh Yadav¹, Shrijana Joshi¹, JiSun Park¹, Minkyung Kim¹, Nirmala Bista¹

Affiliation

¹Public Health, Good Neighbors International

Background

MHM is a major health issue affecting women and girls of reproductive age across the globe. The transition into reproductive age for some girls is often associated with fear and anxiety due to a lack of knowledge about menstruation and a lack of resources about the changes that are occurring in their bodies. School-aged girls in marginalized communities face the largest barriers to MHM, as many schools lack the necessary facilities, supplies, knowledge, and understanding to appropriately support girls during menstruation. The main objective of the study was to assess awareness on rights related to Menstrual Hygiene Management (MHM) and its relation with their perception on risk, self- efficacy and behavior pertinent to MHM among female adolescent students in selected public schools of Bajura district.

Methodology

This study was cross-sectional in design and used mixed methods (both quantitative and qualitative methods) approach. This study was conducted in five Palikas; 3 Municipalities (Badimalika, Budhiganga and Tribeni) and 2 Rural Municipalities (Gaumul and Khaptadchhedaha) of Bajura District. A total of 562 respondents were covered in this

study. Structured questionnaires were used to interview adolescent girls for quantitative information through Open Data Kit (ODK) application. Similarly, a total of 10 FGDs (2 FGDs per Rural/Municipalities) were conducted as a part of the qualitative study.

Results

In regards to the girls' perception of risk pertinent to menstrual hygiene management, more than a fourth (27%) girls shared that they feel at risk that God will curse their family if customs related to menstruation are not followed. Most of the respondents expressed their confidence in managing menstrual hygiene management with fair awareness of pertinent rights to menstruation. The majority of the girls agreed/strongly agreed that menstrual management contributes to their better health (95%) and they are confident to manage menstruation at school (88%) and at home (89%). From the behavioral aspect, malpractices in menstrual management of the adolescent girls were noted. Nearly two-third (66%) girls used cloth during menstruation, only a tenth changed the pads four times or more in a day and 4% (N=14) girls did not change their pads for the whole day. Moreover, 6% (N=22) girls said they shall stay at Chhaugoth, and 40% said they are staying in a separate room/space during their menstruation. In regards to awareness on menstrual rights, an overwhelming majority (97% each) of girls agreed that every child has the right to access hygienic menstrual management services and the right to get correct information.

Conclusion

While the self-efficacy and awareness related to menstruation was found good, the practice of adolescent girls on MHM was not satisfactory. Multiple restrictive norms were found to be believed in the community and prevalently imposed on menstruating women. Girls' perceived the possibility of risk to family pertinent to MHM. This signifies the need for intense Behavior Change interventions. Activities and actions should be increased to create a favorable environment to manage menstruation.

Keywords

Practice, Menstrual Hygiene Management, Awareness

1.8.3 Trend and Determinants of Birth Registration in Nepal: Evidence from Multiple Indicator Cluster Survey

Sharad Kumar Sharma¹

Corresponding Author

Dr. Sharad Kumar Sharma, OPMCM, Email: ghimires2002@gmail.com

Affiliations

¹Office of the Prime Minister and Council of Ministers (OPMCM), Singhadurbar, Kathmandu, Nepal

Background

Birth registration, an essential component of the civil registration system, is expected to be complete and universal. However, adequate empirical studies identifying the level and factors associated with birth registration are not conducted. This study examines the trend of birth registration coverage and its association with individual, household, cluster, district, and provincial determinants

Methodology

Multiple Indicator Cluster Surveys undertaken in 2014 and 2019 were used for the analysis. The two surveys included a total of 12,007 children under five years of age living with their mothers at the time of the surveys. The survey respondents were 11,821 mothers of the children and 186 caretakers (in the case of those without mothers). The variations in the proportion of the births registered among various subgroups of the children were assessed by performing bivariate analysis and multilevel binary logistic regression.

Results

Birth registration coverage of children under five-year ages increased from 58% in 2014 to 77% in 2019 and the change in birth registration varied by age of child, household economic status, ethnicity, and province. Twenty-nine percent of the variation in birth registration was attributed to a cluster. About 32% of the cluster-level variation in birth registration was explained by the survey year. The odds of birth registration were 32% higher in 2019 compared to that in 2014. The odds of birth registration increased with the age of the child, mother's level of education, exposure to the radio at least once a week, and household economic status measured by wealth quintile. Ethnicity was also found to be a significant predictor of birth registration. Karnali Province had higher odds of birth registration than Province1 and Province2 and Bagmati Province had significantly lower odds of birth registration than Province1

Conclusion

Considerable and significant progress has been made in birth registration in recent years. However, achieving universal and complete birth registration would require both the sustenance of the recent achievements and additional strategic interventions to ensure the inclusion of unregistered births.

Keywords

Birth registration, Multiple Indicator Cluster Survey, Nepal

1.8.4 The Economic Impact of the COVID-19 Pandemic on the Lives of Persons with Disabilities in the Gorkha District of Nepal

Alisha Karki^{1*}, Barsha Rijal¹, Jiban Karki¹, Prabina Makai¹, Rudra Neupane¹, Saugat Joshi¹, Srijana Basnet¹, Sunita Bhattarai¹

Corresponding Author

Ms. Alisha Karki, PHASE Nepal, Email: karki.simree@gmail.com

Affiliations

¹PHASE Nepal, Bhaktapur, Nepal

Background

COVID-19 has disrupted the lives of people throughout the world and PWDs are the hardest hit by it. The implications of the current economic downturn could have negative consequences for persons with disabilities (PWDs). The financial and economic impacts of the pandemic on the lives of PWDs are more likely to be experienced by low and middle-income countries. The purpose of this paper is to examine the economic impact of the COVID-19 pandemic on the lives of persons with disabilities in the Gorkha district of Nepal.

Method

We used a mixed-method design for this study conducted in the Gorkha district of Nepal. For the qualitative study, we conducted in-depth interviews using pre-tested interview guidelines with 40 participants. The interviews were audio-recorded and later transcribed in Nepali and translated into the English language. We analyzed the data from interviews using a thematic approach and managed using Nvivo 12 software. We used a pre-tested questionnaire from Kobo Toolbox installed in smartphones for the quantitative survey. We conducted descriptive analysis for quantitative data using SPSS version 26.

Result

Many participants had to face economic crises due to loss of income, job and employment opportunities caused by COVID-19. People had to take loans and were engulfed in debt which further worsened their economic condition. The reduced income was insufficient to cover the increased costs during the pandemic. We also found a problem in access to food for our participants during the pandemic. Participants who

relied on daily wages and those completely dependent on family income were also affected.

Conclusion

The pandemic negatively influenced the economic activities of persons with disabilities. The economic insecurity and uncertainty of income are likely to affect their mental health and wellbeing. Therefore, persons with disabilities need specific support around their income and loss of jobs. The government and concerned stakeholders need to introduce disability-inclusive measures to mitigate the economic effects of COVID-19 and future outbreaks.

Keywords

Disability, Persons with disabilities, COVID-19, Economic impact

1.8.5 Blood, Bleeding and Beliefs: An Ethnographic Echo of Purity Versus Pollution During the Menstrual Practices in Cross Cultural Communities of Nepal

Sachin Ghimire¹

Corresponding Author

Dr. Sachin, Manamohan Memorial Institute of Health Sciences, Email:
sachinshamvab@gmail.com

Affiliations

¹Manamohan Memorial Institute of Health Sciences.

The natural Phenomena of menstrual bleeding have layers of symbolic, mythical and sociocultural understandings in Nepal. This paper argues that exercising the micro-realities of social power, “narrow rationality” of categorizing menstrual practices in a dichotomized fashion of purity versus pollution has been ultimately operating to control females body in the narrow domestic spheres with the higher degree of sociocultural restrictions and lesser degree of mobility and life options. Such power articulates masculinized, patriarchal and sexist attitude of the powerful members of the society, which is overtly irracionale and insufficient to understand the subjectivities of the sufferers rather than continuously reproducing discriminatory practices in terms of menstrual bleeding in Nepal. Specifically, this research attempts to understand the level of knowledge, sociocultural practices, perceived stigma and discrimination; perceptions and role of the key influencers in the society in relation to existing practices of menstrual health and hygiene management in Nepal. Anayzing the nature of both micro and macro power, that have been exercised in the dichotomized fashion of purity versus pollution, this chapter will explore a multitude of conflicting, juxtaposing and controversial ideas

on menstrual related practices in Nepal. Following the peer ethnographic approach, this research highlights the first person account and phenomenological narratives of the respondents representing three ecological regions of Nepal.

Keywords

Purity, pollution, Power, Gender subordination, Menstruation, Seclusion, Reproductive health.

1.8.6 Quality of Family Planning Services and Protection from Sexually Transmitted Infections and HIV/AIDS in Nepal

Milima Singh Dangol¹, Bikesh Bajracharya²

Corresponding Author

Mrs. Milima Singh Dangol, Nepal Health Sector Support Programme (NHSSP), Kathmandu, Nepal, Email: milima@nhssp.org.np

Affiliations

¹Nepal Health Sector Support Programme (NHSSP), Kathmandu, Nepal

²School of Human and Health Sciences, University of Huddersfield, Huddersfield, United Kingdom

Background

In Nepal, the use of contraceptive methods among married women of reproductive age has increased from 28.5% in 1996 to 53% in 2016. This study examined the quality of family planning services through clients' overall satisfaction with family planning services and clients' knowledge of whether their chosen method protected them from Sexually Transmitted Infections (STI), including HIV/AIDS.

Methodology

This study is based on secondary data analysis of the national-level health facility survey of Nepal in 2015. The Donabedian framework was used for measuring the quality of care. Samples of 811 women reproductive-aged 15-49 were included in this study.

Results

More than half of the respondents (52.8%) were very satisfied with the family planning services they received, but only 32.3% had correct knowledge of whether their method protects from STIs, whereas 54.2% did not know whether the method they were using protects from STIs. Respondents of older age 40-59 years, with high education levels, clients who do not need to pay fees, and clients who left the facility with a family planning method were very satisfied compared to their respective reference categories.

The waiting time for a client to see a provider showed a significantly negative effect on client satisfaction.

Few provider characteristics were a predictor of client satisfaction. Two-thirds of clients who received family planning services from Medical officers and Specialists were more satisfied. However, providers who ensured privacy and confidentiality showed negative effects on client satisfaction (P-value 0.01).

Conclusion

This study indicates that women lack knowledge about protection from STIs through their choice of family planning methods. Women are also unaware of the importance of privacy, confidentiality, and waiting time therefore value them less. However, receiving the service is a more important criterion for satisfaction. This shows that improvement is needed in raising awareness about the quality of care in family planning services to satisfy half of the clients using the services and to attract non-users.

Keywords

Quality, Family Planning, Sexually Transmitted Infections, HIV/AIDS

POSTER PAPERS

THEME 1: Resilient Health Care Delivery System

2.1.1 Factors Associated with Renewal of Social Health Insurance in Selected Wards of Bhaktapur Municipality, Province 3

Ashmita Maharjan¹, Sujita Nepal¹

Corresponding Author

Ms. Ashmita Maharjan, One health research and training center, Kathmandu, Nepal,
Email: maharjanashmita53@gmail.com

Affiliations

¹One health research and training center, Kathmandu, Nepal

Background

The Social Health Insurance (SHI) Program is a protection program of the Government of Nepal for universal health coverage, launched in 2072/73 as a pilot program in Kailali, Baglung and Ilam. In 2075, approximately 34% were enrolled in the insurance scheme from Bhaktapur Municipality. Membership renewal is one of the important factors in ensuring the continuity of the scheme. Therefore; this study was conducted to find out the factors associated with renewal of SHI by the insured household.

Methodology

A cross sectional study was conducted in 2 wards of the Bhaktapur Municipality (ward no 9 and 10), where 277 households were chosen using systematic random sampling. Pretesting was done in 33 households of Madhyapur municipality. Structured questionnaire was used to measure the factors associated with renewal opting for a face to face interview technique and all statistical analysis was performed using SPSS version 16. Bivariate analysis was done to identify associated factors for renewal of SHI.

Result

Most of the insured population (92.1%) had renewed their social health insurance scheme where main reasons for renewal was found to be prevalence of chronic illness (26.1%) among household members and attractive services (24.6%). Households with children under the age of 5 (P value=0.014) and the distance from the member's residence to health facilities (P value=0.000) showed significant positive association with membership renewal. Increment in package of services (46.4%) was found to be a major motivating factor for renewal followed by a proper management system (27%).

Conclusion

An association was found with household factors such as household with under-five children and distance of member's residence to health facility. Furthermore, reduction of out of pocket payment and availability of free services were the reason for renewal whereas long process to claim services was the reason for non-renewal. Therefore, a proper management system is needed to increase renewal of the SHI scheme.

Keywords

Social Health Insurance Program, Renewal, Insured household, Universal Health Coverage, Nepal

2.1.2 Determinants of Uptake and Retention of the National Health Insurance Program in Nepal: A Qualitative Study

Shristi Rijal¹, Dr. Hari Bhandari², Aney Rijal³, Dr. Angela Chang⁴

Corresponding Author

Ms. Shristi Rijal, Unit for Health Promotion Research, University of Southern Denmark, Degnevej 14, Esbjerg, Denmark, Email: shristirijal35@gmail.com

Affiliations

1 Unit for Health Promotion Research, University of Southern Denmark, Degnevej 14, Esbjerg, Denmark

2 Chitwan Medical College, Tribhuvan University, Nepal

3 Gadjah Mada University, Bulaksumur, Daerah Istimewa Yogyakarta 55281, Indonesia

4 Department of Clinical Research, University of Southern Denmark, Campusvej 55, 5230 Odense, Denmark

Background

Nepal has done significant work by launching the National Health Insurance Program (NHIP) to decrease out-of-pocket (OOP) expenditure and promote universal health coverage. The program is in its geographical expansion phase, and the government has scaled it up in 75 out of 77 districts of Nepal. However, the enrollment of the population in the program is low, and the retention is even lower. The program has not progressed in terms of population coverage and persuaded the wider population. This qualitative study aimed to explore determinants influencing the uptake and retention of the population in the NHIP.

Methodology

Twenty-one telephone key informant interviews (KIIs) were conducted with enrollment officers, enrollment assistants, enrollees, and past enrollees. These participants were selected purposively from four districts: Baglung (Semi-urban), Bhaktapur (Urban),

Gorkha (Semi-urban), and Rukum (Rural). In addition, one telephone KII was carried out with the management level staff of HIB. Semi-structured guidelines were used for the interviews. Thematic analysis was carried out to analyze the interviews.

Result

Four themes of barriers and facilitators affecting the uptake were identified: personal predisposition of consumers, health insurance program coverage, government support, and availability of other existing schemes. Similarly, three themes were identified for barriers and facilitators of retention: the experience of health service utilization, renewal process and notification, and actual financial protection. Due to low coverage, the sustainability of the health insurance program is a considerable challenge. The study identified the need to improve the awareness of programs, change the current cost-sharing policies, and improve the quality of care to improve uptake and retention of the uptake of the program.

Conclusion

Studies for determining the dimensions of health insurance, including its extent of financial protection, most applicable benefits packages, and extent of population coverage, are essential for improving the program.

Keywords

Health insurance, qualitative study, uptake, retention

THEME 2: Covid-19 Pandemic and Related Research

2.2.1 Screen time and its correlates among 3-10 years' children during COVID-19 pandemic in Nepal

Rajan Shrestha¹, Bijay Khatri¹, Sangita Majhi¹, Manish Kayastha¹, Janak Raj Bhattarai¹, Barsha Suwal², Samata Sharma², Rinkal Suwal³, Mahesh Kumar Dev⁴, Junu Shrestha⁵, Madan Prasad Upadhyay⁶

Corresponding

Mr. Rajan Shrestha, Academic and Research Department, BP Eye Foundation, Hospital for Children Eye ENT and Rehabilitation Services, Bhaktapur, Nepal, Email: rajanshrestha011@gmail.com

Affiliations

¹ Academic and Research Department, BP Eye Foundation, Hospital for Children Eye ENT and Rehabilitation Services, Bhaktapur, Nepal

² Ophthalmology Department, BP Eye Foundation, Hospital for Children Eye ENT and Rehabilitation Services, Bhaktapur, Nepal

³ Vision Therapy Department, BP Eye Foundation, Hospital for Children Eye ENT and Rehabilitation Services, Bhaktapur, Nepal

⁴ Centre for Vision and Eye Research, School of Optometry & Vision Science and Institute of Health and Biomedical Innovation, Queensland University of Technology, Brisbane, Queensland, Australia

⁵ International Agency for the prevention of Blindness, London, UK

⁶ BP Eye Foundation, Hospital for Children Eye ENT and Rehabilitation Services, Bhaktapur, Nepal

Introduction

Children's screen device access and the average screen time have increased in recent years. More than 80% of preschool children use screens for more than an hour per day. So, we aimed to determine the prevalence of high screen time among 3-10 years' school-going children in the Bhaktapur district, its correlates, and the parent's strategies to reduce the screen time during the COVID-19 pandemic in Nepal.

Methods

We conducted a cross-sectional descriptive study from April to May 2021. Six hundred thirty households were selected for the study from 21 randomly selected clusters of Bhaktapur district, Nepal.

Results

Among the participants, the mean (SD) age was 7.01 (2.18) years, with 50.3% male participation. Few participants had online classes (n=24, 3.8%). The prevalence of high screen time among the participants was very high (67%, 95% CI=63.8%-71.3%), which is even higher in boys (74.1%, 95% CI=68.9%-78.9%). The participant's mean (SD) daily screen used time was 2.78 (2.08) hours. The median screen use time before the COVID-19 pandemic was 1.00 hours (Mean Rank=275.8) which was increased to 2.25 hours (Man Rank=116.6) during the pandemic (p<0.001). Participants using screens for playing games were about three times (AOR=3.30, 95% CI=1.59-6.85) more likely to have high screen time than those not playing games. Most parents used to rebuke and urge their children to play outside to limit their screen usage.

Conclusion

About two in three school-going children of 3-10 years have higher screen time than recommended during the COVID-19 pandemic. Parents' strategies to reduce screen time are not effective. An intervention study for designing and testing the effective strategies to reduce screen time and its negative health effect on children is recommended.

Keywords

COVID-19; children; screen; Nepal

2.2.2 Acceptance of Covid-19 Vaccination During Covid-19 Pandemic in Nepal

Amrit Gaire¹, Bimala Panthee³, Deepak Basyal¹, Atmika Panthee², Suresh Panthee²

Corresponding Author

Mr. Amrit Gaire, Institute of Medicine, Email: amritgaire16@gmail.com

Affiliations

¹ Institute of Medicine, Maharajgunj Medical Campus, Tribhuvan University, Kathmandu, Nepal

² Sustainable Study and Research Institute, Kathmandu-16, Balaju, Nepal

³ Patan Academy of Health Sciences, School of Nursing and Midwifery, Lalitpur Nepal

On January 30, 2020, the World Health Organization (WHO) designated the COVID-19 outbreak a "public health emergency of international concern." Several COVID-19 vaccines are now being developed, but little is known regarding public acceptance of the vaccine in low and middle-income nations like Nepal. This study aimed to determine the prevalence of COVID-19 vaccination acceptance and its factors among Nepalese people. In December 2020, a web-based cross-sectional survey was conducted using a convenience sample technique. A bilingual, self-administered questionnaire was sent to research participants via social media sites and email. Logistic regression analysis (SPSS Version 26.0) was used to model important variables that predict vaccination uptake among respondents. Out of 576 individuals polled, 540 (93.8 percent) said they would accept COVID-19 immunization whenever it became available, with 232 (42.96 percent) wanting to get vaccinated as soon as possible and others (57.04 percent) delaying vaccination until the vaccine's safety was established. Being male, believing the pandemic's effect on income is high or very high, and believing in the efficacy of COVID-19 vaccination or valuing doctor's recommendations all increased the likelihood of accepting COVID-19 vaccination. Nepalese people have a high level of acceptance and belief in COVID-19 immunization (93.8 percent). If the vaccination is given away for free or is covered by health insurance, acceptance jumps to 98.1% according to the survey. It was a reflection of the strong demand for the vaccination. To increase vaccination coverage, immunization programs should be structured to eliminate barriers such as vaccine cost and accessibility. The public's concerns regarding vaccination safety can be resolved via health education and communication from authoritative sources.

Keywords

Vaccine; COVID-19; Acceptance; Nepal

2.2.3 Incidence, Clinical Characteristics and Outcomes Associated with Acute Kidney Injury in Patients Hospitalized with COVID 19 in Sukraraj Tropical and Infectious Disease Hospital, Nepal: A Hospital based Retrospective Study

Sanjay Shrestha ^{1*}, Kijan Maharjan ¹, Milan Bajracharya¹, Bimal Sharma Chalise¹, Pujan Balla ², Shambhu Adhikari², Soni Shrestha³, Bishwodip Baral¹, Jenish Neupane ¹, Manu Poudel¹, Anup Bastola⁴

Corresponding Author

Dr. Sanjay Shrestha, Department of Internal Medicine, Sukraraj Tropical and Infectious Disease Hospital, Email: shrestha834@gmail.com

Affiliations

¹Department of Internal Medicine, Sukraraj Tropical and Infectious Disease Hospital, Kathmandu 44600, Nepal;

²Department of Anesthesiology, Sukraraj Tropical and Infectious Disease Hospital, Kathmandu 44600, Nepal;

³Department of Internal Medicine, Madan Bhandari Hospital and Trauma Center, Morang 56604, Nepal;

⁴Department of Tropical Medicine, Sukraraj Tropical and Infectious Disease Hospital, Kathmandu 44600, Nepal;

Background

Acute kidney Injury (AKI) associated with Coronavirus disease (COVID-19) appeared to negatively influence clinical outcomes and is found to be associated with significant risk of death.

Methods

This was a retrospective study aimed to describe the incidence of AKI, its associations with clinical characteristics and its impact on outcomes among COVID 19 patients in Sukraraj Tropical and Infectious Disease Hospital (STIDH), a tertiary tropical and infectious disease hospital in Nepal. Medical and lab records of COVID-19 inpatients, admitted between April 2021 to July 2021, at STIDH were reviewed. It represented the second wave of the coronavirus pandemic in Nepal caused by the delta strain. Patients aged less than 18 years, pregnant females and patients with known chronic kidney disease were excluded.

Results

Among 393 admissions, 83 (21.1%) patients developed Acute Kidney Injury. Characteristics found to have significant association with development of AKI was age ($p < 0.001$), presence of multiple co morbidities (2 or more) ($p < 0.001$), use of mechanical ventilation ($p < 0.001$), lymphopenia ($p < 0.001$), Neutrophil to Lymphocyte Ratio ($p = 0.001$) and d-dimer > 1 ($p < 0.001$). Mortality was higher in COVID 19 AKI compared to COVID 19 patients without AKI ((36.14% VS 15.8%, p value < 0.01)). The median duration of hospital stay for patients with AKI was higher than for patients without AKI (10 days VS 6 days, $p < 0.01$).

Conclusion

AKI develops in a considerable percentage of patients with COVID-19 and is significantly associated with increasing age, multiple comorbidities, increased biomarkers, use of mechanical ventilation and is associated with poor outcome in terms of mortality and morbidity.

Keywords

COVID-19; AKI; Outcomes; Nepal

2.2.4 Second Aave of COVID-19 patients – Severity and Treatment in Tertiary Care Center of Nepal

Pragya Devkota¹, Omi Bajracharya¹, Tejendra Manandhar¹, Sajala Kafle¹, Nisha Jha¹, Kumud Kumar Kafle¹, Milesh Jung Sijapati²

Corresponding Author

Dr. Pragya Devkota, Kist Medical College and Teaching Hospital, Lalitpur, Nepal,
Email: pragya.devkota01@gmail.com

Affiliations

¹Department of Clinical Pharmacology and Therapeutics, KIST Medical College and Teaching Hospital, Lalitpur, Nepal

²Department of Internal Medicine, KIST Medical College and Teaching Hospital, Lalitpur, Nepal

Background

The second wave of the COVID-19 pandemic was confirmed in Nepal with an exponential rise in the number of cases in April 2021. The objective of our study was to find out the clinical features of patients, pharmacological and other measures and approximate drug cost for the treatment of COVID-19 in the second wave in a tertiary care center in Nepal.

Methods

Retrospective, cross sectional study, where data of all patients who tested positive and were admitted in KIST Medical College and Teaching Hospital between 25th April 2021 – 25th July 2021 was collected for the study. A total of 215 patients were included.

Results

Among the cases admitted, 88.4% were symptomatic. ICU/HDU admission was done in 52.5%, among which 29.2% received ventilator support. The patients treated in the isolation unit were 47.4%. Comorbidities were present in 54.4% cases. Among the patients admitted, only 10.7% were vaccinated. Severe cases were 37%, moderate cases were 33%, 23% were mild and the severity of 7% patients was not mentioned. Antibiotics were used in 88.4% case; ceftriaxone (61.4%) was the most common antibiotic used.

More than one antibiotic was used in 65.6% cases. Antifungals were used in 18.1% cases. Remdesivir was used in 37.7% cases. Other commonly used drugs were corticosteroids (86%), proton-pump inhibitors (84.3%), antihistaminics (78.4%), anticoagulants (76.7%), Vitamin C (71.2%), Vitamin D (70.7%) and zinc (65.1%). The patients who were discharged were 70.2% and 19.5% of total patients died. The average treatment cost was Nrs. 3,246 in mild, 27,645 in moderate and 76,420 in severe cases.

Conclusion

Majority of patients were treated in ICU/HDU. Most commonly used drugs were antibiotics, corticosteroids and anticoagulants. Mortality was high in the second wave.

Keywords

COVID-19, treatment, drugs

2.2.5 Visual Impact of Digital Classroom Among Students Attending Online Education

Hira Nath Dahal¹, Ranju Kharel Sitaula¹

Corresponding Author

Mr. Hira Nath Dahal, B.P Koirala Lions Centre for Ophthalmic Studies, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal, Email: hira.dahal@bpklcos.tu.edu.np

Affiliations

¹B.P Koirala Lions Centre for Ophthalmic Studies, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

Background

COVID-19 outbreak has changed the traditional teaching method of using blackboards to digital devices assisted online classes. Spending long hours in front of digital devices might lead to different ocular problems in children.

Methods

A cross-sectional study was conducted among school-going children attending digital online classes during the COVID-19 pandemic. A web-based online form was used to evaluate the impact of digital classrooms on the visual status of school-going children. Children were selected from 5 randomly selected schools from different parts of Kathmandu Valley who had online classes for at least 2 hours during the COVID-19 pandemic era.

Results

A total of 303 usable responses were obtained from a response rate of 41% with an average age of 10 years. Sixty-four percent of children had online classes up to 6 hours a day and 44% used laptops for online classes followed by smartphones (38%). The most common symptom was headache affecting 39.3% of the children, followed by difficulty seeing bright light (35%) and itching of the eyes (35%). Forty percent of the children felt that their eyes were affected after online class. Multivariate analysis showed that the total duration spent on digital devices was the greatest risk factor associated with the ocular symptoms.

Conclusion

Ocular symptoms and digital eye strain related to the excessive use of digital devices have increased due to the increased duration of online classes. Awareness about the prevention and measures to reduce the adverse effects should be stressed.

Keywords

COVID-19, digital eye strain, digital classroom, online education

2.2.6 Self and Family Care Knowledge and Practice during COVID-19 in Bagmati Province, Nepal

Gita Shrestha¹, Minato Nakazawa², Moeno Sakai³

Corresponding Author

Mrs. Gita Shrestha, Graduate School of Health Sciences, Kobe University, Email: gitustha11@gmail.com

Affiliations

¹Graduate School of Health Sciences, Kobe University, Kobe, Japan

²Graduate School of Health Sciences, Kobe University, Kobe, Japan

³Graduate School of Health Sciences, Kobe University, Kobe, Japan

Introduction

COVID-19 pandemic has left behind none of the countries in the world and neither Nepal. The viral disease was detected in all provinces and districts. Nepal took steps to prevent outbreaks by importing essential supplies and equipment, upgrading health infrastructure, training medical professionals, and spreading public health awareness programs. Individuals themselves are the control of self-care interventions such as washing hands with soap and water, use of hand sanitizer, wearing masks while going outside, maintaining social distance, and self-isolation at home in case of suspected cases.

Control of large epidemics requires individual cooperation from the public. The purpose of this study is to investigate the association between knowledge and practice of Bagmati province residents during the COVID-19 pandemic among different demographic factors.

Methods

The online cross-sectional study was conducted using a Google-form questionnaire, from 296 participants, recruited via messenger and Facebook groups in August 2021. To assess the factors associated with knowledge and practices, logistic regression analysis was applied. All the analysis was done in SPSS version-18.

Results

The average scores of knowledge, attitude, and practice were 7.62 ± 2.06 , 31.2 ± 4.66 , and 11 ± 1.91 , respectively. The logistic regression analysis showed secondary education (OR: 6.5; 95% CI: 1.07-38.89), master above (OR: 6.8; 95% CI: 1.17-39.06), medical background (OR: 3.9; 95% CI: 1.87-8.16), households workers (OR: 8.5; 95% CI: 1.66-43.86) and students (OR: 3.2; 95% CI: 1.01-10.01) were significantly associated with knowledge. Rural residence (OR: 0.4 95% CI: 0.21-0.67), older age (OR: 0.2; 95% CI: 0.07-0.63) and living in rent with sharing-room (OR: 0.3; 95% CI: 0.16-0.64) were significantly associated with good practice.

Conclusion

The findings show that the education level of the participants, medical background, and occupation as household workers and students were only significant to knowledge. Also, the higher level of education showed better knowledge compared to the lower level of education, and male and rural residents had shown comparatively better practice.

Keywords

COVID-19; Knowledge; Practice; Pandemic; Nepal

2.2.7 Outcome of COVID 19 Patients with Cardiovascular Disease of Nepal During the Second Wave of COVID Pandemic Era

Kunjang Sherpa ¹, Reeju Manandhar ², Dipankar Prajapati², Murari Dhungana ², Amrit Bogati ², Sujeeb Rajbhandari ² Binita Tamrakar ² Chandramani Adhikari ²

Corresponding Author

Assistant Professor. Dr. Kunjang Sherpa, National Academy of medical Sciences, Bir hospital, Email: sherpakunjang7@gmail.com

Affiliations

¹ National Academy of Medical Sciences, Bir Hospital, Kathmandu

² Shahid Gangalal National Heart Centre, Bansbari, Kathmandu

Introduction

Cardiovascular co-morbidities are common in patients with COVID-19 and these patients are at higher risk of morbidity and mortality. This prospective study aims to evaluate the outcome of patients admitted with cardiovascular disease with COVID 19 patients at tertiary cardiac center during the second wave of COVID 19 in our nation.

Methodology

This was hospital based prospective cross-sectional aims for focusing on studying Clinical profile, baseline comorbidities, outcome and the predictor of mortality among patients with COVID with cardiovascular disease admitted at Shahid Gangalal National Heart Centre during the COVID 19 second wave from May 2021 to July 2021.

Results

Among the Study population (n=134), the mean age was 65±18.5 years, with Male being 66.4%. Hypertension was found in 45 (33.%), diabetes in 40 (29.9%), COPD in 12 (9%), and Acute kidney Injury(AKI) in 18 (13.4%) cases. Evaluating on COVID severity 60 patients (44.8%) had moderate symptoms 28 (20.9) % had mild symptoms, 28 (20.9 %) had severe symptoms and 18 (13.4%) had critical covid severity. The mean haemoglobin was 12.8±2.7 mg/dl. The median TLC count was 8030(IQR 5900,11340) cell/cc, Creatinine 101 µmol/l(61,110), D – dimer 0.65(0.3,2.1) µg/mL. The in hospital Mortality was 23.2 %(n=31). The mean length of Hospital stay was 8.11±5.7 days. In Univariate analysis, Age > 65 years with Odd Ratio(OR) of 2.59 (p value 0.004) , AKI OR of 3.069(pvalue 0.001), Severe/critical COVID OR of 59.3(P value 0.001), lymphopenia OR 7.75 (Pvalue 0.001) and elevated D dimer OR of 6.349 (p value 0.025) were found to have predictor of in hospital mortality.

Conclusion

COVID patients with Cardiovascular disease have increase severity of symptoms and mortality. Age > 65 years, lymphopenia, elevated D dimer, Acute kidney injury and Severe/Critical COVID are important predictor of in hospital mortality.

Keywords

COVID 19 second wave, Cardiovascular Disease, In hospital Outcome

2.2.8 Impact of COVID-19 on Access to Health Service on Lives of Person with Disabilities in Gorkha District, Nepal

Srijana Basnet^{1*}, Alisha Karki¹, Barsha Rijal¹ Jiban Karki¹, Prabina Makai¹, Rurdra Neupane¹, Saugat Joshi, Sunita Bhattarai¹

Corresponding Author

Ms. Srijana Basnet, PHASE Nepal, Email: srijanabasnet1994@gmail.com

Affiliations

¹ PHASE Nepal, Bhaktapur, Nepal

Background

People with disabilities (PWDs) are a group of people who are already vulnerable in their life. In the pandemic situation, PWDs are more prone to be impacted as PWDs have unequal access to health care services and unmet health care needs, compared to the general population. So, the study aims to explore the PWDs' health status during COVID 19 and their access to health services during the pandemic.

Methodology

We used a mixed-method design, purposively selected forty PWDs with mobility and vision-related disabilities from a pre-existing list of PWDs for in-depth interviews. We audio-recorded interviews, translated them into the English language and analyzed the interview data using a reflexive thematic analysis approach in NVivo 12 pro software. For quantitative data 254 participants were selected randomly from a pre-existing survey 2019. We collected data using kobo toolbox software installed in smartphones and analyzed the data using SPSS 24 version.

Results

We found an increment in the access to health services of PWDs as they received health services from health posts compared to medical services. Fortunately, participants were not contracted from COVID-19 and didn't get other illnesses. Health facilities were open and the behaviours of the health workers were good towards the PWDs. However, some of the PWDs faced difficulties accessing the health service and follow-up check-ups due to government restrictions on mobility and geographical hardship.

Conclusions

The research concluded that PWDs in rural areas were impacted from different aspects. The movement restriction imposed by the government has affected access to health services. Thus, when it comes to a crisis, governments must prioritize vulnerable groups

like PWDs, who are already facing difficulties in normal conditions. In addition to COVID-19, specific health services, essential healthcare facilities should be prioritized continuously in order to maximize healthcare utilization among the vulnerable population.

Keywords

Disability, health, access, assistive technology

2.2.9 Impact of COVID-19 on Livelihood Activities of Person with Disabilities in Gorkha District of Nepal

Rudra Neupane^{1*}, Jiban Karki², Simon Rushton³, Alisha Karki¹, Barsha Rijal¹, Prabina Makai¹, Saugat Joshi¹, Srijana Basnet¹, Sunita Bhattarai¹, Luc De Witte²

Corresponding Author

Mr. Rudra Neupane, PHASE Nepal, Bhaktapur, Nepal, Email: rudra.phase1@gmail.com

Affiliations

¹PHASE Nepal, Kathmandu, Nepal

²School of Health and Related Research, The University of Sheffield, UK

³Department of Politics and International Relations, The University of Sheffield, UK

Background

The ongoing pandemic effects go beyond just public health and it profoundly affects the socio-economic activity, work life, food security and various other sectors. The pandemic along with the lockdown has unexpectedly detached many persons with disabilities (PWDs) from their source of livelihood and many are likely to lose their source of income in near future. The present study aims to examine the factors on which PWDs livelihood has been affected and highlights the need for more research in this area.

Methods

We used a mixed-method study design. We conducted in-depth interviews with 40 PWDs and a survey with 254 PWDs for the qualitative and quantitative parts of this study, respectively, in three rural municipalities of Gorkha district in Nepal in April and May 2021. We used a thematic approach for the analysis of qualitative data, using NVivo 12 software to organise, code, and group the data. The KOBO toolbox was used to collect quantitative data, and SPSS-26.

Results

The COVID-19 pandemic, along with its associated lockdowns, has negatively affected the livelihoods of PWDs. Our findings show that PWDs have lost their source of income because of the ongoing pandemic, and increase in food prices and essential commodities are pushing PWDs to a deeper level of poverty. The pandemic is diminishing the wellbeing and livelihoods of PWDs and, along with that, it is undermining and affecting their businesses, coping strategies, and food security on which their lives depend.

Conclusion

The main reasons for the deterioration of PWDs' livelihood activities are lack of intervention strategies for a sustainable future, government support for providing relief materials to vulnerable people, such as PWDs, and lack of targeted support. Responding to the immediate needs, addressing the foreseeable economic consequences, and ensuring support in terms of income and food security is a way forward for PWDs to cope with the loss of livelihoods.

Keywords

Disability, Persons with disabilities, COVID-19, livelihood

2.2.10 Perception of Persons with Disabilities towards Vaccination Against COVID-19 in Gorkha District of Nepal

Barsha Rijal^{1*}, Alisha Karki¹, Jiban Karki¹, Prabina Makkai¹, Rurdra Neupane¹, Saugat Joshi, Srijana Basnet¹, Sunita Bhattarai¹

Corresponding Author

Mrs. Barsha Rijal, PHASE Nepal, Email: barsha.rijal100@gmail.com

Affiliations

¹ PHASE Nepal, Bhaktapur, Nepal

Background

To end the COVID-19 pandemic everyone needs to have access to safe and effective vaccines against it. However, making them available is not enough. It is essential to understand people's perception and willingness to get vaccinated for its maximum uptake. The purpose of this study is to find out the Persons with disabilities' (PWDs) perception towards vaccination and intention to get vaccinated against COVID-19 in Gorkha district of Nepal.

Methodology

This paper is based on a thematic analysis of a qualitative study conducted through primary data collection at the field using purposive sampling technique. Altogether 40 participants were interviewed using semi-structured guidelines, which were audio recorded. NVivo 12 pro was used for the analysis of the qualitative data.

Result

The number of PWDs receiving the COVID-19 vaccine at the time of this study was very few. Most participants did not meet the eligibility criteria set by the government at that time and few were hesitant towards the COVID-19 vaccine. It was found that most of the participants were willing to get vaccinated against COVID-19 and thought it would be beneficial for them. The perception was developed not because of their understanding of the importance of getting vaccinated; rather, they wanted to follow the majority in their village and adhere to government compliance.

Conclusion

Most of the participants were ready to get vaccinated if given a chance despite doubting the effectiveness and side effects of the vaccine. Lack of government attention towards PWDs has prevented this group from being prioritized in the first phase vaccination campaign. Furthermore, the lack of clear and correct information about the COVID-19 vaccine has left PWDs in a dilemma. So, the government and concerned stakeholders must establish an appropriate measure to address all structural, institutional, and other kinds of barriers faced by PWDs to get vaccinated.

Keywords

COVID-19, Person with disabilities, COVID-19 Vaccination, Perspective, Willingness

2.2.11 The Impact of The COVID-19 Pandemic on The Lives of Persons with Disabilities in Rural Nepal

Jiban Karki^{1*}, Simon Rushton², Alisha Karki³, Barsha Rijal³, Prabina Makai³, Rudra Neupane³, Saugat Joshi³, Srijana Basnet³, Sunita Bhattarai³, and Prof Luc De Witte¹

Corresponding Author

Mrs. Sunita Bhattarai, PHASE Nepal, Email: phasepho@gmail.com

Affiliations

¹School of Health and Related Research, The University of Sheffield, UK

²Department of Politics and International Relations, The University of Sheffield, UK

³PHASE Nepal, Kathmandu, Nepal

Background

COVID-19 was declared a pandemic by the World Health Organization (WHO) on 11th March 2020. Since then, it has affected all sectors and people from every walk of life worldwide. Nepal is no exception. The purpose of this study is to explore the impact of the COVID-19 pandemic on the lives of persons with disabilities (PWDs) in Gorkha District, Nepal.

Methodology

A survey of PWDs in Gorkha District, Nepal was conducted in 2019, before the COVID-19 pandemic. In April and May 2021, we re-surveyed 254 of the same cohort of PWDs. We used the same set of survey tools, with additional questions related to COVID-19. In addition to the survey, we conducted 40 qualitative In-Depth Interviews (IDIs) with PWDs from the same cohort. We compared the survey results from 2019 and 2021 and used the findings from the additional interviews to contextualize our findings on changes during the pandemic.

Results

The difficulties PWDs were facing got worse during the pandemic. In 2021, 71.8% of PWDs reported suffering from financial hardship, compared to 61.4% before the pandemic; 43.3% of PWDs felt depressed in 2021, compared to 13.4% in 2019; 93% reported difficulty visiting health facilities due to travel restrictions during the pandemic. We found a positive change in reported access to assistive devices and some livelihood opportunities. However, this relates to the coincidental presence of an NGO intervention rather than any success in policy to mitigate COVID-19's impact.

Conclusions

PWDs have been particularly affected by the COVID-19 pandemic. In part, this reflects the direct impact of the pandemic and government responses to it, but it also relates to pre-existing conditions including lower access to resources, fewer livelihood opportunities, and limited service availability – especially in rural areas such as Gorkha district. Improvement of opportunities and services for PWDs during post-pandemic recovery is urgently needed.

Keywords

Disability, Persons with disabilities, COVID-19, Access to services, Livelihood opportunities

2.2.12 Effect of COVID-19 Virus Infection on Pregnancy Outcomes: A Systematic Review and Meta-analysis

Upendra Pandit¹, Niki Shrestha¹, Gayatri Khanal¹

Corresponding Author

Dr. Upendra Pandit, Chitwan Medical College, Email: drupandit@gmail.com

Affiliations

¹Chitwan Medical College, Bharatpur Chitwan, Nepal

Background

Pregnant mothers are more susceptible to COVID-19 or SARS-CoV-2 infection during pandemic. Our aim was comparative evaluation of "the effect on pregnancy outcomes, between a PCR positive group and PCR negative groups of pregnant mothers and neonates for COVID-19 viral infection" irrespective of the severity of the symptoms and diseases.

Methods

This was a systematic review and meta-analysis of comparative data of 18 observational studies as per inclusion criteria searched with MeSH term in the database: PubMed/MEDLINE, Google Scholar, Embase and CINAHL from September 1, 2021 to October 31, 2021. Methodology quality and risk of bias was assessed using the ROBINS-I tool for non-randomized studies. We calculated the pooled risk ratio (RR) in random effects model for meta-analysis of late pregnancy outcomes. The certainty of the evidence was assessed using GRADE.

Results

Pregnant women with PCR positive for COVID-19 had higher rate but low certainty of the evidences in comorbidity of obesity (RR, 1.74; 95% CI, 0.86 to 3.53), preeclampsia/eclampsia (RR, 1.52; 95% CI, 1.14- 1.39), GDM (RR, 1.13; 95% CI, 0.97-1.31) and hypertensive disorders (RR, 1.07; 95% CI, 0.82 - 1.39). Likewise, higher rate but low certainty of the evidence was observed for foetal distress (RR, 1.56; 95% CI, 1.31-1.85), CS (RR, 1.25; 95% CI, 1.10-1.42) and PPH (RR, 1.37; 95% CI, 1.00-1.88) in pregnant women with PCR positive compared to the PCR negative group. Moderate certainty of the evidence was observed in positive group who had a greater risk of admission to ICU/high dependency units (HDU) (RR, 4.92; 95% CI, 3.28-7.38), preterm birth (RR, 2.12; 95% CI, 1.10-4.08) and perinatal death (RR, 2.55; 95% CI, 1.64-3.95) compared to COVID-19 negative group. A high certainty of the evidence was observed in maternal death (RR, 9.87; 95% CI, 3.10-31.45).

Conclusion

Pregnant mothers with COVID-19 have a moderate certainty of admission to ICU/HDU, preterm birth and perinatal death. A high certainty of the evidence in maternal death was observed.

Keywords

(Mesh term) COVID-19 or SARS-CoV-2 infection, childbirth, delivery, maternal outcome, mothers to foetus transmission, neonates, pregnancy complications, vertical transmission

2.2.13 Mental Health Status of Recovered Covid-19 Patients and its Associated Risk Factors in Nepal

Prasanna Rai¹, Akina Shrestha¹, Biraj Man Karmacharya^{1,2,3}, Shrinkhala Shrestha¹, Kamal Gautam⁴

Corresponding Author

Ms. Prasanna Rai, Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal, Email: prasannarai@kusms.edu.np

Affiliations

¹Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

²Department of Community Medicine, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

³Department of Community Programs, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel, Nepal

⁴Transcultural Psychosocial Organization Nepal (TPO Nepal), Baluwatar, Kathmandu, Nepal

Background

With the increasing effects of COVID-19 on physical health, it has also immensely affected the mental health and wellbeing of all people particularly the COVID-19 survivors following hospitalization. The evidence on the long term mental health implications among the recovered COVID-19 patients remains unknown in Nepal. Therefore, the aim of this study is to assess the mental health status of the recovered COVID-19 patients after hospitalization for COVID-19 and to explore its associated risk factors.

Methods

We conducted a quantitative, cross-sectional study among 281 COVID-19 recovered patients who were admitted in Dhulikhel Hospital from July 2020-July 2021 and were

later recovered. We used purposive sampling for the selection of the participants. We collected the data through both an online survey and telephone interview using a structured questionnaire. Anxiety and depression were measured using a Hospital Anxiety and Depression Scale (HADS: 0–21). Multivariable logistic regression analysis was done to determine the risk factors of anxiety and depression. The statistical analysis was performed in STATA-13.

Results

The prevalence of anxiety and depression were 38.8%, and 30.9 % respectively. Perceived stigma was significantly associated with higher odds of experiencing symptoms of anxiety (AOR: 1.19; 95% 1.19-1.33, p-value<0.001), and depression (AOR: 1.16; 95% CI: 1.04-1.28, p-value=0.01). Female gender, and monthly family income were the factors associated with anxiety. Likely, age, health workers, recovery duration, having infected family members, and perceived support from friends were the factors associated with depression. However, there was no significant association of length of hospital stay and ICU admission to both anxiety and depression.

Conclusion

A significant proportion of participants had anxiety and depression even after one year of their recovery. Thus, there is an urgent need to design and implement the appropriate mental health intervention policies and post-discharge rehabilitation programs for the recovered COVID-19 patients.

Keywords

Anxiety, COVID-19 recovered patients, depression, hospitalization

2.2.14 Prevalence of Anxiety and Depression among Undergraduate Medical Students Amidst COVID-19 pandemic in a Medical College of Lalitpur, Nepal

Sagun Ghimire¹, Sirju Pokhrel², Sudhir KC³, Beebaychan Kasiv Thapa⁴, Prabhakar Pokhrel⁵, Akkshana Rayamajhi⁶

Corresponding Author

Mr. Sagun Ghimire, Kist medical college, Gwarko, Lalitpur, Nepal, Email: sagunghimire01@gmail.com

Affiliations

¹Kist Medical College and Teaching Hospital, Gwarko, Lalitpur, Nepal.

Introduction

Mental health being an important aspect of day to day living, especially among health workers and medical students who are mostly under the burden of academic stress. This research aims to find out the prevalence of depression and anxiety amidst covid-19 pandemic among undergraduate medical students in a medical college of Nepal.

Methods

An online cross sectional study was carried out among under-graduated students from MBBS and BDS after ethical approval from institutional review committee of KISTMCTH (ref no 077/078/16). The PHQ-9 and GAD-7 questionnaire was used as data collection tools and the questionnaire was administered through social media and email. Data entry was done using SPSS version 27. Descriptive statistical tools and Chi square test were used.

Results

Among 318 respondents, as per PHQ-9 major participants were under mild depression category (33.30%) and severe depression was only 0.60%. whereas as per GAD-7 major respondents were under mild anxiety category (27.50%) and severe anxiety was only 4.10%. There was no significant association found between severity of depression and gender ($p=0.089$), faculty ($p=0.499$) and year of study ($p=0.705$) at significance level of $p<0.05$. Also no significant association was found between severity of anxiety and gender ($p=0.054$), faculty ($p=0.652$) and year of study ($p=0.583$) at significance level of $p<0.05$. There was significant association found between severity of depression and severity of anxiety at significance level of $p<0.05$ (p value 0.000).

Conclusion

Major depression was found among the students of final year MBBS whereas major anxiety was found among students of third year BDS which is comparable to various other homologous international studies.

Keywords

Anxiety, COVID-19, Depression, Medical students

2.2.15 Impact of COVID 19 Pandemic on Mental Health of Persons with Disabilities in Gorkha District of Nepal

Saugat Joshi^{1*}, Jiban Karki², Simon Rushton³, Alisha Karki¹, Barsha Rijal¹, Prabina Makai¹, Srijana Basnet¹, Sunita Bhattarai¹, Luc De Witte²

Corresponding Author

Ms. Prabina Makai, PHASE Nepal, Bhaktapur, Nepal, Email: phase.prabina@gmail.com

Affiliations

¹PHASE Nepal, Kathmandu, Nepal

²School of Health and Related Research, The University of Sheffield, UK

³Department of Politics and International Relations, The University of Sheffield, UK

Background

COVID-19 pandemic along with the lockdown, social distancing, and self-isolation has created fear and uncertainty among the vulnerable group like persons with disabilities (PWDs). During the pandemic, PWDs faced several challenges that created significant disruption and added risks to their psychological well-being. The existing situation if not addressed is more likely to promote health disparities and health inequalities even deeper and wider and can make the lives of PWDs more difficult. This study aims to identify the increased psychological distress among PWDs and highlights the need for more research in the area.

Methods

A mixed-method study was conducted that integrates a qualitative interview study (N=40) and a quantitative household survey (N=254). For the qualitative study, in-depth interviews were conducted with persons with disabilities in Dharche, Ajirkot, and Gandaki rural municipality of Gorkha district in Nepal. All the text from the interviews was organized, coded, and grouped the data into relevant themes using NVivo software. For the quantitative study, KOBO Toolbox was used for data collection and data were analyzed using SPSS.

Results

Most of the PWDs were found to be under constant stress, anxiety, and anguish due to the uncertainty of the situation regarding the pandemic. The uncertainty regarding the basic food supplies, daily activities, and mobility has aggravated the psychological health of the study participants. The imposed lockdown and social distancing increased suicidal tendencies among participants. In contrast, participants with strong willpower and those who had supportive families were found to have no fear of the pandemic.

Conclusion

Lack of mental health interventions, targeted support, and lack of disability-inclusive COVID-19 responses are the main reasons for the increased psychological distress among PWDs. Increased counseling services, strengthening the healthcare workforce,

and increased awareness programs and psychological support is a way forward to ensure the current mental health situation of persons with disabilities.

Keywords

Disability, Persons with disabilities, COVID-19, Mental health

2.2.16 Federalism in Nepal: Opportunities and Challenges in the Health System during COVID-19

Dr. Sadikshya Bhattarai¹, Madhusudan Subedi², Dr. Amit Arjyal³

Corresponding Author

Dr. Sadikshya Bhattarai, Patan Academy of Health Sciences, Email: bhattaraisadikshya23@gmail.com

Affiliations

¹Patan Academy of Health Sciences

Introduction

Nepal newly became a federal democratic republic in 2008 and functionally entered the federal structure of governance after the promulgation of the new constitution in 2015. Although the main aim of federalization is to address social inequality and make an inclusive state, it also has a significant impact on the public health system. The new three-tier system of one federal, seven provincial and 753 local governments has resulted in setting up ministries, sections and units for health in each of the levels. Less than four years into this new system, the country faced the COVID-19 pandemic. The pandemic created both opportunities and challenges in the federal health system. This study aims to identify those factors from the viewpoint of implementers of the health system.

Methods

After an extensive literature review, qualitative research was carried out with twenty public health workers and elected representatives from all the tiers. Thematic analysis was performed using World Health Organization's six building blocks- service delivery, workforce, information, medical products, vaccines and technologies, financing, leadership/governance- of the health system as an analytical framework.

Results

The participants highlighted many opportunities after federalization in Nepal. Presence of government closer to the people helped to make policies and plans as per local need. Decision-making authority made human and financial resources readily available

leading to better service delivery. In contrast, the major challenges were, difficult transition into a new system of governance, poor coordination among the various tiers of government and a lack of expertise to deal with this unprecedented pandemic.

Conclusion

The study showed that the federalization in Nepal has met the goals of devolution of power structure and better management of the health system. However, there are specific areas of improvement to ensure a more functional health system.

Keywords

Health System, WHO Framework, Service Delivery, Workforce, Information, Medical products, vaccines and technologies, Financing, Leadership/Governance

2.2.16 Nurses' Knowledge and Attitude towards COVID-19 and Willingness to Work during Pandemic in a Tertiary Level Hospital, Kathmandu

Deewana Gurung¹ Sarmila Koirala²

Corresponding Author

Ms. Deewana Gurung, Tribhuvan University Teaching Hospital, Tribhuvan University, Kathmandu Nepal, Email: deewa.gurung22@gmail.com

Affiliations

¹Tribhuvan University Teaching Hospital, Tribhuvan University, Kathmandu Nepal
²Purbhanchal University, Yeti Health Science Academy, Kathmandu, Nepal

Background

COVID-19 is the disease caused by SARS-Cov-2 virus which was declared a global pandemic. Nurses are the major group of health workers in frontline in the management of COVID-19 patients. Nurses' critical thinking, knowledge, qualification, attitude and advanced skills are essential to provide good quality services and decrease the increased death toll due to COVID-19. This study was aimed to determine the nurses' knowledge and attitude towards COVID-19 and willingness to work during pandemic.

Methods

Using descriptive cross sectional study design, 271 nurses were selected through proportionate stratified random sampling.

Results

The study revealed that the majority of the respondents (62.7%) had an average level of knowledge regarding COVID-19. Although more than half of the respondents (69.7%) had a negative attitude towards COVID-19, the majority of the respondents (57.2%) were willing to work during the pandemic. The study found out that there was statistically significant association between knowledge, ethnicity ($p=0.006$), religion ($p=0.029$), current residence area ($p=0.014$), educational level ($p=0.065$) and area of practice ($p=0.009$) as well as significant association between respondents' attitude, ethnicity ($p=0.006$) and employment status ($p=0.003$). Similarly, there was significant association between respondents' willingness, total work experience ($p=0.0003$), employment status ($p=0.032$) and adequate PPE supply ($p=0.000020$). This study showed that there was statistically significant relationship between knowledge and attitude score ($r=0.256$) and between knowledge and willingness score ($r= 0.131$) and, attitude and willingness score ($r=0.172$).

Conclusion

Adequate knowledge and positive attitude should be reinforced to increase the willingness to work during a pandemic. Inservice education, Infection Prevention and Control trainings and updated information on COVID-19 will help nurses build up more confidence in the management of COVID-19 patients.

Keywords

Nurses, knowledge, attitude, willingness, pandemic, COVID-19

2.2.17 Impact of COVID-19 pandemic in management of Surgical patients during Nationwide COVID-19 Lockdown in a Military hospital

¹Bharat Bahadur Bhandari ¹, Sunil Basukala¹, Kunda Bikram Shah¹, Narayan Thapa ¹, Bikash Bahadur Rayamajhi ¹

Corresponding Author

Dr. Sunil Basukala, Shree Birendra Hospital (SBH), Nepalese Army Institute of Health Science (NAIHS), Sanobharyang, Kathmandu, Nepal., Email: anyurysm@gmail.com

Affiliations

¹Department of Surgery, Shree Birendra Hospital Chhauni, Nepal Army Institute of Health Science (NAIHS)

Background

The COVID-19 pandemic has had a major impact on healthcare in many countries. This study assessed the effect of a nationwide lockdown during the second wave of COVID-

19 on surgical management for acute surgical conditions and the subsequent impact on postoperative mortality.

Methodology

This was a retrospective study, evaluating data from a hospital discharge database during the second wave of COVID -19 from a 750-bedded tertiary care Military hospital, Shree Birendra Hospital (SBH) located in Kathmandu. All adult patients admitted through the emergency and outpatient department requiring a surgical treatment between April 29-June 29, 2021 were included in the study. The primary outcome in the number of hospital admissions and surgeries performed for acute surgical conditions were assessed.

Results

During the second wave of nationwide COVID-19 lockdown period, a total of 329 patients were provided surgical consultation either on emergency or outpatient basis. Among them, 227 cases required surgery. Out of this 122 (53.74%) required minor surgeries and were performed in a minor operation theater in local anesthesia (LA) while 105 (46.2%) underwent major surgical procedure. Of all patients who underwent major surgical procedures 105, 76 (72.3%) were surgical emergencies, 15 (14.2%) were gastrointestinal (GI) and breast malignancies while 14 (13.3 %) were elective cases. Among 12 COVID positive operated cases, mortality rate due to COVID-19 in surgical patients was 02 (0.08 %) during the lockdown period.

Conclusion

A decrease in hospital admissions for elective surgical cases with prioritization to emergency and malignant cases was observed during the lockdown period. Unlike the first COVID-19 lockdown, this study also showed the well preparedness for surgical management of patients with COVID-19 infection with well formulated hospital protocols.

Keywords

COVID-19, Outbreak, Surgery.

THEME 3: Antimicrobial Resistance

2.3.1 A Point Prevalence Study of the Use of Antibiotics at Six Tertiary Care Hospitals in the Kathmandu Valley, Nepal

Nisha Jha¹, Bibechan Thapa², Samyam Bickram Pathak³, Aakrity Pandey⁴, Estory Pokhrel⁵, Pathiyil Ravi Shankar⁶, Shital Bhandary⁷, Anish Mudvari⁸, Ganesh Dangal⁹

Corresponding author Dr. Nisha Jha, Professor, Department of Pharmacology, KISTMCTH, Contact Number: 9841602808, Email: nisha_venus@hotmail.com

Affiliations

¹Department of Clinical Pharmacology and Therapeutics, KIST Medical College, Lalitpur, Nepal

²Department of Emergency Medicine, Kirtipur Hospital, Nepal

³Intensive Care Unit and Critical Care, Nepal Mediciti Hospital, Nepal

⁴Department of General Surgery, Madhyapur Hospital Private Limited, Bhaktapur, Nepal

⁵Department of Emergency Medicine, Nidan Hospital, Nepal

⁶IMU Centre for Education, International Medical University, Kuala Lumpur, Malaysia

⁷Department of Community/Health Sciences, School of Public Health, Patan Academy of Health Sciences, Nepal

⁸Department of Clinical Pharmacology Maharajgunj Medical College, Mahajargunj Nepal

⁹Kathmandu Model Hospital, Kathmandu, Nepal

Introduction

Point prevalence survey (PPS) on antibiotic use developed by WHO has been used globally. This study was done to obtain information on the prescribing of antibiotics using PPS methodology in six private hospitals in Nepal.

Methods

This cross sectional descriptive study was done from 20th July to 28th July 2021 among inpatients admitted at or before 8:00AM on the day of survey in various wards of hospitals. Patient sampling was done as per the PPS methodology. The institutional capacity was measured by indicators for infrastructure, policy, practice, monitoring and feedback. Data were presented as frequencies and percentages.

Results

Patients above 60 years were 34 (18.7%). There were an equal number of males and females, 91 (50%). Maximum patients were from the surgery ward 38 (20.8%) followed by Obstetrics and Gynecology ward 25 (13.5%). Only one antibiotic was used in 81 patients (44.5%) followed by two antibiotics in 71 (39%) patients. Duration of antibiotic prophylactic use was one day in 66 (63.7%) patients. The culture result was positive for 17 (24.7%) samples. The organisms isolated were E. Coli, Pseudomonas aeruginosa and Klebsiella pneumoniae. Ceftriaxone was the most used antibiotic. Drug and therapeutics, infection control committees, and pharmacovigilance activities were present in 3/6 (50%) study sites. Antimicrobial stewardship was present in 3/6 (50%) and microbiological services in all hospitals. Antibiotic formulary and antibiotic guideline was present in 4/6 sites, and facilities to audit surgical antibiotic prophylaxis choice in 2/6 (33.3%) sites, facility to monitor antibiotic use was present in 4/6 (66.6%) and cumulative antibiotic susceptibility reports 2/6 (33.3%) sites.

Conclusion

Not all of the infrastructures, policy, practice, monitoring and feedback parameters were present in the study sites. PPS studies should be done periodically to study AMR and monitor the impact of antimicrobial stewardship and infection control programs.

Keywords

Point prevalence survey, antibiotics, private hospitals, tertiary care centers, Nepal

2.3.2 Phenotypic Determination of Phage Susceptibility among Multidrug-Resistant Bacteria Isolated from Clinical Samples of Patients of Tertiary Care Center, Nepal

Sreska Shrestha¹, Sangita Sharma², Junu Rai², Poonam Yadav³, Ranjit Sah³, Shyam Mishra³

Corresponding Author

Ms. Sreska Shrestha, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal,
Email: sreska@iom.edu.np

Affiliations

^{1,2,3}Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

Background

The threat of failure of antimicrobial therapy rises with the global emergence of antimicrobial resistance (AMR) in the bacteria, especially multidrug resistant (MDR) strains that can evade even the most powerful modern antimicrobial treatments. This has led to increased interest in alternatives, one of which is bacteriophage therapy. Bacteriophages (BPs) have been studied as a therapeutic agent to treat bacterial infections for around 100 years. The lytic BPs can lyse bacteria without any effect on mammalian cells. Thus, it is thought that BPs are significantly safer and better tolerated, and utilize the novel mechanisms of action to achieve antibacterial activity.

Methodology

BPs were isolated from different environmental sources: river sites, ponds and sewages. Presence of phage was determined by the Double layer agar assay. Concentrations of phage were determined in Plaque forming unit per milliliter (PFU/mL) by Plaque assay and susceptibility test was done by observing their lytic effect on pre-identified MDR bacteria.

Results

A total of 73 BPs were obtained from 11 different sources, out of which 52 (71.2%) showed clear lysis. BPs recovered against specific MDR isolates were Φ EC-21.3%, Φ PS-17.3%, Φ KP-19.2%, Φ CF-19.2%, Φ PR-11.5% and Φ SA 11.5%. Majority of the isolated phages and lytic effect on their respective specific MDR bacteria with varying degree, mostly high efficacy (+++) showing high specificity. However, Φ CF showed minimum lytic effect even on *Citrobacter freundii*, indicating narrow spectrum. Phages specific for *Proteus* spp. i.e., Φ PR42 and Φ PR44 had wider spectrum of lytic effect on majority of the MDR isolates. Overall, phages specific for Gram Negative Bacilli (GNB) and Gram-positive cocci (GPC) showed lytic effect predominantly on GNB and GPC respectively.

Conclusion

Phage therapy can be a promising alternative to antibacterial therapy for treatment of patients with severe MDR bacterial infections.

Keywords

Bacteriophage, MDR bacteria, Plaque assay, Phage titer, Bacteriophage therapy

2.3.3 Biofilm Forming Multidrug-Resistant Acinetobacter Baumannii at Tribhuvan University Teaching Hospital: A Looming Threat

Poonam Yadav¹, Ranjit Sah², Sreska Shrestha³, Junu Rai³, Sangita Sharma³, Shyam Kumar Mishra²

Corresponding Author

Mrs. Poonam Yadav, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal,
Email: yadavpoonam@iom.edu.np

Affiliations

¹Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

²Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

³Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

Background

Acinetobacter baumannii has emerged as a problematic pathogen due to its biofilm forming ability and property of exhibiting resistance to different classes of antibiotics. The aim of this study was to study the quantitative method for biofilm formation, and examine the correlation between biofilm and antibiotic resistance among the multidrug-resistant (MDR) clinical isolates of *A. baumannii*.

Method

This was a cross-sectional study conducted at Tribhuvan University Teaching Hospital, Nepal for a period of six months. Identification and antibiotic sensitivity test of *A. baumannii* isolates from clinical specimens were done following American Society for Microbiology guidelines. Extended-spectrum-beta-lactamase (ESBL), Metallo-beta-lactamase (MBL), Klebsiella pneumoniae carbapenemase (KPC) and AmpC-beta-lactamase were detected by standard phenotypic methods. The Microwave plate method was used to screen biofilm production.

Results

All (n=195) MDR clinical isolates of *A. baumannii* were resistant to cephalosporins and carbapenems; however, susceptibility was seen in all cases with polymyxins, and in some cases with sulbactam-containing antibiotics, viz., cefoperazone-sulbactam (29.2%) and ampicillin-sulbactam (15.4%) followed by levofloxacin (7.2%), amikacin (5.6%), cotrimoxazole (4.1%), gentamicin (2.6%) and ciprofloxacin (1.0%). ESBL, MBL, KPC and AmpC production were found in 54.9%, 73.3%, 41.5% and 14.9% isolates, respectively. Among all tested isolates, 192 (98.4%) were biofilm-producers. Nearly 14.4% and 81.3% isolates were moderate and strong biofilm producers, respectively. Out of 143 MBL- and 81 KPC- producers, 59.0% and 31.7%, respectively, were found to exhibit strong biofilm production.

Conclusion

Biofilm production was seen in almost all the MDR clinical isolates of *A. baumannii* with resistance profile against all commonly prescribed antibiotics. Only polymyxins were effective against them. This study showed strong biofilm production among carbapenemase producers. Therefore, urgent need of adopting actions to combat MDR *A. baumannii* isolates is warranted in our setting. Further studies are recommended to encompass measures to inhibit *Acinetobacter* biofilm production for the proper management of patients.

Keywords

Key words: *A. baumannii*, multidrug-resistant (MDR), biofilm production

2.3.4 Antimicrobial Susceptibility Pattern of Bacterial Isolates from Post-operative Wound Sample in Patients Attending Chitwan Medical College Teaching Hospital

Sarju Poudel ¹, Pujan KC ², Devika Kiju ³, DR Pawan KC ⁴, Kiran Poudel ⁵, Rabina Ramtel ⁶

Corresponding Author

Mr. Pujan KC, Chitwan Medical College Teaching Hospital, Bharatpur, Nepal, Email: ujras9@gmail.com

Affiliations

Chitwan Medical College Teaching Hospital, Bharatpur, Nepal

Background

Surgical wound infections are the most frequent nosocomial infection in most hospitals and are an important cause of morbidity, mortality, and excess hospital costs. Postoperative wound infections delay recovery and often increase the length of stay and may produce lasting sequelae and require extra resources for investigations, management, and nursing care. Therefore, its prevention or reduction is relevant to quality patient care. The present study was undertaken to determine the prevalence and microbial profile of Post-Operative Wound infection with special reference to antibiotic susceptibility testing from the pus.

Methods

A laboratory-based descriptive cross-sectional study was conducted among patients with postoperative wound infections in the general surgery, obstetrics/gynecology wards, and orthopedic/trauma ward from March 2019 to October 2019 in CMCTH. Quantitative

cultures of pus were performed with the threshold for microbiological diagnosis of post-operative wound infection taken as $\geq 10^5$ colony forming units (CFU)/ml. Antimicrobial susceptibility testing was performed by the Kirby-Bauer disc diffusion technique.

Results

Out of 227 samples, 130(57.3%) samples showed growth of aerobic bacteria whereas 97(42.7%) were sterile. From 130 bacterial culture-positive samples, 45(34.6%) had Gram-positive bacteria and 85(65.4%) were Gram-negative bacteria. *S. aureus*, with 45(34.6%), was the most frequently isolated species. Among 45 *S. aureus*, 11(25.0%) were Methicillin-resistant *S. aureus* (MRSA). Among the Gram-negative isolates, *E. coli* 38(29.2%) was the most frequent isolate, followed by *Klebsiella pneumoniae* 19(14.6%), *Acinetobacter* species (8.5%), *P. aeruginosa* 10 (7.7%), *Klebsiella oxytoca* 3 (2.3%), *Enterobacter* species 3(2.3%), and *Citrobacter* species 1(0.8%).

Conclusion

The most common isolate in Post-operative wound infection was *Staphylococcus aureus* followed by *E. coli*. On in-vitro sensitivity testing, Vancomycin, Linezolid, and Amikacin were the most effective antibiotics for Gram-positive isolates and Amikacin, Tobramycin, Tigecycline, Polymyxin-B, and Colistin was the most effective antibiotic for gram-negative isolates.

Keywords

Keywords: Post-operative wound infection, Surgical Site Infection

THEME 4: Mental Health

2.4.1 Psycho-social Wellbeing of Old Adult Patients with Non-communicable Diseases in Selected Hospitals

Pratima Khatri ^{1,2}, Muna Sharma ²

Corresponding Author

Ms. Pratima Khatri, Manmohan Cardiothoracic Vascular and transplant center, Maharajgunj, Email: pratimakhatri45@gmail.com

Affiliations

1. Institute of Medicine, Man-mohan Cardiothoracic Vascular and Transplant Center
2. Institute of Medicine, Maharajgunj Nursing Campus

Introduction

Old adults with non-communicable diseases (NCDs) are an emerging issue in this era. Psychosocial wellbeing of the old adult patients is related with morbidity, disability and mortality. This study aimed to find out the status of psycho-social wellbeing of the old adult patients with non-communicable diseases. The study adopted cross sectional descriptive design. The setting of this study was Man-mohan Cardiothoracic Vascular and Transplant center (MCVTC), and Tribhuvan University Teaching Hospital (TUTH), Maharajgunj, Kathmandu. Population of the study were admitted old adult patients in the study setting for treatment of NCDs. Consecutive sampling technique was used to select 404 old adults. Interviews were done to collect data using Ryff's psychological well being and Keyes's social wellbeing scale and the data were analyzed using IBM SPSS program.

The study found an almost equal proportion of female (50.5%) and male (49.5%) respondents. Most of the respondents (82.9%) were married, 94.1 % were currently living with family. Similarly, 64.9% were from the municipality, 47.8% were literate and 40.59% used third party payment methods for treatment of diseases. The study showed that 96.5% old adult patients were psychologically well and 96.3% were socially well. Further, 97.8% old adult patients had high psychosocial wellbeing. The psychosocial wellbeing of old adults was significantly associated with their sex and place of living. Odds ratio of male sex was 8.122 and residing in municipality was 1.032 for psychosocial wellbeing. Likewise, psychosocial well being had strong positive co-relation with psychological well being ($r=0.929$) and social wellbeing ($r=0.754$). Similarly, psychological and social wellbeing were moderately ($r=0.456$) co-related with each other.

It is concluded that old adult patients are psychosocially well irrespective of their NCDs. Old male adults residing in municipalities tend to have better psychosocial wellbeing. Therefore, priority should be given to the old female adult patients residing in rural municipalities to enhance psychosocial wellbeing.

Keywords

Non-communicable diseases, old adult patients, psychosocial wellbeing

2.4.2 Prevalence of Emotional and Behavioral Problems among Adolescents of Children's Home and Perceptions of Caretakers towards it at Gokarneshwor Municipality in 2021

Mansingh Aidee¹, Nilu Thapa²

Corresponding Author

Mr. Mansingh Aidee, Nepal Institute of Health Sciences, Email: mansingh.publichealth20@gmail.com

Affiliations

Nepal Institute of Health Sciences, Purbanchal University, Biratnagar, Nepal

Introduction

Adolescents living in institutional settings are more susceptible to the emotional and behavioral problems than others as they are deprived of a family's love, support, attachment and care. Therefore, to assess the prevalence of EBPs among adolescents and explore the perceptions of caretakers living in children's homes, for preventing emotional and behavioral problems, this study was conducted.

Methods

A mixed method, descriptive cross-sectional study among 134 adolescents from 5 children's homes of Gokarneshwor Municipality, was done. All the adolescents from 10-19 years living in the children's home were assessed using a self-administered questionnaire, Youth Self-Report (YSR-11/18) 2001, developed by Achenbach System of Empirical Based Assessment and self-developed socio-demographic questionnaires. Data was coded and analyzed using SPSS (25). Descriptive statistics and Chi square were used to analyze the quantitative data, while narrative summary was used for qualitative.

Results

Prevalence of EBPs was 48.5% among the adolescents. While the EBPs factors prevalence was found to be anxious depression (46.3%), withdrawn depressed (46.3%),

attention problems (46.3%), somatic complaints (50.7%), social problems (42.5%), thought problems (38.8%), attention problems (46.3%), rule breaking behaviour (41%) and aggressive problems (50%). The occurrence of EBPs was significantly associated with status of adolescent ($\chi^2=6.015$, $p=0.014$, $df=1$). Similarly, there was the significant association between dependent variable (prevalence of EBPs and EBP variables such as anxious depressed ($\chi^2=20.078$, $p<0.001$, $df=1$), withdrawn depressed ($\chi^2=38.616$, $p<0.001$, $df=1$), social problems ($\chi^2=32.678$, $p<0.001$, $df=1$), attention problems ($\chi^2=30.479$, $p<0.001$, $df=1$), rule breaking behavior ($\chi^2=25.322$, $p<0.001$, $df=1$), thought problems ($\chi^2=31.14$, $p<0.001$, $df=1$), somatic complaints ($\chi^2=20.248$, $p<0.001$, $df=1$) and aggressive problem ($\chi^2=32.536$, $p<0.001$, $df=1$).

Conclusion

Emotional and behavioral problems are a serious mental health concern among adolescents and especially living in children's homes. The provision of the appropriate counseling, life skill educations and ECAs engagements help to address the EBP factors.

Keywords

Adolescents, emotional and behavioral problems, Children's home, Youth Self Report, Gokarneshwor Municipality, Nepal

2.4.3 Illicit Drugs/Substances Abuse and Perceived Psychosocial Impacts among Individual Admitted in Registered Drug Rehabilitation Center of Eastern Nepal

Prasanna Dahal^{1,2}, Shakti Shrestha³, Sunil Shrestha⁴, Deevan Paul², Kadir Alam⁵

Corresponding Author

Dr.. Prasanna Dahal, Purbanchal University School of Health Sciences, Gothgaun, Morang, Nepal, Email: drprasannadahal@gmail.com

Affiliations

¹Purbanchal University School of Health Sciences, Gothgaun, Morang, Nepal

²Chettinad School of Pharmaceutical Sciences, CARE, Chennai, India

³School of Pharmacy, The University of Queensland, Brisbane, Australia

⁴Nobel College, Pokhara University, Kathmandu, Nepal

⁵BP Koirala Institute of Health Sciences, Dharan, Nepal

Background

Drug and substance abuse remains a major public health concern worldwide leading to active addiction along with undesirable psychosocial bearing on these individuals. This

study aims to identify types and nature of illicit drugs/substance abuse and the perceived psychosocial impacts among individuals admitted to drug rehabilitation centers of Eastern Nepal.

Methods

A cross-sectional descriptive study was conducted among those diagnosed with illicit drug use and admitted in one of the 13 registered drug rehabilitation centers of Province 1 of Eastern Nepal. A semi-structured questionnaire was used to collect data on demography, types of drug abuse and source of illicit drugs. The psychosocial impact was assessed using a 7-itemed questionnaire and a score >2.5 was considered high. Descriptive statistics was used to analyze, present and interpret data.

Results

229 participants were surveyed from 13 registered drug rehabilitation centers. They had a median (q1,q3) age of 25 (21,29) years and most had secondary level education (42.4%). Majority (62.4%) admitted that they had regularly used multiple illicit drugs/substances. Diazepam (66.4%) and tramadol (48.5%) were frequently abused pharmaceutical substances whereas marijuana (92.1%) and brown sugar (62%) were the most frequently abused illicit drug substances. The common sources of the illicit products among the participants were known to be peers (84.7%), cross-border (74.2%) and pharmacy (53.3%). The median (q1, q3) psychosocial impact score was found to be 3.6 (2.9, 4.1).

Conclusion

Diazepam, tramadol, marijuana and brown sugar were commonly abused illicit drugs and substances among individuals admitted to registered drug rehabilitation centers of Eastern Nepal and they perceived a high psychosocial impact of the abuse. There is an urgent need of proper regulatory action and rigorous control from the regulatory and clinical workforce, mainly pharmacy dispensers to limit the misuse and abuse of harmful narcotic and psychotropic products.

Keywords

Illicit drugs , Substances abused, Drug addiction, Psychosocial Impacts

2.4.4 Socio-Demographic and Clinical Characteristics of Patients with Globus Pharyngeus and its Association with Psychiatric Co-Morbidities, Attending Outpatients Service of a Teaching Hospital in Nepal

Dr. Khagendra Kafle ¹, Dr Barun Shrestha ², Dr.Sovit Jung Baral ³, Manoj Shahi ⁴, Abinash Baniya ⁴, Bipana Gurung ⁴

Corresponding Author

Mr.. Manoj Shahi, Tribhuvan University, Email: shahimanojcmc@gmail.com

Affiliations

¹ Department of Psychiatry, Chitwan Medical College

² Department of Medicine, Chitwan Medical College

³ Department of ENT, Chitwan Medical College

⁴ Internship, Chitwan Medical College

Introduction

Globus is a well-defined clinical symptom that mostly presents as an unusual sensation of a foreign body or lump in the throat. It's a common presentation on patients visiting the ENT department with complaints like sensations of swelling, itching, scratching and foreign body in the back of the throat. The objective of the study is to determine the socio-demographic and clinical characteristics of the patients and their associations with psychiatric comorbidities.

Methodology

This is a cross-sectional study done in the outpatient department patients who were referred from different departments to the psychiatry department. The Glasgow Edinburgh throat scale (GETS) with its Nepali translation and study-specific structured proforma for socio-demographic and clinical profile, has been used as the study tool. All included patients were assessed by a psychiatrist to find out psychiatric co-morbidities. Globus pharyngeus was diagnosed after ruling out ENT and other medical causes of the problem from the respective department.

Results

In 100 patients with a diagnosis of Globus pharyngeus, most of the patients were middle-aged, female (n=69), from urban background (n=63), living in nuclear families (n=57) and were married (n=85). Psychiatric comorbidities were seen in 34 patients with depression and anxiety disorder being the major illness. Symptomatic (9-20) and strongly symptomatic (>20) patients were higher in number. Feeling of something stuck in the throat, pain in the throat and difficulty in swallowing were the major symptoms with more predominance in the female population compared to the male. There was no significant difference in socio-demographic profile between Globus patients with depression/anxiety and those without depression/anxiety.

Conclusion

There plays an integrated role of ENT, Gastrobilliary, physicians and psychiatrists in the diagnosis and management of the patient with globus symptoms. Psychiatric comorbidities i.e., anxiety and depressive disorder are highly associated with the Globus pharyngeus.

Keywords

Globus pharyngeus, psychiatric comorbidities, GETS scale, Rome III/IV, GERD, ICD-10

2.4.5 Sleep Quality and Sleep Disorders among Healthcare Shift Workers at a Tertiary Care Hospital in Nepal

Abinash Baniya¹, Manoj Shahi¹, Bipana Gurung¹, Barsha Karn¹, Durga Nepali¹, Diksha Mishra¹, Aiuska Panta¹

Corresponding Author

Mr. Abinash Baniya, Tribhuvan University, Email: abinashbaniya25@gmail.com

Affiliations

¹Chitwan Medical College

Introduction

Shift work-related sleep disorders primarily affect the people who work during different shifts or work at night. 10% to 40% of shift workers suffer from shift work sleep disorder. The most common sleep disorder among shift workers is found to be insomnia. The United States reports that 50% of American adults experience it at some point in their lives. The statistics regarding the present rate of sleep disorders among health care providers and its interrelation with shift work have not been evaluated earlier in our setting. So, this study is directed to interpret the prevalence of sleep disorders among health care shift workers and to identify the common sleep disorders among them.

Methodology

This is a prospective cross-sectional study conducted involving healthcare shift workers who are working in different departments of Chitwan Medical College Teaching Hospital. A total of 150 participants were included in the study, based on the calculated sample size. The Pittsburgh Sleep Quality Index, Patient Health Questionnaire- 4 (PHQ-4), Insomnia severity index, Epworth Sleepiness Scale, and Self-structured questionnaires have been used as the study tool. All included patients filled out proforma after giving verbal consent. Statistical analysis was performed with the help of expert statisticians.

Result

A total of 150 healthcare shift workers participated in the study. More than one-third of subjects were smokers, 27.3% were overweight, and 6.3 % were obese. The majority (88.39%) reported poor sleep quality. Poor sleep quality was associated with moderate PHQ-4, lack of concentration, and subjective fatigue. Shift work disorder is strongly associated with bad sleep hygiene and excessive daytime sleepiness and the presence of symptoms of shift work disorder also led to poor job satisfaction.

Conclusion

Sleep disorders and poor sleep quality have a high prevalence among shift workers and females are comparatively more prone to shift work disorders. Various comorbidities were also present with varying prevalence.

Keywords

Insomnia; Shift workers; sleep disorder; Sleep quality

THEME 5: Maternal, Neonatal, Child and Reproductive Health

2.5.1 Factors Affecting Utilization of Sexual and Reproductive Health Services Among Women With Disabilities- A Mixed-Method Cross-Sectional Study From Ilam District, Nepal

Rupa Shiwakoti^{1,2}, Yogendra Bahadur Gurung¹, Ram Chandra Poudel^{1,3}, Sandesh Neupane², Ram Krishna Thapa⁴, Sailendra Deuja⁵, Ram Sharan Pathak¹

Corresponding Author

Mrs. Rupa Shiwakoti, M.Phil. in Population Studies, Central Department of Population Studies, Tribhuvan University, Kirtipur, Kathmandu and Oversight Officer, Country Coordinating Mechanism Nepal, Secretariat Office, Teku, Kathmandu, Nepal, Email: rupa.shiwakoti@gmail.com

Affiliations

¹ Central Department of Population Studies, Tribhuvan University, Kirtipur, Kathmandu and Oversight Officer

² Country Coordinating Mechanism Nepal, Secretariat Office, Teku, Kathmandu, Nepal

³ Public Health Inspector, Health Section, Nagarjuna Municipality, Kathmandu, Nepal

⁴ Master's Degree in International Humanitarian Action, University of Warsaw, Poland

⁵ Karuna Foundation Nepal, Central Office, Kathmandu, Nepal

Background

Despite SDGs call for “universal access to sexual and reproductive health (SRH)”, women with disabilities (WwDs) continue to experience barriers to access SRH services in Nepal. This study evaluated factors affecting the utilization of SRH services among WwDs in Ilam, Nepal.

Methods

A mixed-method study with 384 WwDs of reproductive age was conducted in Ilam, Nepal. Quantitative data were collected using a structured questionnaire. Relationships between utilization of SRH services and associated factors were explored using multivariate logistic regression analysis. Qualitative data were collected from focus groups with female community health volunteers and interviews with WwDs, health

workers and local political leaders. They were audio-recorded, translated and transcribed into English and were thematically analyzed.

Results

Among 384 respondents, only 15% of them had ever utilized any SRH services. No requirement (57%) and unawareness of SRH services (24%) were the major reasons for not utilizing SRH services. A majority (81%) of them reported that the nearest health facility was not disability-inclusive (73%). Multivariate analysis showed that being married (AOR=121.7, 95% CI: 12.206-1214.338), having perceived need for SRH services (AOR=5.5; 95% CI: 1.419-21.357) and perceived susceptibility to SRH related disease/condition (AOR=6.0; 95% CI: 1.978-18.370) were positively associated with the utilization of SRH services. Qualitative findings revealed that illiteracy, poor socioeconomic status, and lack of information hindered the utilization of SRH services. WwDs faced socioeconomic (lack of empowerment and family support), structural (distant health facility, inaccessible-infrastructure), and attitudinal (stigmatization, bad behaviour of health care providers, perception that SRH is needed only for married) barriers to accessing SRH services.

Conclusion

Utilization of SRH services among WwDs was very low in Ilam district, Nepal. The findings of this study warrant a need to promote awareness-raising programs to WwDs and their family members, sensitization programs to health service providers, and ensure the provision of disability-inclusive SRH services in all health facilities.

Keywords

Women with disabilities, Sexual and reproductive health, Utilization, Health Belief Model, Ilam, Nepal

2.5.2 Factors Associated with Antenatal Care Visit Dropout among Mothers Attending Immunization Clinics of Morang District

Sabitra Subedi¹, Poonam Kumari Mandal¹, Anju Kumari Mahato¹, Bidhya Basnet¹, Munawati Rai¹, Deepika Khadgi¹

Corresponding Author

Ms.Sabitra Subedi, Tribhuvan University Institute of Medicine, Email: sabitrasubedi34@gmail.com

Affiliations

Tribhuvan University, Institute of Medicine, Biratnagar Nursing Campus, Biratnagar, Nepal

Background

Maternal and neonatal mortality is still high in developing countries. Antenatal care helps to improve the health status of the mother and her upcoming baby. The timing and quality of ANC are also important to reduce common maternal complications and maternal and neonatal mortality. The aim of this study is to determine the factors associated with antenatal care visit dropout among mothers.

Methodology

A case control study was conducted by adopting multi-stage sampling techniques from 4 urban and 4 rural municipalities of Morang district which were selected randomly out of 16 municipalities. Further from each municipality, two immunization centers were selected randomly. Altogether 134 postnatal mothers who did not attend four focused ANC visits were selected as cases and 266 postnatal mothers who completed four focused ANC visits from the same immunization centers as controls at the ratio of 1:2. Data was collected between September and November, 2021 through interviews using semi structured questionnaires by consecutive sampling methods. Bivariate and multivariate analysis were done and the final model was selected using the backward elimination strategy.

Results

This study showed that the majority of cases (56.0%) were from the age group of 21-30 years and 35.1% were janajatis. Age (OR 2.49, 95% CI 1.07-5.82), ethnicity (OR 2.29, 95% CI 1.05-4.99), education (OR 4.64, 95% CI 1.99- 10.81), income (OR 3.49 95% CI 1.75- 6.95) and presence of complications (OR 1.15, 95% CI 0.54- 2.44) were factors associated with ANC dropout.

Conclusion

This study concludes that age, ethnicity, education, income and presence of complications are main factors associated with ANC dropout among the mothers. It reflects that efforts should be made to increase the awareness regarding the importance of four focused ANC visits.

Keywords

ANC dropout, Factors, Mothers, Immunization Center

2.5.3 Is Nepal's Health Care System Prepared for Responding to Menopausal Women's Needs? Providers' Perspectives on Their Willingness and Requirements for Policies And Programmes

Dushala Adhikari^{1,2} Ashok Bhurtyal³

Corresponding Author

Ms. Dushala Adhikari, Women's Reproductive Rights Program, Center for Agro-ecology and Development, Kathmandu, Nepal & People's Health Initiative, Kathmandu Nepal, Email: dushalaadhikari@gmail.com

Affiliations

¹Women's Reproductive Rights Program, Center for Agro-Ecology and Development, Kathmandu, Nepal

²People's Health Initiative, Kathmandu, Nepal

³Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

Background

An array of somatic, uro-genital and psychological symptoms affect health of menopausal women. These symptoms are exacerbated by limited access to sexual and reproductive health (SRH) services in general, and, particularly, a lack of menopausal care in low-income countries characterised by sub-optimally functioning health-care systems. This study aimed to explore if the primary health care system is prepared for responding to such women's health-care needs.

Methods

We conducted in-depth interviews among twenty health workers involved in delivering SRH services in eight primary care facilities in Bhumlu Rural Municipality and Namobuddha and Panauti Municipalities in Kavrepalanchowk district, Nepal. Content analysis of audio recorded transcripts and interview notes was conducted under the themes of: a) knowledge on menopause; b) available SRH services and perceived solicitation; c) barriers to the utilisation of services; and d) readiness and requisites for service provision.

Results

SRH workers were cognisant on menopause but did not possess adequate knowledge and skills for identifying menopausal women's health needs. SRH services available for women were targeted to the childbearing age, thus overlooking the unique needs of women undergoing menopausal transition. Menopausal women sought relief from outside the governmental health-care system, resorted to self-care or continued to suffer in silence. Nevertheless, the health workers were willing to provide menopausal care for the women. They identified the need for including menopausal care in policies and programmes on sexual and reproductive health, augmented by training and logistical support.

Conclusion

Governmental health-care system focused on SRH services for women of childbearing age thus missing menopausal women's needs. Yet, health workers were willing to provide care for menopausal women. Identifying and fulfilling the health-care system's requirements for launching menopause-specific health services is necessary.

Keywords

climacteric; menopause; sexual and reproductive health and rights; universal health coverage

2.5.4 Community Perceptions of Facilitators and Barriers to Maternal and Child Health Service Use in Dang and Rukum District of Nepal

Tulasa Bharati¹, Shijan Acharya², Anju Gautam², Raj Kumar Kshetri²

Corresponding Author

Ms. Shijan Acharya, Nepal Red Cross Society, Email: shijanacharya@gmail.com

Affiliations

¹Swiss Red Cross, Country Coordination Office

²Nepal Red Cross Society, Community Empowerment for Health Promotion (CEHP) Program

Introduction

Nepal has a high burden of MMR. It is challenging for Nepal to achieve the SDG target of MMR to <70 per 100,000 live births and institutional delivery to 90% by 2030. The leading causes of maternal death in Nepal are hemorrhage, eclampsia, and abortion-related complications. This indicated a need to explore a range of health system dynamics that influenced knowledge, perceptions, and use of services influencing MMR.

Methodology

A qualitative study comprising total 51 IDIs and FGDs was conducted in Dang and West Rukum districts to understand barriers and facilitators in decision-making in regard to the place of delivery both at normal and in emergency with a focus on the needs and experiences of marginalized women.

Results

The study found out that the intention of seeking care and decision-making were not only influenced by different socio-ecological factors but also by the stages in pregnancy,

delivery and post-delivery. Decisions along with the decision makers changed throughout these stages, influenced by the family's situation, practice of community people, and available facilities. Most women have had joint discussions among spouses or family members for decisions regarding ANC use. PNC was the least utilized service as it was considered to be curative and unnecessary if mothers and newborns were apparently normal.

Regarding the choice for location of childbirth, half of them could not actualize it, as after the onset of labor, women had a passive role in decision making. However, money was not pointed out as a cause of delay by the family members as much as onset of labor at night, road access and transportation. In contrast, service providers perceive poverty as a barrier that influences the overall ability to access care.

Conclusion

Hence, level of preparedness, a functional supply chain and teamwork are crucial to meet the needs of women during delivery. Increased knowledge, awareness about pregnancy and childbirth contributed to timely and informed decision-making of the women and family members to seek professional care.

Keywords

Maternal and neonatal health, reproductive health, institutional delivery, maternal mortality, neonatal mortality, decision making in health service use, home delivery

2.5.5 Spatial-Temporal Patterns and Determinants of Diarrhea and Acute Respiratory Infection among Children under five years in Nepal

Aashray Manandhar¹, Sampurna Kakchapati²

Corresponding Author

Ms. Aashray Manandhar, Nepal Health Research Council, Kathmandu, Nepal, Email: aashraymanandhar@gmail.com

Affiliations

¹Nepal Health Research Council, Kathmandu, Nepal

²HERD International, Kathmandu, Nepal

Introduction

Diarrhea and acute respiratory infection (ARI) remain the leading cause of mortality and morbidity among children in Nepal. The aim of this study was to investigate the spatial and temporal patterns of diarrhea and ARI and its determinants among children from 2015 to 2018. The study used the data of diarrhea and ARI from District Health

Information System 2 published by the Integrated Health Information Management Section and district characteristics data from the Central Bureau of Statistics. Statistical model was used for assessing diarrhea and ARI and its determinants were performed using multiple linear regression. The model provided a good fit as indicated by the r-squared statistic (0.68) for diarrhea and the r-squared statistic(0.56) for ARI. The proportion for diarrhea and ARI were 51% and 68% respectively. The multivariate analysis found that mother education and number of children was associated with diarrhea; human development index was associated with ARI and poverty gap, malnutrition and low birth weight were associated with both diarrhea and ARI. This study showed a steady decreasing trend in diarrhea and ARI from 2015 to 2018; however, the cases are large and evenly distributed in Nepal. These findings provide insight to establish prevention programs based on socio-economic barriers and high risk areas.

Keywords

spatial, temporal, diarrhea, ARI, determinants, Nepal

2.5.6 Factors Associated with Early Child Development in Nepal - A Further Analysis of results from Multiple Indicator Cluster Survey 2019

Sampurna Kakchapati¹, Saugat Pratap KC¹, Santosh Giri¹, Shreeman Sharma¹

Corresponding Author

Mr. Santosh Giri, HERD International, Email: santosh.giri@herdint.com

Affiliations

¹HERD International, Thapathali, Kathmandu

Introduction

The early long stretches of life are basic for a child's improvement of primary psychological and socio-emotional qualities. Information on children's development is limited in Nepal where a large number of children suffer from the negative consequences of poverty, nutritional deficiencies, and inadequate learning opportunities. The study aims to determine the proportion of children who are developmentally on track and factors associated with it among children under five years.

Methods

This study uses data from the Multiple Indicator Cluster Survey (MICS) of 2019, in which 2870 children of three and four years were included for the analysis. We used bivariate analysis and multivariate logistic regression to determine the association among household, and maternal variables and children's characteristics with the child development index.

Results

The multivariate analysis showed that the odds of children being developmentally on track at four years was more than two times [aOR=2(95% CI:1.7-2.37)] than at three years. Similarly, children with literate mothers were more [aOR=1.56(95% CI:1.29-1.89)] likely to be developmentally on track compared to children with mothers who were not literate. The odds of children being developmentally on track for those falling into the richest quintile was more than 3 times [aOR= 3.43(95% CI: 2.39-4.91)] compared to those falling into the poorest quintile. Children without functional difficulties had higher odds [aOR=6.7(95% CI:3.2-14.02)] of being developmentally on track than the children who had functional challenges. Children with health insurance were more likely [aOR= 1.81(95% CI: 1.04-3.15) p=0.034] to be developmentally on track compared to those without health insurance.

Conclusion

Wealth, geographical location, mother's educational status, stunting and functional difficulties were significantly associated with early childhood development. These findings provide insight to establish context-specific intervention programs based on socio-economic barriers of household and health outcomes of children for guaranteeing positive early child development.

Keywords

Early child development, Nepal, MICS

2.5.7 Effect of a Social media-based Health Education Program on Postnatal care (PNC) Knowledge among Pregnant Women using Smartphones in Dhulikhel Hospital: A Randomized Controlled Trial

Kalpana Chaudhary¹, Jyoti Nepal², Kusum Shrestha², Manita Karmacharya², Dipesh Khadka², Abha Shrestha³, Prabin Raj Shakya⁴, Shristi Rawal³, Archana Shrestha^{1,6,7}

Corresponding Author

Ms. Kalpana Chaudhary, Department of Public Health, Kathmandu University School of Medical Sciences, Nepal, Email: kalpana298@gmail.com

Affiliations

¹ Department of Public Health, Kathmandu University School of Medical Sciences, Nepal

² Department of Community Program, Dhulikhel Hospital, Kathmandu University Hospital, Nepal

³ Department of Obstetrics and Gynecology, Dhulikhel Hospital, Kathmandu University Hospital, Nepal

⁴ Biomedical Knowledge Engineering Lab, Seoul National University, Korea

⁵ Department of Clinical and Preventive Nutrition Sciences, School of Health Professions, Rutgers University, United States

⁶ Institute for Implementation Science and Health, Nepal

⁷ Department of Chronic Disease Epidemiology, Yale School of Public Health, New Haven, USA

Background

Postnatal care (PNC) can detect and subsequently manage life-threatening complications. With the ubiquitous use of the mobile phone in Nepal, social media based postpartum education has the potential to increase PNC knowledge among pregnant women. This study aimed to assess the effect of social media-based health education programs on PNC knowledge among pregnant women attending Dhulikhel hospital, Nepal.

Methods

We conducted a two-arm open-label randomized controlled trial among literate pregnant women visiting Dhulikhel hospital for ANC check-up from May to August, 2021. A computer-based program allocated 229 pregnant women owning smartphones with internet connectivity in a 1:1 ratio to either intervention (n=109) or usual care (n=120). We assessed PNC knowledge in the participants by interviewing in-person or via phone. The intervention group received a 16 minutes video on PNC and the participants were reminded to view the video every week via telephone for a month. Control group received usual care. The primary outcome of the study was a change in PNC knowledge score. We utilized intent-to-treat analysis and measured the effect of the intervention on PNC knowledge score using simple linear regression analysis.

Results

The average PNC knowledge score increased by an additional 8.07 points among pregnant women in the intervention group compared to the control group (95% CI: 2.35: 13.80; p-value= 0.006). The maternal care attribute knowledge increased by 4.31 points (95% CI: 1.51- 7.10, p-value=0.03) and, newborn care attribute knowledge increased by 3.39 points (95% CI: 0.41- 6.37, p-value=0.02) among pregnant women in the intervention compared to the control group.

Conclusion

A social media-based health education is effective in improving PNC knowledge score among pregnant women. Further research is needed to evaluate if this increased knowledge is translated into the increased utilization of PNC care.

Trial Registration: ClinicalTrials.gov ID: NCT05132608

Keywords

mobile app; pregnancy; postnatal care knowledge; mHealth; Nepal

2.5.8 Exclusive Breastfeeding Practices and Its Associated Factors among Breastfeeding Mothers in Kathmandu, Nepal

Pushpa Dhakal¹, Bina Sigdel², Pushpa Kumari Ghimire³, Sharada Prasad Wasti⁴

Corresponding Author

Mrs. Pushpa Dhakal, National Academy of Medical Sciences, Bir Hospital, Kathmandu, Nepal, Email: pushpadhakal2020@gmail.com

Affiliations

¹National Academy of Medical Sciences, Bir Hospital, Kathmandu, Nepal, pushpadhakal2020@gmail.com, institutional email address (pushpa@nams.org.np), institutional web page (<https://www.nams.org.np>), +977-984837887

²Kanti Children's Hospital, Kathmandu, Nepal, bina.sigdel1@gmail.com, institutional email address (sigdelbina@kantichildrenhospital.gov.np), institutional web page (<https://kantichildrenhospital.gov.np>): +977-9842742657.

³Kanti Children's Hospital, Kathmandu, Nepal, pkghimire94@gmail.com, institutional email address (ghimirepuspa@kantichildrenhospital.gov.np), institutional web page (<https://kantichildrenhospital.gov.np>): +977-9851155694

⁴School of Human and Health Sciences, University of Huddersfield, UK Email: spwasti@gmail.com/S.P.Wasti@hud.ac.uk

Introduction

Exclusive breastfeeding (EBF) up to six months has several benefits for children in reducing their morbidity and mortality. There is limited evidence of effective interventions to increase EBF in Nepal. The aim of the study was to estimate the prevalence of EBF and identify the factors influencing EBF practices.

Methods

A cross-sectional survey was conducted with 362 breastfeeding mothers with babies aged between 6 to 24 months old. A logistic regression analysis was performed. Data were collected through using structured questionnaires and analysed using SPSS. Univariate

and multivariate logistic regressions were used to examine the factors associated with EBF practices. The statistical significance was declared at P -value <0.05. Ethical approval was obtained from the Nepal Health Research Council Reg. no. 371/2018.

Results

In the present study, the prevalence of EBF was 64.1%, and 61.9% of the mothers had started breastfeeding within one hour of delivery. Mothers who colostrum feeding practice (aOR 11.8, 95% CI, 2.29-61.14), performed institutional delivery (aOR 7.4, 95%CI, 2.21-24.54), and having school level of education (aOR 3.6, 95% CI, 1.54-8.53) were more likely to practice exclusive breastfeeding. The predictors of initiation of breastfeeding within one hour were mothers who had done normal delivery (aOR 6.8, 95% CI, 4.15-11.19) and had NRs. <30,000 monthly incomes (aOR 1.7, 95%CI, 1.05-2.78) were more likely to initiate breastfeeding within one hour. There was a positive significant relationship between breastfeeding self-efficacy and EBF practices ($\rho = 0.12$, $p = 0.02$).

Conclusion

The practice of EBF and early initiation of breastfeeding should be promoted with having the targeted intervention programs to mothers who are at risk groups. Breastfeeding-friendly practices, such as the early initiation of breastfeeding and awareness campaigns should be integrated in the existing immunization clinics and inform mothers of its long-term benefits.

Keywords

Factors influencing, exclusive breastfeeding, practice, breastfeeding mothers, Nepal

THEME 6: Non Communicable Diseases

2.6.1 Prevalence of Hypothyroidism among Female Students of a Medical College of Nepal

Muna Kadel¹, Pravakar Dawadi², Sabina Khadka², Gita Kumari Yadav³

Corresponding Author

Dr. Muna Kadel, Nepalese Army Institute of Health sciences, Sanobharyang, Kathmandu Nepal, Email: muna997@hotmail.com

Affiliations

¹Department of anatomy, Nepalese Army institute of Health Sciences, Sanobharyang, Kathmandu, Nepal

²College of Medicine, Nepalese Army Institute of Health Sciences, Sanobharyang, Kathmandu, Nepal

³BP Koirala Institute of Health Sciences, Dharan, Nepal

Introduction

Hypothyroidism is a clinical condition with raised Thyroid Stimulating Hormone (TSH) but normal to altered serum thyroxine (T3) and triiodothyronine (T4) levels. Thyroid diseases are the most common endocrine disease in females at reproductive age. Hypothyroidism in young women causes menstrual irregularities, polycystic ovarian disease, miscarries, and even infertility. Early diagnosis and treatment remain the cornerstones of management. So this study will assess the prevalence of hypothyroidism in young females attending a medical college who are going to become pregnant in the future.

Methods

A descriptive cross sectional study was conducted in the Nepalese Army Institute of Health Sciences, Sanobharyang (NAIHS), Kathmandu from August 2021 to January 2022, after obtaining ethical clearance from the Institutional Review Committee of NAIHS (Ref No-296). The study population was first year to final year female MBBS students. A survey was conducted using a semi-structured questionnaire after taking written consent. It was followed by clinical examination and recognition of the high risk group by Zulewski's Scoring Criteria for hypothyroidism. This score included seven symptoms and five signs and altogether 12 points for each sign and symptoms. A score of greater than 5 points was defined as hypothyroidism. Those who were having a score of greater than 5 points were taken for a TSH test to confirm hypothyroidism by lab

diagnosis. Data was tabulated and entered into the SPSS version to calculate prevalence of hypothyroidism.

Results

Out of 141 female students, 28 girls had Zulewski's Score greater than 5. Thus, prevalence of hypothyroidism by clinical scoring came out to be 18%. TSH estimation was done for those 26 girls. Out of 26 girls, 3 girls showed a raised TSH level. Prevalence of hypothyroidism by TSH estimation came out to be 2.12%.

Conclusion

Early diagnosis of hypothyroidism in young females will reduce its probable complications. So, thyroid screening is recommended in target female groups of all colleges.

Keywords

Hypothyroidism, Prevalence, T4, T3, TSH

2.6.2 Knowledge on Hypertension among Adult People in a Community at Biratnagar Metropolitan

Saraswati Basnet¹

Corresponding Author

Lecturer. Saraswati Basnet, Institute of Medicine, Tribhuvan University, Biratnagar Nursing Campus Nepal, Email: basnetsaru64@gmail.com

Affiliations

¹Institute of Medicine, Tribhuvan University, Biratnagar Nursing Campus Biratnagar, Nepal

Background

According to the World Health Organization, hypertension is one of the silent killers in the 21st century and is one of the biggest global public health concerns. The study's aim is to assess the knowledge on hypertension among adults in a community.

Methodology

A descriptive cross-section was used to assess the knowledge of hypertension among adults. A purposive sampling technique was used to select the respondents. A semi-structured review schedule was used to collect the data among 423 respondents. Descriptive analysis i.e. frequency, percentage, mean, median, standard deviation, and inferential analysis i.e. chi-square was used to find the association between dependent and selected demographic variables.

Result

The result shows less than one-third (9 %) of respondents were aged 31 to 40 years whereas more than half (52.7%) were male, less than one-third (6) of respondents were dependent on service. More than half (53.4%) of the respondents had no family history of hypertension. Less than half (42.6%) of respondents were Brahmin/ Chhetri. More than half (54.1%) of the respondents received health information from the radio, TV (Television,) and health workers. More than a third (44.4%) of respondents had a good level of knowledge of hypertension whereas more than two fourth (55.6%) of respondents had a poor level of knowledge. There is a significant association between level of knowledge with age ($p=0.000$), educational level ($p=0.000$), ethnicity ($p=0.000$), received health information by the internet ($p=0.001$), and health care worker ($p=0.001$) whereas the other independent variables had no significance with the level of knowledge ($p > 0.05$).

Conclusion

The study finding concludes that more than two-fourth of respondents had a still poor level of knowledge. Hence, mass awareness program strategies might be helpful to increase the level of knowledge on hypertension.

Keywords

Adult people, Community, Descriptive cross design, Knowledge hypertension, lifestyle, sampling

2.6.3 Prevalence of Risk Factors of Major Non-communicable Diseases among Sexual and Gender Minorities of Kathmandu valley

Bikram Poudel¹, Bikram Adhikari², Rajan Paudel¹, Anuja Chaulagain³, Nabin Adhikari¹, Vishnu Prasad Sapkota¹

Corresponding Author

Mr. Bikram Poudel, Central Department of Public Health, Institute of Medicine, Kathmandu, Nepal, Email: bpoudel555@gmail.com

Affiliations

¹ Central Department of Public Health, Institute of Medicine, Kathmandu, Nepal

² Research and Development, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel, Nepal

³ Tribhuvan University Teaching Hospital, Kathmandu, Nepal

Background

Four non-communicable diseases (NCDs): cardiovascular diseases, cancers, chronic respiratory diseases and diabetes accounts for sixty-percent of global deaths. Early identification and prevention of NCDs risk factors is crucial to reduce its burden. But little is known about the NCD risk profile of sexual and gender minorities (SGM). We aimed to assess the prevalence of risk factors of NCDs among SGM of the Kathmandu valley.

Methodology

We conducted a cross-sectional study among SGM aged 18 and above of the Kathmandu Valley. We selected a total of 140 participants using snowball sampling. We conducted face to face interviews using a structured questionnaire adopted from WHO STEPS instrument (v2.2); and performed blood pressure and anthropometric measurement. Data was analyzed using SPSS (v20). We presented categorical variables as frequency and percentage and used Clopper-Pearson method to determine 95% confidence interval (CI) around proportion. We applied Chi-square test to determine association of risk factors with socio-demographic factors.

Results

Only 3 (2.1%) participants had no risk factors whereas 96 (68.6%) had co-occurrence of risk factors. The prevalence of insufficient fruits and vegetables consumption, current smoking, harmful alcohol consumption, hypertension, overweight/obesity and physical inactivity were 95.7% (95% CI: 92.3-99.1), 40.0% (95% CI: 31.9-48.1), 32.9% (95% CI: 25.1%-40.7%), 28.6% (95% CI: 21.1-36.1), 28.5 (95% CI: 21.0-36.0) and 10.0% (95% CI: 5.0-15.0) respectively. We found significant association of hypertension, harmful alcohol consumption and overweight/obesity with age, employment status and marital status of the participants respectively.

Conclusion

Study findings indicated higher prevalence of risk factors among SGM compared to the general population. National level NCD surveillance, policy planning, prevention and control interventions should prioritize SGM.

Keywords

Non-communicable diseases, risk factors, Sexual and Gender Minorities, Kathmandu

2.6.4 Barriers and Facilitators to Cardiovascular Disease Preventive Behaviors among Urban Adults, 2021 AD

Khadga Bahadur Shrestha¹, Punya Shori Suwal¹, Sarmila Dhakal¹, Reema Dhungel¹, Suman Giri¹, Pawan Neupane¹

Corresponding Author

Associate Professor. Punya Shori Suwal, Nepal Institute of Health Sciences, Jorpati, Kathmandu, Email: arampunya@gmail.com

Affiliations

¹Nepal Institute of Health Sciences, Jorpati, Kathmandu

Background

Cardiovascular disease (CVD) is the leading cause of deaths and increased disability-adjusted life years globally. The global number of deaths from CVD has been increasing for a couple of decades. Obesity, tobacco consumption, harmful consumption of alcohol, unhealthy dietary habits, and physical inactivity are well-known risk factors of cardiovascular diseases. Increased serum cholesterol level, raised blood pressure and high blood glucose level are also associated with increased morbidity and mortality of CVD. All of these factors are lifestyle factors and can be modified to reduce the risks of risk factors or to control who had already developed the risk factors. This study aimed to identify barriers and facilitators to adopting preventive behaviors for the prevention of cardiovascular disease among urban adults living in Kathmandu.

Methods

The study adopted a community-based cross-sectional; descriptive design among 424 urban adults from purposively selected Ward No. 2, 5, 7, and 17, of Kathmandu Metropolitan City. Respondents were selected by using probability sampling technique; Bottle-neck selection of area and visited every household until meeting the sample size. Each household head was interviewed using a semi-structured interview schedule. Data were analyzed in Statistical Package for Social Science Version 20.

Results

The study findings revealed the most common perceived facilitators for CVD preventive behaviors were self-motivation (45.7%), motivation from family (23.7%), doctor's advice (10.1%) and peer influence (8.4%). Similarly, the perceived barriers were time limitation (31.9%), laziness (18.7%), not necessary (17.8%), and perceived no risk (9.5%). The practice of preventive behaviors was found associated with ethnicity ($p=0.001$), marital status ($p=0.003$), educational status ($p<0.001$), availability of open space at home ($p<0.001$), and availability of gym/fitness club near home ($p=0.001$).

Conclusion

Self-motivation, motivation from family, and doctors played as facilitating factors, and time limitation, laziness and perceived no need for preventive behaviors played as barriers to adopt preventive practices of CVD prevention.

Keywords

cardiovascular disease; facilitators; barriers; preventive behaviors

2.6.5 Risk Factors of Type 2 Diabetes among Bankers of Kathmandu Metropolitan City: A Cross-Sectional Study

Prakriti Koirala¹, Sailendra Thapa¹, DurgaKhadka Mishra¹

Corresponding Author

Ms. Prakriti Koirala, Manmohan Memorial Institute of Health Sciences, Email: prakritikoirala19@gmail.com

Affiliations

¹Manmohan Memorial Institute of Health Sciences, Kathmandu, Nepal

Introduction

The prevalence of diabetes has been rapidly increasing in Nepal majorly due to globalization and change in lifestyle. Identifying the risk factors of type 2 diabetes (T2DM) among most vulnerable people is crucial as it help to prevent complications and improve health outcomes. The job of bank employees is both sedentary in nature and accompanies high levels of mental stress, which makes them more susceptible to NCDs like diabetes. Therefore, this study aims to identify the prevalence of risk factors of T2DM among the bank employees.

Methodology

A cross-sectional study was conducted among 348 bank employees from selected banks of Kathmandu Metropolitan City using multistage sampling technique. Pre-tested, self-administered structured questionnaire based on WHO STEP Instrument and Perceived Stress Scale was used for the data collection. All the administrative employees of age group 20-69 were included in the study while pregnant women were excluded. Data was managed using SPSS V.22.0 software.

Results

The mean age of participants was a 34.8±8.9 year where 55% of participants were male. At least one risk factor (tobacco, alcohol, dietary habit, physical activity, stress and family history) was present among all the participants, whereas 22.4% of them had over

four risk factors. The most common risk factor present was the improper dietary habit (99.4%). Similarly, 74.1% of the total participants lacked sufficient physical activity. 84.2% of the participants had moderate to high level of perceived stress. Factors like age, gender, level of education, marital status, socio-economic status, and family type were associated with the risk factors of type 2 diabetes.

Conclusion

Bankers were at high risk of T2DM. This study showed an urgent need to bring attention of the concerned authorities to promote a healthy lifestyle, create a stress-free work environment and create awareness about the risk of T2DM among bankers and come up with public health strategies for its prevention.

Keywords

Bankers, Type 2 diabetes, Risk factors, Nepal

2.6.6 Genetic Polymorphism of Alcohol Dehydrogenase 2 (ADH1B) in Association with Alcohol Consumption in Nepalese Population

Rabina Ramtel¹, Vijay kumar Sharma¹, Binod kumar Yadav¹, Eans Tara Tuladhar¹, Rahul Pathak², Aseem Bhattarai¹, Mithileshwor Raut¹, Apekshya Niraula¹, Raju kumar Dubey¹, Hari Sharan Makaju¹, Alisha Sapkota¹, Anant Neupane¹, Pujan K.C³, Kiran Poudel⁴.

Corresponding Author

Ms. Rabina Ramtel, Institute of Medicine, Kathmandu, Nepal, Email: rawbeena61@gmail.com

Affiliations

¹ Department of Biochemistry, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

² Department of Gastroenterology and Medicine, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

³ National Public Health Laboratory, Kathmandu, Nepal

⁴ Nepal Health Research Council, Kathmandu, Nepal

Background

Alcohol is the world's third largest risk factor for disease burden, accountable for about 4.5% Disability- Adjusted Life Years in 2009. Liver is the main site of alcohol metabolism. The alcohol metabolizing gene, ADH1B is mostly ethnic and race dependent. Functional polymorphism's found within ADH1B gene alters enzymatic metabolism of ethanol. Thus, it is necessary to assess SNP of ADH1B gene in subjects

consuming alcohol to explore their genotypic influence on alcohol consumption. The Study was designed to observe genotypic and allele frequency in alcoholic's and non-alcoholic and to evaluate the effects of ADH1B gene polymorphism on alcohol consumption.

Methodology

A prospective cross-sectional study was conducted from July 2021 to December 2021. A total of 82 EDTA blood samples were taken from alcoholic and non-alcoholic subjects and subjected to molecular analysis for detection of ADH1B polymorphism by PCR-CTTP method. The ultimate products were visualized by 1.5% agarose gel electrophoresis. The resulting data was then entered into an excel sheet and analyzed by SPSS v 21.0.

Results

The homozygous form ADH1B*1/*1 genotype was found to be prevalent in higher frequencies in both study groups. The frequency of ADH1B*1 allele was 97.55% whereas ADH1B*2 allele was found to be 2.45%. Similarly, ADH1B*1/*1 genotype was found to be 98.1%, 76.2% and 100% in individuals with aadibasi/janajati, bhraman/chheteri and madhesi ethnicities. Likewise, individuals consuming alcohol for a longer duration have ADH1B*1/*1 genotype causing them to tolerate the effects of metabolic byproducts for such a chronic time.

Conclusion

It can be concluded that the presence of ADH1B*1/*1, ADH1B*1/*2, and ADH1B*2/*2 genotypes affect alcohol metabolism, consumption and its tolerance. The presence of ADH1B*1/*1 genotype increases alcohol tolerance, making individuals more liable to alcoholism and precedes the onset of alcohol use disorders. Thus, result might indicate the presence of ADH1B*2 allele to be protective against alcoholism and its subsequent consequence.

Keywords

SNP (Single Nucleotide Polymorphism), Disability- Adjusted Life Years (DALY), ADH1B Polymorphism, Alcohol Metabolism, PCR-CTTP, Genotype Frequency, Allele Frequency.

2.6.7 Association of Apolipoprotein B /Apolipoprotein A-I ratio with Cardiometabolic Risk Biomarkers in Type 2 Diabetes Mellitus

Hari Sharan Makaju¹, Vijay Kumar Sharma¹, Binod Kumar Yadav¹, Eans Tara Tuladhar¹, Roshan Bhandari², Aseem Bhattarai¹, Mithileshwor Raut¹, Raju Dubey¹, Apekshya Niraula¹, Alisha Sapkota¹, Anant Neupane¹, Rabina Ramtel¹

Corresponding Author

Mr. Hari Sharan Makaju, Department of Biochemistry, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal, Email: hsmakaju@gmail.com

Affiliations

¹Department of Biochemistry, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

²Department of Internal Medicine, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

Background

Patients with Type 2 Diabetes mellitus and metabolic syndrome have increased risk for cardiovascular disease (CVD). Early analysis of cardiometabolic risk reduces the chance of CVD. Measuring the Apolipoprotein B (Apo B) can accurately estimate the atherogenic particles whereas Apolipoprotein A-I (Apo A-I) is the major structural constituent of antiatherogenic high-density lipoproteins. Early analysis of cardiometabolic risk reduces the chance of CVD. The aim of this study was to evaluate the association of Apo B/Apo A-I ratio with cardiometabolic risk biomarkers in T2DM.

Methodology

This cross sectional study conducted at Tribhuvan University Teaching Hospital, included 120 diagnosed with type 2 diabetes Mellitus visiting Medicine OPD and 120 apparently healthy controls. Clinical and anthropometric characteristics were documented using clinical proforma. The fasting blood samples were collected for estimating serum glucose, Apo B, Apo A-I, traditional lipid profile analysis and Apo B/Apo A-I ratio were calculated.

Results

The mean values of cardiometabolic risk biomarkers and Apo B/Apo A-I ratio in patents with T2DM were significantly higher whereas HDL-C was significantly lower than that of a control group ($p \leq 0.001$). There was a strong positive correlation between the Apo B/Apo A-I ratio and LDL-C, TC, Non HDL-C, and Apo B ($r=0.68-0.89$, $p < 0.001$). Similarly, modest positive correlation was found with BMI, WC, TG and VLDL-C ($r=0.55-0.67$, $p < 0.001$) and a weak, yet significant, correlation ($r=0.18-0.35$ $p < 0.05$) with

weight, systolic blood pressure and FBG. In contrast, the ratio showed negative correlation with HDL-C and Apo A-I ($r = -0.58$, $p < 0.001$).

ROC analysis revealed diagnostic significance of the Apo B/Apo A1 ratio for diabetic with MetS.

Conclusion

The present study demonstrated that an elevated Apo B/Apo A-I ratio constituted a good association with cardiometabolic biomarkers and supports that the Apo B/Apo A-I ratio as a promising risk marker of future cardiovascular disease as it is not interfered by dietary variation of lipid intake during investigation.

Keywords

Type 2 Diabetes mellitus, metabolic syndrome, Apo B/Apo A-I ratio, cardiometabolic risk factor

2.6.8 Distribution of Genetic Polymorphisms in Drug Metabolizing Gene CYP2C9 in Type 2 Diabetes Population

Alisha Sapkota¹, Vijay Kumar Sharma¹, Binod Kumar Yadav¹, Eans Tara Tuladhar¹, Roshan Bhandari², Aseem Bhattarai¹, Mithileshwor Raut¹, Raju Kumar Dubey¹, Apekshya Niraula¹, Anant Neupane¹, Hari Sharan Makaju¹, Rabina Ramtel¹

Corresponding Author

Mrs. Alisha Sapkota, Department of Biochemistry, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal, Email: alishasapkota58@gmail.com

Affiliations

1 Department of Biochemistry, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

2 Department of Internal Medicine, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

Background

Diabetes is common in Nepalese population and oral hypoglycemic drugs are used for treatment, there is no data regarding genetic polymorphisms of drugs metabolizing genes that effects the efficacy of used drugs in our context. This study is framed to determine the presence of genetic polymorphisms in CYP2C9 gene in people suffering from Type 2 Diabetes Mellitus. Since the polymorphism of drug metabolizing gene CYP2C9 is responsible for altered efficacy of commonly used sulphonylureas drugs. This study can be crucial for therapeutic response of drugs and also to prevent adverse drug reactions like

hypoglycemia. This study was designed with the aim to observe the frequency of CYP2C9 polymorphisms in Type 2 DM patients and healthy controls.

Methodology

It was a prospective study conducted in Tribhuvan University Teaching Hospital (TUTH), Kathmandu, Nepal from July 2021 to December 2021. 43 patients diagnosed with Type 2 Diabetes Mellitus visiting Medical OPD and 43 healthy controls who have come for health checkup in General Health Checkup (GHC) of TUTH were included in the study. EDTA samples were collected from study subjects and analyzed for HbA1c and for molecular analysis of CYP2C9 gene polymorphism using PCR-CTPP method.

Results

The genotype frequency of CYP2C9 gene was 93% for wild type homozygous CYP2C9 *1/*1 and 7% for heterozygous CYP2C9 *1/*3. Variant type homozygous CYP2C9 *3/*3 was not found in our study. The allele frequency of CYP2C9 *1 was 96.3% and CYP2C9*3 was 3.7%. Genotype distribution and allele frequency of CYP2C9 was not significantly different among controls and Type 2 Diabetic patients. Patients with CYP2C9*1/*3 genotype were found to have better glycaemic control than wild-type homozygotes CYP2C9 *1/*1.

Conclusion

Results showed that there are variations within the CYP2C9 allele and genotype frequencies in Nepalese population. Type 2 DM patients with CYP2C9*3 alleles had better glycemic control compared to those with CYP2C9 *1 alleles.

Keywords

CYP2C9, Type 2 Diabetes Mellitus, Sulphonylureas, PCR-CTPP

2.6.9 Opportunistic Screening of Hyperglycemia among Patients coming for Eye, ENT Consultation

Bijay Khatri¹, Manish Kayastha¹, Rajan Shrestha¹, Janak Raj Bhattarai¹, Sangita Majhi¹, Sanjib Kumar Upadhyay¹, Madan Prasad Upadhyay¹, Kumud Kumar Kafle.²

Corresponding Author

Mr. Bijay Khatri, B.P. Eye Foundation, Email: bj.khatri@gmail.com

Affiliations

¹B.P. Eye Foundation, Hospital for Children, Eye, ENT, and Rehabilitation Services (CHEERS), Madhyapur Thimi, Bhaktapur, Nepal.

²KIST Medical College, Lalitpur, Nepal.

Background

Diabetes is a pandemic of public health importance. Unfortunately, one-third of individuals with diabetes are identified only after developing complications, and nearly three-fourths are unaware of their raised blood sugar status. This study aimed at opportunistic screening of plasma glucose levels of outpatient department (OPD) patients and diagnosing diabetes among patients with elevated random plasma glucose (RPG) levels.

Methodology

This is a retrospective review of patients visiting the Health Promotion Unit of tertiary level Eye and ENT Hospital, from January to December 2019. Patients aged 40 or above during their first visit for Eye or ENT consultation are provided free RPG screening services at CHEERS Hospital, Bhaktapur. Records of randomly selected patients participating in screening for raised RPG levels and screened patients with elevated RPG levels coming to the same hospital for definitive tests were reviewed. Patients with RPG levels 140 mg/dL or higher were categorized as prediabetes and probable diabetes and advised to undergo definitive tests. Prediabetes was defined as fasting plasma glucose (FPG) between 100 to 125 mg/dL or postprandial glucose (PPG) between 140 to 199 mg/dL and diabetes as FPG \geq 126 mg/dL or PPG \geq 200 mg/dL.

Results

Amongst 341 patients, 2.1% had RPG level \geq 200 mg/dL and 11.7% had RPG level between 140-199 mg/dL. Overweight and obese patients were two to three times more likely to have elevated RPG levels. Patients with elevated blood pressure levels had odds of nine times having elevated RPG levels. Nearly one-third (32.7%) of patients with RPG levels 140 mg/dL and higher had diabetes.

Conclusions

Opportunistic screening in hospital OPD settings is feasible and worthwhile to identify people at risk of hyperglycaemia. Overweight or obese individuals and individuals with elevated blood pressure are at higher risk and should be considered for screening and targeted for interventions to prevent the development of diabetes in the long run.

Keywords

Diabetes; elevated blood pressure; obesity; overweight; random plasma glucose

2.6.10 Challenges in Effective Referral of Cardiovascular Diseases in Nepal: A Qualitative Study from Health Workers' and Patients' Perspective

Soniya Shrestha¹, Rashmi Maharjan^{1,2,3}, Swornim Bajracharya¹, Niharika Jha¹, Sushmita Mali¹, Bobby Thapa^{2,4}, Punya Shori Suwal^{2,5}, Dipanker Prajapati^{2,6,7}, Biraj Man Karmacharya^{1,8}, Archana Shrestha^{8,9,10}

Corresponding Author

Ms. Soniya Shrestha, Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Kavrepalanchowk, Nepal, Email: soniya@kusms.edu.np

Affiliations

¹Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Kavrepalanchowk, Nepal

²Fellow, CVD Translational Research Program, Kathmandu University School of Medical Sciences, Dhulikhel, Kavre, Nepal

³Department of Nursing and Midwifery, Kathmandu University School of Medical Sciences, Dhulikhel, Kavre, Nepal

⁴Department of Nursing, Nepalgunj Nursing Campus, Tribhuvan University, Nepalgunj, Nepal

⁵Nepal Institute of Health Sciences, Jorpati, Kathmandu, Nepal

⁶Shahid Gangalal National Heart Centre, Kathmandu, Nepal

⁷National Academy of Medical Sciences, Kathmandu, Nepal

⁸Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

⁹Center of Methods for Implementation and Prevention Science, Yale School of Public Health, New Haven, USA

¹⁰Institute for Implementation Science and Health, Kathmandu, Nepal

Background

Nepal, currently facing a high burden of Non-Communicable Diseases (NCDs), including Cardiovascular Diseases (CVDs) which poses the highest mortality rate in the country does not seem to have a proper referral strategy. This study explored the challenges in the referral system of CVD cases in Nepal.

Methods

In this qualitative study, we conducted face-to-face and telephone interviews with purposely selected 57 key participants who included 35 healthcare professionals from tertiary, secondary and primary levels from Bagmati Province and 22 CVD patients (myocardial infarction and stroke) from Bagmati and Madhesh Province. We interviewed

them using an interview guide with open ended questions for in-depth information in a local language and in a private space. The interviews were audio-recorded, transcribed verbatim, coded, and analysed using the thematic approach.

Results

The findings indicated that the referral system for CVD cases from primary to secondary to tertiary level care is inadequate and malfunctioning. The major challenges in referral of CVD cases are: centralization of CVD specific services in few urban areas, inadequate systematic communication between the centres, self-referential, lack of human resources for CVD care, and obstacles to patient transfer due to geographical and financial reasons.

Conclusion

A referral system for CVD patients is absent in the context of Nepal. Understanding and addressing key challenges in the referral system of CVD patients may help to improve cardiac outcomes and ultimately save lives.

Keywords

Challenges, Referral system, cardiovascular diseases, Health system, Nepal

2.6.11 Counseling on Risk Factors of Non-Communicable Diseases (NCD) in Package of Essential Non-Communicable Diseases (PEN) Implemented Districts of Nepal

Bikram Poudel¹, Alina Bharati¹, Asmita Adhikari¹, Anupama Bishwokarma¹, Chandani Singh Nakarmi¹, Sushmita Mali¹, Aarati Dhakal¹, Binuka Kulung Rai¹, Dinesh Timalsena², Surakshya KC¹, Sangita Manandhar¹, Soniya Shrestha¹, Pramita Shrestha¹, Meghnath Dhimal³, Pradip Gyawali³, Phanindra Prasad Baral⁴, Sashi Silwal³, Sanju Bhattarai⁵, Lonim Dixit⁶, Elizabeth Rhodes⁷, Donna Spiegelman⁸, Archana Shrestha^{2,7,9,10}

Corresponding Author

Mr. Bikram Poudel, Research and Development Division, Dhulikhel Hospital- Kathmandu University Hospital, Dhulikhel, Nepal, Email: poudelbikram@kusms.edu.np

Affiliations

¹Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel, Nepal

²Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

³Nepal Health Research Council, Ramshahpath, Kathmandu, Nepal

⁴NCD and Mental Health Section, Epidemiology and Disease Control Division (EDCD), Department of Health Services (DoHS), Ministry of Health and Population(MoHP), Government of Nepal, Kathmandu, Nepal

⁵Norwegian University of Science and Technology, Trondheim, Norway

⁶World Health Organization, Kathmandu, Nepal

⁷Center for Methods in implementation and Prevention Science, Yale School of Public Health, New Haven, USA

⁸Department of Biostatistics, Yale School of Public Health, New Haven, USA

⁹Department of Chronic Disease Epidemiology, Yale School of Public Health, New Haven, USA

¹⁰Institute for Implementation Science and Health, Kathmandu, Nepal

Background

In 2016, Nepal implemented the WHO Package of Essential Non-Communicable Disease (PEN) Intervention as a cost-effective approach to reducing the NCD burden. The PEN Protocol-2 focuses on health education and counseling to address the risk factors of NCDs. This study aimed to assess the provision of counseling services on risk factors of NCD as per the PEN Protocol-2.

Methodology

We conducted a descriptive cross-sectional study in 105 primary healthcare (PHC) facilities selected by a 3-steps sampling technique (step-1: all provinces; step-2: 2-districts from each province selected randomly; step-3: health posts and PHC centers selected randomly stratified by urban/rural location). Trained research assistants conducted non-participatory observation using pretested observation checklists to assess service provision of 182 adult NCD patients with at least one of the NCD risk factors: smoking, alcohol consumption, physical inactivity, unhealthy diet and overweight/obesity. We assessed the proportion of patients assessed for risk factors, received counseling on specific risk factors, were advised to address the risk factors, and assisted in making action plans based on the PEN Protocol-2 guidelines.

Results

About 18% of observed NCD patients were on their first visit. Only 21% were asked about their dietary pattern; 15% were assessed for a history of tobacco, and 13% were asked about alcohol consumption. Health providers counsel 31% of the total patients on salt restriction; 10% to avoid smoking; 9% to cease alcohol consumption and 2% on fruits and vegetables consumption. About 56% were advised for the follow-up visits. Only 7% of patients with risk factors (n=41) were asked about their willingness to quit risky behaviors and 5% were assisted with developing an action plan.

Conclusion

Findings indicated poor counseling on NCD risk factors by service providers at PHC facilities in Nepal. Timely onsite coaching with structured supervision and monitoring of healthcare providers may improve patient's health behaviors.

Keywords

Non-communicable diseases; PEN program; Primary healthcare facilities

2.6.12 Health Authorities' Perspective on Facilitators and Barriers to Implement the Package of Essential Non-communicable Disease (PEN) in Nepal: A Qualitative Study

Chandani Singh Nakarmi¹, Asmita Adhikari¹, Elizabeth Rhodes², Sushmita Mali¹, Aarati Dhakal¹, Alina Bharati¹, Anupama Bishwokarma¹, Bikram Poudel¹, Binuka Kulung Rai¹, Sangita Manandhar¹, Soniya Shrestha¹, Surakshya KC¹, Dinesh Timalsena³, Meghnath Dhimal⁴, Pradip Gyanwali⁴, Sashi Silwal⁴, Phanindra Prasad Baral⁵, Sanju Bhattarai⁶, Pramita Shrestha¹, Lonim Dixit⁷, Donna Spiegelman⁸, Archana Shrestha^{2,3,9,10}

Corresponding Author

Ms. Chandani Singh Nakarmi, Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel, Nepal, Email: chadani@kusms.edu.np

Affiliations

¹Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel, Nepal

²Center for Methods in Implementation and Prevention Science, Yale School of Public Health, New Haven, USA

³Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

⁴Nepal Health Research Council, Ramshahpath, Kathmandu, Nepal

⁵NCD and Mental Health Section, Epidemiology and Disease Control Division (EDCD), Department of Health Services (DoHS), Ministry of Health and Population (MoHP), Government of Nepal, Kathmandu, Nepal

⁶Norwegian University of Science and Technology, Trondheim, Norway

⁷World Health Organization, Kathmandu, Nepal

⁸Department of Biostatistics, Yale School of Public Health, New Haven, USA

⁹Department of Chronic Disease Epidemiology, Yale School of Public Health, New Haven, USA

¹⁰Institute for Implementation Science and Health, Kathmandu, Nepal

Background

The burden of non-communicable diseases is rapidly increasing in Nepal. In 2016, Nepal implemented the Package of Essential Non-Communicable Disease (PEN) interventions as a cost-effective strategy to curb the existing burden of non-communicable diseases (NCDs). This study explored the facilitators and barriers to PEN implementation in Nepal from the health authorities' perspective.

Methods

Between April 2021 and September 2021, we conducted 22 key-informant interviews with senior-level PEN focal persons who were purposively selected from different levels (central: 2, provincial:5, local: 15) of the government. We conducted online, telephone, and face-to-face interviews with the participants using an interview guide to explore various facilitators and barriers through the lens of six building blocks of the health system: service delivery, health workforce, health information system, medical supplies, financing, leadership, and governance. All interviews were transcribed verbatim, coded using a codebook developed by the inductive-deductive method, and analyzed using the thematic approach in Dedoose software.

Results

Key facilitators for PEN implementation include: (a) social health insurance coverage in primary health centers; (b) decentralization of power to the local government; (c) acceptability of PEN training; and (d) readiness to integrate health services by NCD care providers. The major barriers to PEN implementation include: (a) inadequate medical supplies; (b) deficit budget for PEN; (c) unavailability of PEN trained health personnel; (d) poor recording and reporting system for NCDs; (e) complexity of PEN guidelines; (f) non-adherence to PEN protocols; (g) poor coordination within three tiers of the federal government; (h) no PEN specific monitoring and supervision (i) service disruption due to COVID-19 pandemic; and (j) high workload among health service providers at primary health care units.

Conclusion

Allocating a sufficient budget for the PEN program, strengthening human resources and medical supplies in health facilities, integrating the PEN reporting system in the national system and regular monitoring from all levels are the pressing needs.

Keywords

Barriers; Facilitators; NCDs; Health authorities; PEN program

2.6.13 Health Service Providers' Level Facilitators and Barriers in Implementing PEN Package at Primary Healthcare Level in Nepal: A Qualitative Study

Anupama Bishwokarma¹, Bikram Poudel¹, Elizabeth Rhodes², Chandani Singh Nakarmi¹, Sushmita Mali¹, Asmita Adhikari¹, Aarati Dhakal¹, Alina Bharati¹, Binuka Kulung Rai¹, Sangita Manandhar¹, Surakshya KC¹, Soniya Shrestha¹, Dinesh Timalsena³, Pramita Shrestha¹, Meghnath Dhimal⁴, Pradip Gyanwali⁴, Phanindra Prasad Baral⁵, Sashi Silwal⁴, Sanju Bhattarai⁶, Lonim Dixit⁷, Donna Spiegelman⁸, Archana Shrestha^{2,3,9,10}

Corresponding Author

Ms. Anupama Bishwokarma, Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel, Nepal, Email: anupamab@kusms.edu.np

Affiliations

¹Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel, Nepal

²Center for Methods in implementation and Prevention Science, Yale School of Public Health, New Haven, USA

³Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

⁴Nepal Health Research Council, Ramshahpath, Kathmandu, Nepal

⁵NCD and Mental Health Section, Epidemiology and Disease Control Division (EDCD), Department of Health Services(DoHS), Ministry of Health and Population(MoHP), Government of Nepal, Kathmandu, Nepal

⁶Norwegian University of Science and Technology, Trondheim, Norway

⁷World Health Organization, Kathmandu, Nepal

⁸Department of Biostatistics, Yale School of Public Health, New Haven, USA

⁹Department of Chronic Disease Epidemiology, Yale School of Public Health, New Haven, USA

¹⁰Institute for Implementation Science and Health, Kathmandu, Nepal

Background

Sixty percent of global deaths are caused by four major non-communicable diseases (NCDs): cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes. To address this, in 2016, Nepal endorsed and implemented the World Health Organization (WHO) Package of Essential Non-Communicable Disease (PEN) and aims to scale up the program throughout the country. Hence, this study was conducted to identify the facilitators and barriers to the PEN program implementation from the health service providers (HSP) perspective.

Methodology

We conducted a qualitative study by using in-depth interviews with purposely selected 40 PEN-trained health care providers who had received PEN training from 14 districts (two PEN implemented districts from each of 7 provinces) to explore the facilitators and barriers to implementing PEN in the health providers' perspective. The interviews were conducted in the Nepali language by experienced qualitative researchers using an open-ended interview guide in a private setting. Interviews were transcribed verbatim, coded using a standard codebook developed by the deductive-inductive method; and analyzed thematically using Dedoose software.

Results

From the health service providers' perspective, facilitating factors for PEN included: (a) availability of the PEN manual, (b) structured active referral system; (c) national health insurance scheme; and (d) community engagement. The major barriers include: (a) unavailability of medical supplies including frequent stock-outs; (b) unavailability of recording and reporting forms, (c) inadequate PEN trained staff, (d) inadequate budget, (e) inadequate NCD specific monitoring and supervision (M&S), and (f) service interruption due to COVID-19.

Conclusion

PEN program implementation could be improved at primary healthcare facilities by addressing barriers through ensuring adequate medical supplies, recording and reporting forms, refresher training, and NCD-specific M&S. Adequate budget allocation and commitment from local governance are crucial for strengthening PEN services to improve NCD care.

Keywords

Health service provider's perspective; Non-communicable diseases; PEN program; Primary healthcare facilities

2.6.14 Patients' Perspective on Facilitators and Barriers to Utilise Non-Communicable Disease (NCD) Service at Primary Healthcare Level in Nepal: A Qualitative Study

Sushmita Mali¹, Soniya Shrestha¹, Elizabeth Rhodes², Chandani Singh Nakarmi¹, Aarati Dhakal¹, Anupama Bishwokarma¹, Alina Bharati¹, Asmita Adhikari¹, Bikram Poudel¹, Binuka Kulung Rai¹, Sangita Manandhar¹, Surakshya KC¹, Dinesh Timalsena³, Meghnath Dhimal⁴, Pradip Gyanwali⁴, Phanindra Prasad Baral⁵, Sashi Silwal⁴, Sanju Bhattarai⁶, Pramita Shrestha³, Lonim Dixit⁷, Donna Spiegelman⁸, Archana Shrestha^{2,3,9,10}

Corresponding Author

Ms.. Sushmita Mali, Research and Development Division, Dhulikhel Hospital- Kathmandu University Hospital, Dhulikhel Nepal, Email: sushmita@kusms.edu.np

Affiliations

¹Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel Nepal

²Center for Methods in Implementation and Prevention Science, Yale School of Public Health, New Haven, USA

³Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

⁴Nepal Health Research Council, Kathmandu, Nepal

⁵NCD and Mental Health Section, Epidemiology and Disease Control Division (EDCD), Department of Health Services(DoHS), Ministry of Health and Population(MoHP), Government of Nepal, Kathmandu, Nepal

⁶Norwegian University of Science and Technology, Trondheim, Norway

⁷World Health Organization, Kathmandu, Nepal

⁸Department of Biostatistics, Yale School of Public Health, New Haven, USA

⁹Department of Chronic Disease Epidemiology, Yale School of Public Health, New Haven, USA

¹⁰Institute for Implementation Science and Health, Kathmandu, Nepal

Background

The Nepal Government endorsed and implemented the World Health Organization's (WHO) Package of Essential Non-Communicable Disease (PEN) protocol addressing four major NCDs - Cardiovascular disease (CVD), diabetes, cancer, and chronic respiratory diseases. This study explored the perceived facilitators and barriers to PEN service utilisation in the primary healthcare settings in Nepal from a patient's perspective.

Methodology

We conducted a qualitative study among purposively selected 35 NCD (Hypertension, Diabetes Mellitus, and COPD/Asthma) patients seeking health care at health post or primary health care centres (PHCs) in 14 randomly selected PEN implemented districts of 7 provinces in Nepal. The in-depth interviews were conducted in-person using an open-ended interview guide, developed based on the health belief model in the local language in a private setting. The interviews were audio-recorded, transcribed verbatim, coded inductively and deductively; and analysed by thematic approach using Dedoose software.

Results

From the patient's perspective, the major facilitators for service utilisation were: (a) availability of national free essential medicines; (b) national health insurance reducing the out-of-pocket (OOP) expenditure; (c) health worker's positive behaviours; (d)

lifestyle modification advice; (e) geographical accessibility and (f) perceived health improvement. The major barriers were: (a) unavailability of lab services; (b) inadequate equipment and essential medicines; (c) misconceptions on medication; (d) low knowledge of NCDs; (d) nonadherence to lifestyle modification and (e) lack of self-motivation.

Conclusion

The NCD service utilisation could potentially be improved by addressing patient's knowledge, and self-motivation misconceptions; and strengthening the availability and accessibility of services such as lab investigations, medicines, equipment, and the patient-provider relationship.

Keywords

Non-communicable diseases; Package of Essential Non-Communicable Disease (PEN); Perceived Facilitators, Perceived Barriers; Patient's perspective

2.6.15 Situational Analysis of Package of Essential Non-Communicable Disease (PEN) Implementation at Primary Health Care Setting in Nepal

Chadani Singh Nakarmi¹, Bikram Poudel¹, Binuka Kulung Rai¹, Asmita Adhikari¹, Sanju Bhattarai², Sushmita Mali¹, Aarati Dhakal¹, Alina Bharati¹, Anupama Bishwokarma¹, Surakshya KC¹, Sangita Manandhar¹, Dinesh Timalsena³, Meghnath Dhimal⁴, Phanindra Prasad Baral⁵, Pradip Gyanwali⁴, Sashi Silwal⁴, Lonim Dixit⁶, Elizabeth Rhodes⁷, Donna Spiegelman⁸, Archana Shrestha^{3,7,9,10}

Corresponding Author

Ms. Chandani Singh Nakarmi, Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel, Nepal, Email: sn.chadani@gmail.com

Affiliations

¹Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel Nepal Nepal

²Norwegian University of Science and Technology, Trondheim, Norway

³Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel

⁴Nepal Health Research Council, Ramshahpath, Kathmandu, Nepal

⁵NCD and Mental Health Section, Epidemiology and Disease Control Division (EDCD), Department of Health Services(DoHS), Ministry of Health and Population(MoHP), Government of Nepal

⁶World Health Organization, Kathmandu, Nepal

⁷Center for Methods in Implementation and Prevention Science, Yale School of Public Health, New Haven, USA

⁸Department of Biostatistics, Yale School of Public Health, New Haven, USA
technology

⁹Department of Chronic Disease Epidemiology, Yale School of Public Health, New Haven, USA

¹⁰Institute for Implementation Science and Health, Kathmandu, Nepal

Background

Nepal endorsed and implemented the WHO Package of Essential Non Communicable Disease (NCD) Interventions (PEN) in 2016 to address NCD burden. This study evaluated the current situation of the PEN implementation in primary health care settings.

Methodology

We conducted a descriptive cross-sectional study of 105 primary health care (PHC) facilities (71 health posts and 34 PHCCs), from 14 PEN implemented districts, selected by a three-step sampling (step 1: all province; step 2: two districts from each province selected randomly out of total PEN implemented districts; step 3: PHC facilities selected randomly stratified by urban or rural location). We interviewed the health personnel using a structured questionnaire and conducted direct observation of the health facility to collect the data. We analyzed and presented results using descriptive statistics (proportion and mean (SD) adjusting for sampling weight).

Results

Human resources: About 80% of sanctioned posts of the Ministry of Health and Population (MoHP) in the sample health facilities, only 20% were trained in PEN. *Medical supplies and lab tests:* Key essential medicines: amlodipine, metformin, atorvastatin and salbutamol were found in 48%, 49%, 81% and 11% of health facilities, respectively. Blood sugar, urine protein and peak flow tests were available in 37%, 27% and 6% of health facilities, respectively. *PEN Peer Coaching:* Only 16% of health facilities had conducted peer coaching sessions. *Recording/reporting:* Only 15% of the health facilities reported using NCD monthly reporting form. *Social health insurance:* About 88% of PHCCs had social health insurance that covered NCD services.

Conclusion

The study reveals several gaps in PEN service provision and resources for PEN service delivery; particularly in terms of human resources, medicines, equipment, NCD recording and reporting forms. Equipping health facilities with medical supplies, human resources,

NCD specific recording and reporting forms is essential for PEN service delivery at health facility level.

Keywords

Primary Health Care (PHC) facilities, PEN program, NCDs

2.6.16 Prevalence and Associated Factors of Diabetes Measuring Glycated Hemoglobin in Pokhara Municipality of Nepal

Abhishek Sapkota^{1*}, Tara Ballav Adhikari^{1,2}, Pabitra Babu Soti¹, Simrin Kafle¹, Per Kallestrup², Michael³, Mette⁴, Bishal Gyawali^{1,5}, Dinesh Neupane^{1,6}, Sweta Koirala¹

Corresponding Author

Mr. Abhishek Sapkota, Nepal Development Society, Bharatpur 10, Chitwan, Nepal,
Email: abhishek.sapkota2153@gmail.com

Affiliations

¹Nepal Development Society, Bharatpur 10, Chitwan, Nepal.

²Department of Public Health, Section for Global Health, Aarhus University, Aarhus, 8000, Denmark.

³Department of Internal Medicine, Holbaek Hospital, Holbaek, Denmark.

⁴World diabetes foundation.

⁵School of Global Health – University of Copenhagen.

⁶Department of International Health, Johns Hopkins Bloomberg School of Public Health, Johns Hopkins University, USA.

Introduction

Type 2 diabetes (T2D) is a global public health problem and in Nepal, only a few studies have assessed the burden of T2D using the glycated hemoglobin (HbA1c) test. This study aims to determine the prevalence and associated factors of T2D in a semi-urban area of Pokhara metropolitan city, Nepal.

Methods

A population-based cross-sectional study was conducted among randomly selected participants aged 25-64 years from a semi-urban area of Pokhara metropolitan city of Nepal using the World Health Organization (WHO) STEPS questionnaire in 2018. Participants, who were previously diagnosed by a physician and/or were on medications and/or had blood glucose level ≥ 6.5 mmol/L using the HbA1c test were defined as having T2D. Logistic regression was used to identify factors associated with T2D.

Results

A total of 300 participants participated in the study (Response rate: 87.7%); 58% were female, and the mean (SD) age was 46.8(10.5) years. The prevalence of T2D was 17.7%. Among study participants, 53% (n=28) were aware of their diabetic condition, 36% (n=19) were on medications, and 17% (n=3) of those receiving treatment had their glucose level under control. Overweight ($\geq 25 - 29.99$ kg/m²) (AOR: 3.33; 95% CI: 1.21-9.14) and inadequate intake of fruits and vegetables (< 5 serving/day) (AOR: 10.39; 95% CI: 3.11-34.68) were associated with T2D.

Conclusion

The prevalence of T2D was higher using HbA1c levels than self-reported and fasting plasma glucose levels. There is a need for implementation of preventive and curative strategies to reduce the burden of T2D.

Keywords

T2D, cross-sectional study, prevalence, risk factors, Nepal, HbA1c

2.6.17 Situational Analysis of Package of Essential Non-Communicable Disease (PEN) Implementation at Primary Health Care Setting in Nepal

Chadani Singh Nakarmi¹, Bikram Poudel¹, Binuka Kulung Rai¹, Asmita Adhikari¹, Sanju Bhattarai², Sushmita Mali¹, Aarati Dhakal¹, Alina Bharati¹, Anupama Bishwokarma¹, Surakshya KC¹, Sangita Manandhar¹, Dinesh Timalsena³, Meghnath Dhimal⁴, Phanindra Prasad Baral⁵, Pradip Gyanwali⁴, Sashi Silwal⁴, Lonim Dixit⁶, Elizabeth Rhodes⁷, Donna Spiegelman⁸, Archana Shrestha^{3,7,9,10}

Corresponding Author

Ms. Chandani Singh Nakarmi, Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel, Nepal, Email: sn.chadani@gmail.com

Affiliations

¹Research and Development Division, Dhulikhel Hospital-Kathmandu University Hospital, Dhulikhel Nepal Nepal

²Norwegian University of Science and Technology, Trondheim, Norway

³Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel

⁴Nepal Health Research Council, Ramshahpath, Kathmandu, Nepal

⁵NCD and Mental Health Section, Epidemiology and Disease Control Division (EDCD), Department of Health Services(DoHS), Ministry of Health and Population(MoHP), Government of Nepal

⁶World Health Organization, Kathmandu, Nepal

⁷Center for Methods in Implementation and Prevention Science, Yale School of Public Health, New Haven, USA

⁸Department of Biostatistics, Yale School of Public Health, New Haven, USA
technology

⁹Department of Chronic Disease Epidemiology, Yale School of Public Health, New Haven, USA

¹⁰Institute for Implementation Science and Health, Kathmandu, Nepal

Background

Nepal endorsed and implemented the WHO Package of Essential Non Communicable Disease (NCD) Interventions (PEN) in 2016 to address NCD burden. This study evaluated the current situation of the PEN implementation in primary health care settings.

Methodology

We conducted a descriptive cross-sectional study of 105 primary health care (PHC) facilities (71 health posts and 34 PHCCs), from 14 PEN implemented districts, selected by a three-step sampling (step 1: all province; step 2: two districts from each province selected randomly out of total PEN implemented districts; step 3: PHC facilities selected randomly stratified by urban or rural location). We interviewed the health personnel using a structured questionnaire and conducted direct observation of the health facility to collect the data. We analyzed and presented results using descriptive statistics (proportion and mean (SD) adjusting for sampling weight).

Results

Human resources: About 80% of sanctioned posts of the Ministry of Health and Population (MoHP) in the sample health facilities, only 20% were trained in PEN. **Medical supplies and lab tests:** Key essential medicines: amlodipine, metformin, atorvastatin and salbutamol were found in 48%, 49%, 81% and 11% of health facilities, respectively. Blood sugar, urine protein and peak flow tests were available in 37%, 27% and 6% of health facilities, respectively. **PEN Peer Coaching:** Only 16% of health facilities had conducted peer coaching sessions. **Recording/reporting:** Only 15% of the health facilities reported using NCD monthly reporting form. **Social health insurance:** About 88% of PHCCs had social health insurance that covered NCD services.

Conclusion

The study reveals several gaps in PEN service provision and resources for PEN service delivery; particularly in terms of human resources, medicines, equipment, NCD recording and reporting forms. Equipping health facilities with medical supplies, human resources,

NCD specific recording and reporting forms is essential for PEN service delivery at health facility level.

Keywords

Primary Health Care (PHC) facilities, PEN program, NCDs

2.6.18 Experiences of Nepalese Nurses on Caring Practice for Hospitalized Stroke Patients in Acute Stage: a Qualitative Study

Kalpana Paudel Aryal^{1,*} Urai Hatthakit²; Nongnut Boonyoung²

Corresponding Author

Dr. Kalpana Paudel, Pokhara Nursing Campus, Institute of Medicine, Tribhuvan University, Ramghat Pokhara, Nepal, Email: kalpanapaudel1@gmail.com

Affiliations

¹Pokhara Nursing Campus, Institute of Medicine, Tribhuvan University, Ramghat Pokhara, Nepal

²Faculty of Nursing, Prince of Songkla University, Hat Yai, Thailand;

Background

Stroke, a life threatening medical emergency, is increasing globally with high incidents and worse prognosis in developing countries. Its fluctuating nature of recovery trajectory leads toward long term disability and uncertainty among stroke survivors which indicates the need for a holistic approach of care from the acute stage to long term. Caring is the main essence and widely used concept in nursing practice for providing holistic care to the patients and support to families. However, it is located differently in a specific cultural context and influenced by nurses caring behaviors and patient's unmet needs. Although caring is familiar to nursing, there is still a dearth of study regarding caring practice for stroke patients among nurses. Hence, the study aims to explore the experiences of Nepalese nurses on caring for the stroke in the acute stage.

Methodology

The study was based on qualitative findings of the first part of an action research study entitled "Development of a caring model incorporating Yoga for promoting physical recovery and wisdom of people living with stroke". It was conducted among a purposefully selected sample of 16 registered nurses aged 24-55 years working in the neurology ward in a University Hospital, Nepal. Data were collected through in-depth interviews using open ended questionnaires where the qualitative content analysis was

used for data analysis. Ethical approval was obtained from Nepal Health Research Council.

Results

The experiences of nurses regarding the deep understanding of caring were characterized by three major themes: Perceived caring practice for the stroke patients, perceived barriers of caring practice for stroke patients, and ways to promote caring practice for stroke patients.

Conclusion

The study suggests that there is a huge demand for caring for addressing needs of the patients. However, nurse's professional maturity; patients' disease conditions and awareness; and support from authority might influence caring behaviors and practice of the nurses.

Keywords

Keywords: Caring, Nepalese nurses, Stroke in acute stage

THEME 7: Public Health Surveillance

2.7.1 Lifestyle Pattern, Status of Mental Health, Renal Function, Liver Function and Stress Marker Among Nepalese Workers in Gulf Countries and Malaysia

Abha Sharma^{1,2}, Govinda Paudel², Vikram Shrestha², Jaya Pradhan³, Renuka Adhikari³, Enjila Parajuli², Manisha Buda², Jyotika Raut², Ena Gautam², Suroj Maharjan², Ashmita Prajapati², Bibhav Adhikari²

Corresponding Author

Mrs. Abha Sharma, PhD candidate, Faculty of Nursing, Mahidol University, Thailand,
Email: link2abha9@hotmail.com

Affiliations

¹Mahidol University, Faculty of nursing, Thailand

²Janamaitri Foundation Institute of Health Sciences, Nepal

³Central Department of Home Science, Tribhuvan University

Background

International mobility has placed the health of migrant workers as a key public health issue. Aim of this study was to identify the lifestyle pattern, prevalence of anxiety and depression, status of psychological well-being, oxidative stress, antioxidants, liver function and renal function among Nepalese migrant workers.

Method: Descriptive cross-sectional study was conducted among 502 Nepali migrant workers arriving in TIA from Gulf countries and Malaysia during May-June 2019. Face to face interview with structured questionnaires was done. Blood samples were collected from 332 participants.

Results

Among 502 participants, the mean age of the respondents was 32.97 years. More than half (51.5%) of respondents consumed alcohol, 96.8% were non vegetarian and 69.3% never did exercise. 7.6% often consume extra added salt. Majority (51%) drank 1-3 liters of water per day. Majority, worked 8-12 hours per day. 27.5% worked at a temperature of 41-50 degree centigrade. Beck Depression scale indicated that 14.4% had mild-severe depression. Beck Anxiety scale suggested that 4.4% had moderate levels of anxiety. The WHO5 wellbeing index score suggested that 14.1% of the respondents had a score below 13, suggesting poor psychological well-being. Country of work, sleeping hours,

occupation, working hours, water intake and anxiety level were found to be significantly associated with depression score. Sleeping hours, occupation, working hours, water intake, and anxiety level were significantly associated with the WHO5 wellbeing score. Among 332 samples analyzed, results revealed that 5% had abnormal liver panel tests. Mean Albumin/Globulin ratio in migrant workers was 1.8 ± 0.76 , serum Malondialdehyde (MDA) was 1.57 ± 1.25 . There was a significant difference in SOD ((Superoxide Dismutase)), A/G (Albumin/ Globulin) ratio among migrants from different countries of work. Also, direct bilirubin was significantly associated with BMI ($p=0.02$). Mean and SD for Urea was 38.09 ± 10.46 , Creatinine 0.91 ± 0.27 , Uric acid 6.73 ± 2.74 and eGFR 114.20 ± 32.44 .

Conclusion

Findings indicate the need for both the host and the destination country to prioritize the migrant worker's health.

Keywords

Gulf countries; lifestyle pattern; Nepalese Migrant workers

2.7.2 Association between Cancer Stigma and Cervical Cancer Screening Uptake among Women Of Dhulikhel and Banepa, Nepal

Bandana Paneru^{1,2}, Aeron Karmacharya¹, Alina Bharati¹, Soniya Makaju¹, Bikram Adhikari¹, Diksha Kafle³, Pramita Shrestha¹, Sunila Shakya⁴, Donna Spiegelman^{5,6}, Sangini Seth⁷, Anne Stangl^{8,9}, Archana Shrestha^{1,2,5}

Corresponding Author

Ms. Bandana Paneru, Department of Public Health and Community Programs, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal,
Email: bandanapaneru@kusms.edu.np

Affiliations

¹Department of Public Health and Community Programs, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

²Institute for Implementation Science and Health, Kathmandu, Nepal

³Canadian Red Cross, Country Office Nepal.

⁴Department of Obstetrics and Gynaecology, Dhulikhel Hospital/Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

⁵Center of Methods for Implementation and Prevention Science, Yale School of Public Health, New Haven, CT, USA

⁶Department of Biostatistics, Yale School of Public Health, New Haven, CT, USA

⁷Department of Obstetrics and Gynaecology, Yale School of Medicine, New Haven, CT, USA

⁸Hera Solutions, Baltimore, MD, USA

⁹Department of International Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

Introduction

Cervical cancer ranks as the first most frequent cancer in females and has high mortality in Nepal. Despite the evidence of effective preventive programs for reduction of disease burden, services are underutilized. Fear and stigmatization can affect women's participation in screening programs.

Objectives

This study aimed to assess the association between cancer stigma and cervical cancer screening uptake among women residing in semi-urban parts of Kavrepalanchok district (Dhulikhel and Banepa), Nepal.

Methods

We conducted a cross sectional study among 426 women aged 30 – 60 years enrolled in Dhulikhel Hospital's cervical cancer preventive program from 15th March to 15th June 2021. We measured cancer stigma using the Cancer Stigma Scale (CASS). We categorized women as having cancer stigma if the total mean CASS score was greater than 3 out of 6. Participants were considered to have participated in cervical cancer screening if they answered 'yes' to a question- "Has a health-care worker ever tested you for cervical cancer?" We performed univariate and multivariate logistic regression to assess association between cancer stigma and cervical cancer screening uptake and adjusted socio-demographic and reproductive health

Results

Twenty-three percent reported having cancer stigma and 26.5% reported uptake of cervical cancer screening.: 'women who reported stigma were 77% less likely to have ever been screened for cervical cancer than women who did not report stigma (95% CI: 0.11 – 0.49; p<0.001) after adjusting for confounders like age, ethnicity, occupation, religion, education, parity, family planning current user, age of menarche and age of first sexual contact.

Conclusion

Women residing in semi-urban parts of Nepal who reported agreement with stigmatizing statements about cancer were less likely to have ever been tested for cervical cancer by a healthcare provider. Interventions to reduce cancer-related stigma may contribute to higher uptake of cervical cancer screening among women.

Keywords

Cervical cancer; Nepal; Prevention; Screening; Stigma; Women

2.7.3 Cervical Cancer Screening Knowledge, Attitude, and its Belief among Students, Nepal

Muna Maharjan¹, Nireesh Thapa², Narayani Maharjan³

Corresponding Author

Dr. Muna Maharjan, Karnali Academy of Health Sciences,
Email: maharjanmuna2@gmail.com

Affiliations

¹School of Nursing and Midwifery, Karnali Academy of Health Sciences, Jumla, Nepal

²Karnali Academy of Health Sciences, Jumla, Nepal

³Program & Department of Clinical Laboratory Medicine, Center for Gene Diagnosis, Zhongnan Hospital of Wuhan University, Wuhan, China

Objective

To identify the knowledge, attitude, and belief regarding cervical cancer screening.

Methodology

A descriptive cross-sectional study was conducted with a purposive sample of 197 bachelor-level students. The self-administered tool consisted of the socio-demographic information, knowledge, attitude, and a Nepalese Health Belief Model Scale for Cervical Cancer screening. Chi-square test and t-test were used to analyze the data.

Result

A total of 197 bachelor's students (business studies-84, and education- 113) were enrolled in the study. Among the respondents 158 (80.2%) were female and 175 (88.8%) were unmarried. Respondents with the brahmin ethnic group were 65 (35.0%) and the majority followed Hinduism 195 (99.0%). Regarding knowledge scores about cervical cancer and screening only 47 (23.9%) had adequate knowledge however 154 (78.2%) respondents had a favorable attitude towards cervical cancer screening. Knowledge level was significantly different in the type of education ($p=0.041$) and ethnicity ($p=0.016$).

Similarly, benefits of screening and health motivation scores were significantly different with attitudes regarding cervical cancer screening.

Conclusion

Cervical cancer screening-related knowledge seems inadequate in most of the respondents which will ultimately affect the rate of screening in the future. This might be improved through awareness and health interaction programs targeted at college students.

Keywords

Cervical cancer screening; health belief; students; Nepal.

2.7.4 Intestinal Parasitosis among School Children in Bardiya District In Nepal: And Associated Risk Factors

Rashmi Poudel¹, Susil Pyakurel¹, Mehraj Ansari¹, Dhiraj Shrestha¹, Raksha Rimal¹, Kul Raj Rai², Prasha Shrestha², Shiba Kumar Rai^{1,3}

Corresponding Author

Mr. Susil Pyakurel, Department of Microbiology, Shi-Gan International College of Science and Technology, Kathmandu, Nepal, Email: suseel51@gmail.com

Affiliations

¹Department of Microbiology, Shi-Gan International College of Science and Technology, Kathmandu, Nepal

²Key Laboratory of Fujian-Taiwan Animal Pathogen Biology, College of Animal Sciences, Fujian Agriculture and Forestry University, Fuzhou, China.

³Department of Microbiology, Nepal Medical College and Teaching Hospital, Kathmandu, Nepal.

Background

Intestinal parasitic infections (IPIs) are among the most prevalent infections in school-age children in developing countries like Nepal. IPIs cause malnutrition leading to growth retardation, anemia, and other adverse impacts on the children. The main aim of the study was to determine the IPIs in school-age children in a district in Nepal and identify the associated risk factors.

Methods

This cross-sectional study was carried out from September to November 2017 in three different schools in the Bardiya District of Nepal. A total of 317 stool samples were collected in clean, dry, screw-capped plastic containers from school children aged 4 to 15

years. The samples were emulsified in 10% formal saline and transported to the microbiology laboratory of Shi-Gan International College of Science and Technology, Kathmandu. The samples were processed by a concentration method employing formal-ether sedimentation technique. Finally, a wet mount was observed under the microscope for intestinal parasites.

Results

Of 317 samples, intestinal parasites were detected in 83 (26.2%) samples. The prevalence of protozoan parasites was ($p < 0.05$). *Giardia lamblia* (55.4%) and *Hymenolepis nana* (4.8%) were the most common protozoan and helminth parasites detected, respectively. The IPIs were significantly higher in the children lacking hand washing habits, lacking toilet facilities at their homes, attending public school, and having untrimmed nails.

Conclusion

The protozoans were the predominant parasites in school-age children. Availability of toilet, handwashing habit, nail trimming habit, and school type was identified as risk factors of IPIs.

Keywords

Intestinal parasites; IPIs; Nepal; school-age children

2.7.5 Measuring Progress towards ‘First 90’ Target among Key Population in Nepal with Context of Southeast Asia Region: Meta-Analysis 2010-2018

Prajwal Mani Pradhan¹, Keshab Deuba^{2,3}, Sudha Devkota²

Corresponding Author

Dr. Keshab Deuba, NCASC, Email: keshab.deuba@savethechildren.org

Affiliations

¹University of Minnesota, Institute of Health Informatics, Minneapolis, Minnesota, USA

²National Centre for AIDS and STD Control/ Global Fund programs, Kathmandu, Nepal

³Associate Researcher, Department of Global Public Health, Karolinska Institutet, Stockholm, Sweden

Background

This study aims at measuring Nepal's progress towards the first 90 (90% of all people living with HIV will know their HIV status by 2020), along with examining the HTC services uptake by key population (MSM/TG) and differences in uptake by gender, age and experience of violence and discrimination in the context of South East Asia Region's (SEAR).

Methodology

This study focused on literature from January 1, 2010 to Dec 31, 2018. Included studies had met the following criteria: a minimum sample of 50 respondents by key population MSM/TG and PWID/IDU who had HIV tests, according to blood test, regardless of overall HIV prevalence measured in the study. A random effects model was used to estimate the overall pooled estimate for “first 90”. Physical and sexual abuse among MSM/TG cohort was estimated.

Results

This study has estimated 56.4% of MSM/TG knew their HIV status in SEAR and 55.6% of MSM/TG knew their HIV status in Nepal. HTC service utilization among MSM/TG in South East Asia Region (SEAR) was 65.4% and 43.4% in Nepal. This study has estimated 57.3% of PWID/IDU knew their HIV status in SEAR and 58.4% of PWID/IDU knew their HIV status in Nepal. HTC service utilization among PWID/IDU in South East Asia Region (SEAR) was 28.2% and 24.8% in Nepal.

Conclusion

Nepal has kept pace with regional pooled estimates (including the “first 90”). To achieve the new target 95-95-95 by 2025, Nepal and SEAR countries need to substantially improve and innovate HIV testing strategies.

Keywords

Meta-analysis; MSM; PWID; first 90; HIV AIDS; violence; abuse

THEME 8: Rational Use of Medicines and Pharmacovigilance

2.8.1 Knowledge, Attitude, and Practice of Pharmacovigilance among Undergraduate Medical and Dental Students of A Teaching Institution

Tejendra Manandhar¹

Corresponding Author

Dr. Tejendra Manandhar, KIST Medical College and Teaching Hospital, Tribhuvan University, Lalitpur, Nepal, Email: tejendramanandhar9@gmail.com

Affiliations

¹KIST Medical College and Teaching Hospital, Tribhuvan University, Lalitpur, Nepal

Background

Under-reporting of suspected Adverse Drug Reactions (ADRs) by health professionals is a widespread problem in Nepal. To strengthen the pharmacovigilance program, medical students should be well trained about the ADR reporting from the very beginning. The objective of the present study is to assess knowledge, attitude, and practice of pharmacovigilance among undergraduate medical and dental students of a tertiary care teaching hospital.

Methodology

A cross-sectional study was conducted among first and second-year medical and dental students from the first to the second week of March 2021. An online questionnaire was used to collect data. The frequency of different measures mentioned by respondents was noted. The total score was compared among different subgroups using Mann–Whitney test.

Results

Out of 238 students, 204 students (85.7 %) responded. Among them, medical students were 157 (77%) and dental students were 47 (23%). The majority were below 23 years and were male. The maximum possible score for knowledge was 9, for attitude was 8 and for practice was 7. Thus, the maximum possible total score was 24. The mean with standard deviation for knowledge, attitude, and practice were 4.2 ± 1.4 , 7.1 ± 1.2 and 1.8 ± 1.2 respectively. The total mean was 13.11 and the total standard deviation was 2.41. The total median score for knowledge, attitude, and practice were 4, 7 and 2 respectively.

The total median score of medical students was not significantly different from that of dental students.

Conclusion

Positive attitude was noted among undergraduate medical and dental students towards pharmacovigilance, but knowledge and practice were not good. Thus, the study indicates the need for integrating pharmacovigilance education in undergraduate medical curricula to prepare them for future practice.

Keywords

attitude, dental students, medical students, knowledge, pharmacovigilance, practice, Nepal

2.8.2 Pharmacists' Awareness and Attitude towards Counterfeit Medicines in the Kathmandu Valley

Sajala Kafle¹, Nisha Jha¹, Shital Bhandary²

Corresponding Author

Dr. Sajala Kafle, KIST Medical College and Teaching Hospital, Email: kaflesajala@gmail.com

Affiliations

¹ KIST Medical College and Teaching Hospital, Lalitpur, Nepal

² Patan Academy of Health Sciences, Lalitpur, Nepal

Introduction

Counterfeit medicines are a significant problem globally. They are medicines of lower quality that are cheaper than the original pharmaceutical product. This is a major problem in Asia. In a developing country like Nepal, community pharmacists are the most easily accessible health care providers to the general public. Hence, they should be knowledgeable about counterfeit medicines. To assess the awareness and perception regarding counterfeit medicines among community pharmacists of Kathmandu, Lalitpur and Bhaktapur districts.

Methods

A cross sectional study was conducted among registered community pharmacists working in retail pharmacies of the Kathmandu Valley who provided informed consent to participate. Convenient sampling method was used to collect the data from the volunteer community pharmacists in this study.

Results

Among the 348 community pharmacists who participated in the study, 252(72.4%) were from Kathmandu, 58(16.7 %) were from Lalitpur and 38(10.9 %) were from Bhaktapur. Almost 255(73.3%) were aged between 20 to 30 years, 227(65.2%) were male, 240(69.2%) had done Diploma in Pharmacy, 204(58.7%) had working experience of more than 5 years and 347(99.7%) had done their education in Nepal. Among them 340(97.7%) had knowledge of counterfeit drugs, 337(96.8%) believed that actions should be taken against community pharmacists dispensing counterfeit drugs, 330(94.8%) believed that pharmacists who dispensed counterfeit drugs are unprofessional; 343(98.6%) stated that the law against counterfeit medicines should be strengthened. Further, 110(31.6%) respondents mentioned that Vitamins supplements are most likely to be counterfeited and 343(98.6%) believed that it is easy to spot counterfeit drugs by their quality and price.

Conclusion

Our study showed that the Pharmacists of Kathmandu Valley are aware of counterfeit drugs. The participants are also aware of the harmful effects of counterfeit drugs. Most community pharmacists mentioned that actions should be taken against community pharmacists involved in dispensing counterfeit medicines.

Keywords

Counterfeit drugs, community pharmacists, Kathmandu

2.8.3 Knowledge and Practice on Use of Metered Dose Inhaler among Clients in a Tertiary Level Hospital

Nisha Rai¹, Kalpana Paudel Aryal²

Corresponding Author

Ms. Nisha Rai, Maharajgunj Nursing Campus, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal, Email: nisharaiiii1998@gmail.com

Affiliations

¹Maharajgunj Nursing Campus, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

²Pokhara Nursing Campus, Institute of Medicine, Tribhuvan University, Ramghat Pokhara, Nepal

Introduction

A Metered Dose Inhaler (MDI) is a device that delivers a precise amount of medication in the form of a mist. Incorrect MDI use has a significant impact on the therapeutic utility of the medication and the outcomes of respiratory conditions.

Objectives

The study's objective was to assess clients' level of knowledge and practice regarding the use of metered dose inhaler, and to find the association between clients' knowledge regarding the use of metered dose inhaler and selected socio-demographic variables.

Methodology

This was a cross-sectional study of clients with respiratory conditions who were prescribed MDI. The knowledge of using MDI was evaluated using a structured interview schedule and the practice of using MDI was evaluated using a checklist created by the WHO Guide to Good Prescribing.

Results

This study included 126 clients (84 COPD, 25 Asthma, and 17 Post COVID 19). Half of the clients (52%) had a satisfactory level of knowledge about MDI use. Almost all of the clients (97.6 %) used the inhaler incorrectly. The majority of patients (98.4%) followed the step to place the lips tightly around the mouthpiece. Whereas, coughing up as much sputum as possible (18.25 %) was the least followed step.

Conclusion

Incorrect inhalation technique is common among MDI users. The current study's findings revealed that the correct usage of MDI was found to be poor for the majority of participants, despite their satisfactory level of knowledge.

Keywords

Knowledge, Metered Dose Inhaler, Practice, Respiratory condition

2.8.4 Knowledge, Attitude and Practice of Pharmacovigilance and Adverse Drug Reaction Reporting among the Dental Students

Aastha Shrestha,¹ Nisha Jha,² Pathiyil Ravi Shankar,³ Nirjala Laxmi Madhikarmi⁴

Corresponding Author

Mrs. Aastha Shrestha, Kantipur Dental College and Hospital, Email:
aasthkdch@gmail.com

Affiliations

¹Kantipur Dental College and Hospital, Basundhara, Kathmandu, Nepal

²KIST Medical College, Lalitpur, Nepal

³IMU Centre for Education, International Medical University, Kuala Lumpur, Malaysia

⁴Kantipur Dental College and Hospital, Basundhara, Kathmandu, Nepal

Introduction

Spontaneous reporting of ADRs plays a major role in the detection of unsuspected, serious, and unusual ADRs previously undetected during clinical trials. It is a major source of information in pharmacovigilance. But underreporting of ADRs still remains a major obstacle to pharmacovigilance programs. To strengthen ADR reporting, dental students and practitioners are also important. The main objective of this study was to evaluate the knowledge, attitude, and practice of Pharmacovigilance and ADRs reporting among dental students.

Methodology

A cross-sectional study was conducted in Kantipur Dental College Teaching Hospital from January to March 2021. A structured online questionnaire was prepared and distributed to third, fourth and final year dental students and interns through the college social site messaging group. The median scores were calculated and compared among different subgroups.

Results

A total of 118 students participated in the study. Among them, the median attitude score was significantly higher among respondents from the 22 years' age group and younger ($p=0.003$). The total median KAP score was also higher among the above age group ($p<0.001$). The total median KAP score among the different batches of BDS students were not found significantly different. Most students 112 (94.6%) knew the definition of ADRs whereas 104 (88.1%) of the study participants knew that the department of drug administration (DDA) is the regulatory body responsible for monitoring ADR in Nepal. However, only 18 (15.3%) were aware of the existence of the national pharmacovigilance program.

Conclusion

Students had inadequate knowledge and practice but had a positive attitude towards pharmacovigilance. This study highlights the need for changes in the dental curriculum to improve reporting of ADRs and increase the numbers of reported ADRs. **Keywords** adverse drug reactions, dental students, pharmacovigilance, Nepal

THEME 9: Nutrition and Food Safety

2.9. 1 Evaluation of Nutritional Supplements Prescribed, Their Associated Cost, and Patients' Knowledge, Attitude, and Practice towards Nutraceuticals: A Hospital-Based Cross-Sectional Study in Kavrepalanchowk, Nepal

Rabi Shrestha¹, Sweta Shrestha^{2,*}, Badri KC², Sunil Shrestha³

¹Department of Pharmacy, Scheer Memorial Adventist Hospital, Banepa, Kavre, Nepal.

²Department of Pharmacy, School of Sciences, Kathmandu University, Dhulikhel, Kavre, Nepal

³Department of Pharmaceutical and Health Service Research, Nepal Health Research and Innovation Foundation, Lalitpur, Nepal

Corresponding Author: Ms. Sweta Shrestha, Kathmandu University, 9841470887, sweta.shrestha@ku.edu.np

Background

There is a substantial increment in nutraceutical consumption in Nepal, although data on its efficacy and safety is scarce. Moreover, the practices of nutraceutical supplements users in Nepal remain undocumented. Therefore, this study was conducted to study the prescription pattern, cost, knowledge, attitude, and practice (KAP) of patients towards nutraceuticals.

Methods

A descriptive cross-sectional study with stratified purposive sampling (n = 400) was performed using a validated structured questionnaire assessing the socio-demographic characteristics, knowledge, attitude, the practice of nutraceuticals, and total cost patients spent on nutraceuticals alone. Pearson Chi-square test (x²) was used to investigate the association between socio-demographic variables and patients' KAP (knowledge, attitude, and practice) towards nutraceuticals.

Results

More than 80% of patients were found to be consuming nutraceuticals on their own. The most prescribed nutrients were vitamins (40.7%), minerals (23.7%), enzymes (21.1%), proteins (8.8%), probiotics (4.2%) and herbals (2.0%). The most common reasons for consuming nutraceuticals were maintaining good health (70.0%), and healthcare professionals (57.85%) were the most approached source of information for

nutraceuticals. Nearly half of the patients (46.5%) had inadequate knowledge, whereas more than two-thirds (71.5%) showed a moderately positive attitude towards nutraceutical use. The average amount patients spent was NRs.575.78 [equivalent to USD 4.85] per prescription on nutraceuticals alone. The maximum cost amounted to NRs 757.18 [equivalent to USD 6.43] in Orthopedics, and the minimum cost was NRs 399.03 [equivalent to USD 3.36] in Obstetrics and gynecology, respectively. There was a significant difference ($p < 0.001$) in the cost of nutraceuticals prescribed between the OPD clinics

Conclusion

A higher prevalence of inadequate knowledge despite a moderately positive attitude towards nutraceuticals among patients regarding some significant issues such as safety, interactions of nutraceuticals, and its substitution for meals reflects the need to develop an educational strategy to increase general public awareness of the rational use of nutraceuticals.

Keywords

Attitude, Cost, Knowledge, Nutraceuticals, Prescribing Pattern, Practice

2.9.2 Dietary Diversity and its Associated Factors among Lactating Mothers Residing in Tarakeswor Municipality, Kathmandu

Reshika Rimal¹, Pranil Man Singh Pradhan¹

Corresponding Author

Ms . Reshika Rimal, Institute of Medicine. Tribhuvan University, Kathmandu, Nepal,
Email: resikarimal8@gmail.com

Affiliations

Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

Introduction

Lactation is one of the crucial and unique periods in women's life where lots of physiological, and metabolic changes occur which demands additional nutritional requirements. The dietary requirements of the mother fulfilled at this period not only ensure her health but also the health of her child. This study aimed to assess the factors associated with dietary diversity among lactating mothers residing in a semi-urban area of Nepal.

Methods

A community-based cross-sectional study was conducted to determine dietary diversity status and factors influencing it among lactating women of Tarakeswor Municipality. A semi-structured questionnaire was used to collect information regarding demographic, socioeconomic, Lactating mothers' health-related information, and household food security status, and a 24-hour recall tool was used to assess dietary diversity among Lactating mothers. Data was entered in the Epi Data 3.1 version and analyzed using the SPSS21 version. Data were summarized using descriptive statistics and association was established using the chi-square test at a 5% level of significance.

Results

A majority (53.2%) of the participants were in the age group (of 25-29) years. The majority of the participants were from the upper caste. Similarly, more than half (63.3%) of the participants belonged to a joint family and about three in four (71.8%) of the the participant was a homemaker. The majority (91.2%) of the participants were food secure. Almost 38.1% of the participants did not consume a diverse diet. The starchy staple diet was universal with a mean dietary diversity score of 4.89 ± 1.23 . This study shows that ethnicity ($p=0.04$), family type($p=0.009$), education level of mothers ($p<0.001$), earning the status of mother ($p<0.001$), household family income($p<0.001$), ANC visit for the current child ($p=0.037$), Household food security ($p=0.003$) were significantly associated with dietary diversity during the lactation period.

Conclusion

Multiple public health interventions aiming at increasing dietary diversity among lactating women should be emphasized to improve socioeconomic status and create a conducive environment for empowering women.

Keywords

Diet, Dietary Diversity, Lactating mothers, Nepal

2.9.3 Nutritional Status and Quality of Life in an Institutionalized Elderly Population of Tanahun and Kaski Districts of Gandaki Province

Dipendra Kumar Yadav¹, Raju Pandey¹, Rajesh Kumar Yadav², Tsering Wangmo Gurung¹

Corresponding Author

Dr. Dipendra Kumar Yadav, Pokhara University, Email: dipendrayadavph@gmail.com

Affiliations

¹School of Health and Allied Sciences, Faculty of Health Sciences, Pokhara University, Pokhara, Kaski, Nepal

²Save The Children, Kathmandu, Nepal

Introduction

Good nutrition is the foundation of health. Dietary practice in geriatrics is mainly related to the number of meals, food, and fluid intake. Quality of life is important for the elderly with malnutrition and with risk of malnutrition for several reasons as the quality of life decreases with a high risk of malnutrition among elders. This study was to assess the nutritional status, dietary practices, and quality of life of elderly people living in old age homes of Tanahun and Kaski districts of Gandaki province. A cross-sectional analytical study was conducted among 282 elderly people aged 60 and above from old age homes in Gandaki province. A Mini Nutritional Assessment tool was used to investigate nutritional status. Quality of life was assessed by using the Nepali version of EuroQol: EQ-5D-3L questionnaires. Association was tested using Pearson's Chi-Square test and Binary logistic regression taking a 95% confidence interval. One-fourth of the participants living in old age homes were malnourished and nearly half of them were at risk of malnutrition. There was very little consumption of meat, fish, and eggs. There was a statistically significant association between nutritional status and socio-demographic variables like age, ethnicity, marital status, educational status, and reason for living in old age homes. Similarly, this study reveals the significant association between nutritional status with the mood of feeding and any health issues. The mean score was high among the population aged 60-69 and in male participants in both EQ-5D-3L and EQ-VAS. Similarly, a higher mean score of EQ-5D-3L and EQ-VAS was revealed among those at normal nutritional status. EQ-5D-3L was significantly associated with socio-demographic variables like age and educational status whereas EQ-VAS was significantly associated with age, sex, and educational status. The caregivers in the old age homes should initiate nutritional screening services to check the nutritional status and control the malnutrition condition.

Keywords

Nutritional Status, Quality of Life, Elderly Population

THEME 10: Violence

2.10.1 Prevalence and Adolescents' Perspectives on Cyberbullying in Pokhara, Kaski District, Nepal

Surakshya Kunwar¹, Biraj Karmacharya¹, Archana Shrestha¹, Akina Shrestha¹,

Corresponding Author

Mrs. Surakshya Kunwar, 1. Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal, Email: kunwarsuraxya@gmail.com

Affiliations

¹Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

Background

Cyberbullying is a global public health concern that has a detrimental effect on adolescents' physical, psychological, mental, and intellectual health. This mixed study approach provides an important insight into the magnitude of the cyberbullying problem and its associated factors. Objectives of this study are to assess the status of cyberbullying and cyber-victimization among adolescents and their perspectives regarding cyberbullying and cybervictimization.

Methodology

We conducted a cross-sectional (sequential explanatory mixed-method) among 450 college-going students (16-19 years). The study was conducted purposively in selected 4 different colleges (two public and two private) of Pokhara Municipality. A standardized questionnaire was used to measure the prevalence of cyberbullying and cybervictimization. We conducted in-depth interviews among 16 participants who had responded as cyber-bully and cyber-victim in the quantitative study, to explore the perspectives of cyberbullying. Logistic regression analysis was used to assess the risk factors for cyberbullying and cybervictimization controlling for the potential confounders using STATA-13. Qualitative data were analyzed using thematic analysis.

Results

Most of the participants (79.8%) had previous knowledge about cyberbullying. The prevalence of cyberbullying and cybervictimization was found to be 14.4% and 19.8% respectively. Posting mean or hurtful comments online was the most common form of

both cyberbullying and cybervictimization. Gender and internet use was associated with both cyberbullying and cybervictimization after adjusting for potential confounders. Both cyber-bully and cyber-victim reported cyberbullying as a health issue. Cyber-victim participants were more affected physically, psychologically, socially, and intellectually. Participants reported that Facebook is the common platform for cyber-bullying incidents. Both the cyber-bully and cyber-victim participants felt that the government should conduct awareness programs on cyberbullying and include the cyberbullying course into the academic curricula.

Conclusion

Findings from our study reveal the pressing need for the government to develop cyberbullying prevention programs. Cyber-safety educational programs, counseling services, and periodic screening for cyberbullying in educational institutions should be implemented to combat the health consequences of cyberbullying.

Keywords

Cyberbullying, Cybervictimization, Prevalence of cyberbullying, Perceptions of cyberbullying, electronic bullying.

2.10.2 Developing and Piloting an Intervention to Provide First Line Response to Domestic Violence and Abuse in a Primary Health Care Setting in Nepal

Poonam Rishal¹, Satya Shrestha^{1,2}, Manuela Colombini³, Sandi Dheensa², Kunta Devi Pun¹, Pusp Raj Bhatta¹, Samita KC¹, Smriti Luitel¹, Gene Feder², Loraine Bacchus³

Corresponding Author

Ms. Satya Shrestha, Kathmandu University School of Medical Sciences, University of Bristol, Email: satyaasth@gmail.com

Affiliations

¹ Kathmandu University School of Medical Sciences, Dhulikhel, Nepal

² University of Bristol, Bristol, UK

³ London School of Hygiene and Tropical Medicine, London, UK

Background

Health facilities being one of the key places to go for survivors of domestic violence and abuse (DVA), the health sector has a window of opportunity to identify and provide support to survivors. However, health care services still struggle to offer DVA care. The study aims to develop and evaluate a training intervention for health care providers

(HCPs) on first line response to DVA within rural primary level outreach centres (ORCs) run by Dhulikhel Hospital, Nepal.

Methodology

The intervention was developed based on the findings from mixed method formative study on health system readiness. The intervention included tablet-based screening of women for DVA and three-day training to HCPs using a gender-transformative and survivor-centred approach. It was evaluated with data from six qualitative interviews with women survivors who were identified in ORCs, most significant change (MSC) stories from 36 HCPs and 11 female community health volunteers and pre-post Provider Intervention Measure questionnaire from HCPs at 6 months. Qualitative data were analyzed with a thematic approach. Quantitative data are being analyzed using descriptive and inferential statistics. Key stakeholders were involved from the planning phase as well as in analyzing the MSC stories.

Results

Training of HCPs increased identification, counseling and first line response. The identification and reporting increased from none at baseline to 34 and seven referrals after the intervention. We found an increase in knowledge and readiness of HCPs towards women survivors of DVA. Few HCPs reported beginning routine enquiry and providing support required by the women. FCHVs also expressed an increase in knowledge on DVA in MSC stories.

Conclusion

Findings suggest how a tailored training intervention helps primary healthcare increase identification and referral of DVA to link different formal services and FCHVs. However, there is a need for better understanding of how a basic centre could offer quality support and link community services.

Keywords

Domestic violence and abuse, health system readiness, intervention, Mixed methods

2.10.3 Prevalence of Sexual Harassment in Public Places Faced by Female Bachelor's Students of Kathmandu Valley

Pranjali Dahal¹, Navaraj Kafle¹, Prakriti Koirala¹

Corresponding Author

Ms. Pranjali Dahal, Nobel College, Pokhara University, Kathmandu, Email: pranjalee.dahal@gmail.com

Affiliations

¹Nobel College, Pokhara University, Kathmandu, Nepal

Introduction

Sexual harassment (SH) is unwelcome conduct of a sexual nature, which can include unwelcome sexual conduct, requests for sexual favors, or other verbal, non-verbal or physical conduct of a sexual nature. Many studies have not been done on SH faced in public places by female bachelor's students. Due to this, there has been a gap in the data in this specific population. This study will help to determine SH among female bachelor's students.

Methodology

A cross-sectional descriptive study was used for determining the prevalence of SH in public places among female bachelor's students of age group 18-26. A sample size of 289 was selected and the sampling technique used was multi-staged sampling. At first, simple random sampling was done followed by probability proportionate sampling and finally, systematic sampling was done. A self-administered questionnaire was used and the collected data was managed using SPSS V.22.0.

Results

The mean age of the respondents was 19.65. The prevalence of SH was 71.6%. The most common public places of occurrence of SH were crowded places (90.3%), and streets (77.3%). 94% of the perpetrators were males among which 51.5% were of middle age group (25-45 years). 33.8% of the respondents didn't know what to do at that time, 37.2% talked to a friend about it and 25.2% were scared after the incident occurred. 97.1% of the respondents didn't know any existing laws about SH in Nepal.

Conclusion

The study shows that SH is significantly prevalent among female bachelor's students of Kathmandu valley in public places. Raising awareness about SH, explaining what type of action is considered as SH, its laws and regulations are very important in our society. Promotion of self-defense strategies can be done so that females of all ages can defend themselves from the perpetrators if they ever feel unsafe in any settings.

Keywords

Sexual Harassment, Public Places, Kathmandu Valley, Female, Bachelor's Students.

THEME 11: Miscellaneous

2.11.1 Neglected Tropical Diseases (NTDs) Service Availability at Local Health Facilities in Eastern Nepal

Deependra Kaji Thapa^{1,2}, Chiranjibi Nepal¹, Nirmala Sharma³, Bhuwan Baral³, Bed Prakash Sharma³, Harsha Raj Dahal⁴, Anjalina Karki¹, Janak Thapa¹, Michelle Cleary²

Corresponding Author

Dr. Deependra Kaji Thapa, Nepal Public Health Research and Development Center (PHRD Nepal), Kathmandu, Nepal, Email: deependrakajithapa@gmail.com

Affiliations

¹Nepal Public Health Research and Development Center (PHRD Nepal), Kathmandu, Nepal

²School of Nursing, Midwifery and Social Sciences, CQUniversity, Australia

³Fairmed Foundation, Kathmandu, Nepal

⁴Nepal Public Health Association, Kathmandu, Nepal

Neglected Tropical Diseases (NTDs) are a public health concern with leprosy, lymphatic filariasis (LF), visceral leishmaniasis (VL), soil-transmitted helminths, and trachoma most common in Nepal. This study assessed the availability of NTD services in three NTD prevalent districts in eastern Nepal. A cross-sectional facility-based study was conducted across 36 public health facilities (health posts and primary health care centers) in Jhapa, Morang, and Sunsari districts. The survey included checklists for the availability of service, human resources, national guidelines, diagnostics, and medicines for leprosy, LF, VL, and rabies, based on the *WHO Service Provision and Readiness Assessment framework*. Majority (81.6%) of facilities were offering services for leprosy, 11.1% for LF, and 8.3% for VL. One-third of facilities (33.3%) were providing both treatment and diagnostic services, while 39% were only providing a treatment service, and 19.4% had no service for leprosy. Most of the facilities (89%) did not have diagnosis and treatment services for LF. In the case of VL, only 3 facilities reported providing both diagnostic and treatment services, with 3 other facilities having only diagnostic services. An anti-rabies vaccine was available in 2 facilities (5.6%) only. Two-thirds (66.7%) had national guidelines for leprosy, with fewer proportions having national guidelines available for VL (13.9%), LF (5.6%), and rabies (8.3%). Most of the health facilities did not have health workers trained on NTDs, except for leprosy (72% had at least one health worker with leprosy training). Health workers identified a lack of trained human

resources (63.9%), lack of technology and logistics (47.2%), laboratory services (36.1%), and medicine (16.7%) as the reasons for unavailability of services. Despite the high prevalence of NTDs in the eastern *Terai* region, there is a need to strengthen the health system by ensuring trained personnel, availability of diagnostics and medicines, and use of national guidelines for providing NTD services at local health facilities.

Keywords

Neglected Tropical Diseases, Leprosy, Lymphatic filariasis, Visceral Leishmaniasis, Rabies, Service availability, Local health facility

2.11.2 Self-Directed Learning Readiness of the Undergraduate Nursing Students from Selected Nursing Colleges of Purbanchal University

Namu Koirala¹, Shyam Prasad Kafle², Uma Pradhan³, Menuka Shrestha⁴

Corresponding Author

Mrs. Namu Koirala, Purbanchal University School of Health Sciences, Gothgaon, Morang, Email: koiralanamu11@gmail.com

Affiliations

^{1,3,4}Purbanchal University School of Health Sciences, Gothgaon, Morang

²B.P. Koirala Institute of Health Sciences, Dharan, Nepal

Introduction

Self-directed learning is one of the concepts of learning which is mostly used in the educational institutions imparting higher education, especially in the discipline of medicine and paramedics.

Objectives

The objectives of this study were to assess the self-directed learning readiness of the undergraduate nursing students from the selected nursing colleges of Purbanchal university province number 1 and to find out its association with selected demographic variables.

Methods

A descriptive, quantitative, cross-sectional study was undertaken for a period of 8 months (January 2019 - August 2020). All the nursing students, BSN and PBNS from three nursing colleges of Purbanchal University: Purbanchal University School of Health Sciences, Hamro School of Nursing and Birat Health College were enrolled in the study. The nursing colleges were randomly selected. The Census sampling method was adopted for the enrollment of students from selected nursing colleges and a total of 565 students were enrolled. Ethical clearance was taken from the Institutional Review Committee of

Purbanchal University School of Health Sciences. A self-administered, valid and standard tool (Williamson's Self Rating Scale for Self-directed Learning) was used for the study. Data was collected using online google forms and entered in google sheets, then transferred to Microsoft EXCEL. Data analysis was done using SPSS 16.0 version using mean, median, standard deviation, range and inferential analysis was done using chi-square test, Mann Whitney U test and Kruskal Wallis H test.

Results

Overall Self-directed Learning score was 244.83 ± 30.15 . The majority of the respondents (79.3%) had high scores of SRSSDL (221-300) and 20.7% of the respondents had moderate levels of SRSSDL (141-220). The demographic variables didn't exert any significant effect on the overall level of SRSSDL but varied only with the sub-dimensions of SRSSDL.

Conclusion

This study shows that overall self-directed learning among nursing students is moderate to high and the subdimensions have significant associations with demographics and academic level.

Keywords

education, learning, nursing students

2.11.3 Practice of Health Promoting School among Selected Schools of Kathmandu Metropolitan City

Kanchan Shakya¹, Neelu Sharma¹, Yugesh Maharjan²

Corresponding Author

Ms. Kanchan Shakya, Department of Public Health, Om Health Campus, Kathmandu, Nepal, Email: Kanchugirl211@gmail.com

Affiliations

¹Department of Public Health, Om Health Campus, Kathmandu, Nepal.

²Department of Humanities, Beijing Language and Culture University, Beijing, China.

Introduction

Health-promoting school (HPS) is a concept to protect and promote the health of students. Schools in Nepal are mostly concentrated in the capital city comprising most of the private schools. Furthermore, the contribution of the government of Nepal to the

health sector is minimal, and to this end, HPS plays an essential role in improving health conditions. Therefore, the study aimed to assess the practice of health-promoting schools in selected schools of Kathmandu Metropolitan City.

Methods

We conducted a descriptive cross-sectional study among 61 participants from 61 schools that were selected using a cluster sampling technique. Wards of Kathmandu Metropolitan were randomly sampled and schools of selected wards were conveniently selected. The target population included the head of the schools, vice-principal, or teachers. Ethical approval for the conduction of the study was taken from the Institutional Review Committee whereas verbal and written consent was obtained from the participants. A structured questionnaire and checklist were prepared which was based on World Health Organization (WHO) guidelines on health-promoting schools. The collected data was entered and analyzed using SPSS.

Results

We observed that the majority of responders (73.8 %) were men between the ages of 36 and 50. Considering the fact that the majority of respondents had never heard of HPS, the health promotion efforts in those schools were found to be successful (63.8 %). Similarly, when it came to school types, public schools (61.1 %) had superior health promotion practices to private schools.

Conclusion

Private schools have good indicators of components like health policies, the physical environment, and the social environment. Likewise, public schools consist of better practice components like community relationships and school health services.

Keywords

Health-promoting schools; Kathmandu; School health

2.11.4 Nurses' Attitude towards Research and Perceived Barriers in Application of Research Findings in a Tertiary Hospital

Mina Adhikari¹, Sarmila Koirala²

Corresponding Author

Ms. Mina Adhikari, Tribhuvan University Teaching Hospital, Kathmandu, Nepal, Email: adhikarimina55555@gmail.com

Affiliations

¹Tribhuvan University Teaching Hospital, Tribhuvan University, Kathmandu, Nepal

²Yeti Health Science Academy, Purbanchal University, Kathmandu, Nepal

Background

Research based practice is the major concern of modern nursing practice and there is little evidence about whether nurses are aware of studying and using research and the major factors that prevent the utilization of research findings. Objective of this study was to find out the nurses' attitude towards research and perceived barriers in application of research findings in a tertiary hospital.

Methodology

Using a descriptive cross sectional study design, 163 registered nurses of Tribhuvan University Teaching Hospital, selected from stratified random sampling were enrolled in the study.

Results

Majority of nurses (95.1%) had a positive attitude towards research. There was no significant association between level of attitude and socio demographic and profession related characteristics. Setting related barriers are the highest perceived barriers in application of research findings. The top 5 perceived barriers were: inadequate facilities for implementation, lack of time for nurses to read research, feeling of nurses that she/he has enough authority to change patient care procedures, insufficient time on the job to implement new ideas and research reports/articles are not published fast enough.

Conclusion

Top perceived barriers should be decreased through more discussion among stakeholders to promote more research activities and research-based practice. A positive attitude towards research has the potential to influence other nurses in establishing an active nursing research culture and promote evidence-based practice in the workplace.

Key words

Nurses, Attitude, Research, Barriers, Application, Research Findings

2.11.5 Understanding the Perception on the Scope of Work of the Female Community Health Volunteers and their Contribution in the Health Sector of Nepal

Anjali Joshi¹, Dr. Akina Shrestha^{1,2}, Dr. Biraj Man Karmacharya^{1,2}, Dr. Archana Shrestha^{1,2}

Corresponding Author

Ms. Anjali Joshi, Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Kavre, Nepal, Email: joshianjali036@gmail.com

Affiliations

¹Department of Public Health, Kathmandu University School of Medical Sciences, Dhulikhel, Kavre, Nepal

²Department of Community Programs, Dhulikhel Hospital Kathmandu University Hospital, Dhulikhel, Kavre, Nepal

Background

Community health volunteers (CHVs) have been identified as one of the cornerstones of comprehensive PHC in providing preventive and promotive healthcare services. Nepalese female community health volunteers (FCHVs) are engaged in regular health service delivery. During program initiation FCHVs were assigned with the sole purpose of supporting family planning programs. Now, their roles have been expanded in the implementation of many health-related and community-based programs. Therefore, this study aims to determine the perception of FCHVs to their scope of work and the perception of stakeholders on the contribution of FCHVs in the health sector of Nepal.

Methodology

We conducted a qualitative study involving in-depth interviews (IDIs) with FCHVs and key informant interviews (KIIs) with local stakeholders in Kavre district of Nepal. Data was analyzed using thematic analysis and all the analyses were done manually in MS-Excel.

Results

Majority of the FCHVs perceived a sense of workload with a wide work scope and had experienced physical and psychological problems in relation to their work. The major challenges faced by FCHVs were limited allowances and incentives, negative societal perspectives and engagement in multiple tasks. Both FCHVs and stakeholders perceived the FCHV program as one of the most effective programs for improving the health status of underserved communities in Nepal. All the stakeholders perceived an immense need for sustaining the FCHV program which could possibly alleviate the health workers shortages in the community. FCHVs were considered as the backbone of the current health system in Nepal.

Conclusion

FCHVs are experiencing workload with an increased work scope and it has somehow impacted them physically and psychologically. The findings of this study can be utilized in guiding the policy makers in planning systematic and integrated health program packages thereby reducing additional work burden among FCHVs. FCHVs have the potential to supplement the existing health system in advancing progress to Universal Health Coverage (UHC).

Keywords

Community health worker program, community health volunteer, scope of work of community health worker, performances of CHVs and sustaining CHW program.



Organized by:
Government of Nepal
Nepal Health Research Council (NHRC)



In Collaboration with:



Nepal Health Research Council (NHRC)

P.O. Box: 7626, Ramshah Path, Kathmandu, Nepal

Tel : +977 | 4254220

Fax : +977 | 4262469

E-mail : nhrc@nhrc.gov.np

Website : www.nhrc.gov.np