

12th National Summit of Health and Population Scientists in Nepal

Leveraging Community Health Worker-driven Longitudinal Care to Strengthen Primary Health Care and Universal Health Coverage: Early Insights from a Community-Based Integrated Mental Health and NCD Intervention in Nepal

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Background

Significance

- The co-existence of Common Mental Health Conditions (CMHC) and Non-Communicable Diseases (NCD) is increasing, particularly in LMICs, and the prevalence of CMHC and NCD comorbidity is 18% in Nepal (WHO, 2022).

Research Gap

- Behavioral Interventions are highly effective but are inaccessible.

Reality

- Treatment is mostly delivered in clinical facilities rather than in the community setting.

INNOVATION TO
ADDRESS
IMPLEMENTATION
GAP

Intervention

- Behavioral intervention such as Evidence Based Stress Reduction (EBSR), Behavior Activation (BA) and Motivational Interviewing (MI)

Delivered by

- Community Health Workers (CHWs)

Targeted to

- Support Co-morbid CMHC and NCD conditions at the community level

Who are CHWs?

Female, nurses who completed 3 years of academic training, government employees, usually locals, salaried, work full-time, regularly supported and monitored

What do they do?

Provide community-based longitudinal health service using a continuum of care approach [screening, counseling, care coordination, referral, and follow up]



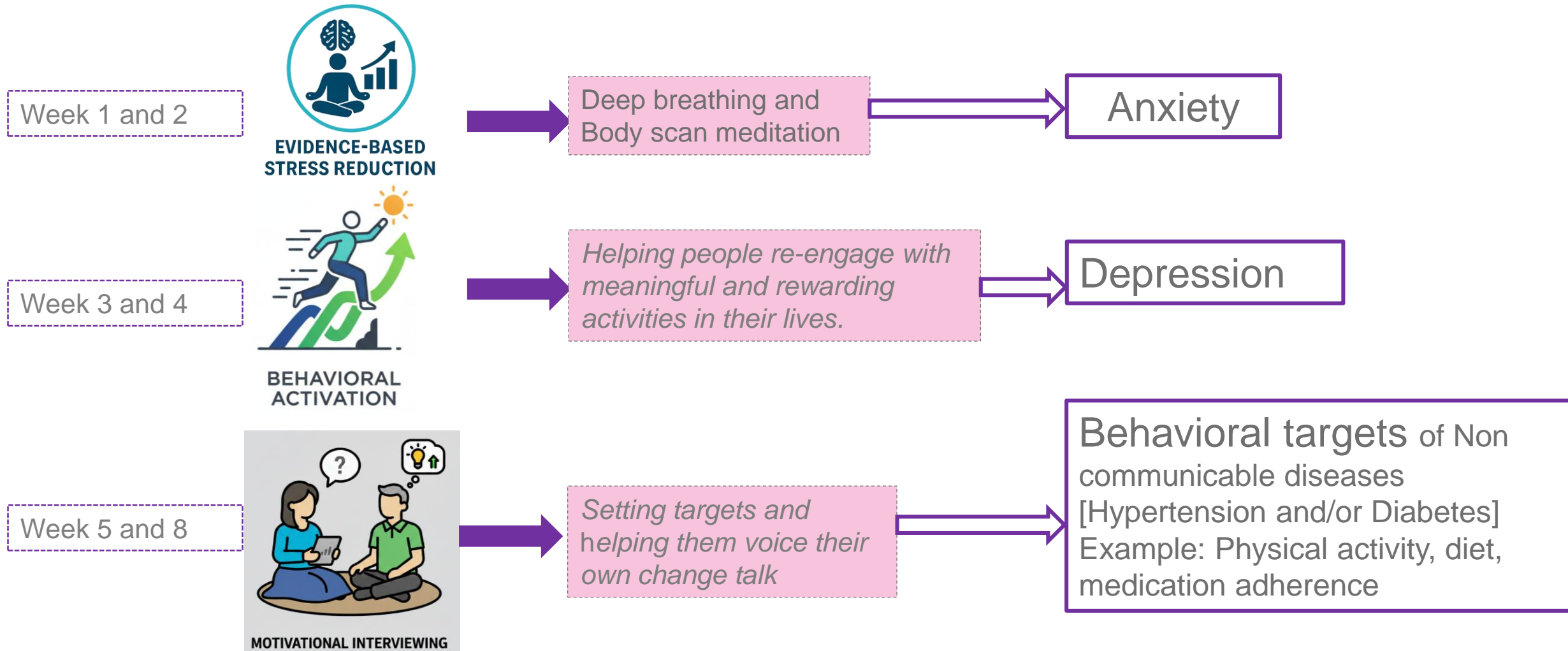
What services do they provide?

RMNCH, NCDs, mental health, communicable diseases prevention and management, referral and follow-up

How do they do?

Using mobile platform (Community Health Toolkit (CHT)) integrated with questionnaire, logic flow, and decision support, coordinating with FCHVs and local health facilities

BECOME (BEHAVIORAL COMMUNITY-BASED COMBINED INTERVENTION FOR MENTAL HEALTH AND NCDs)

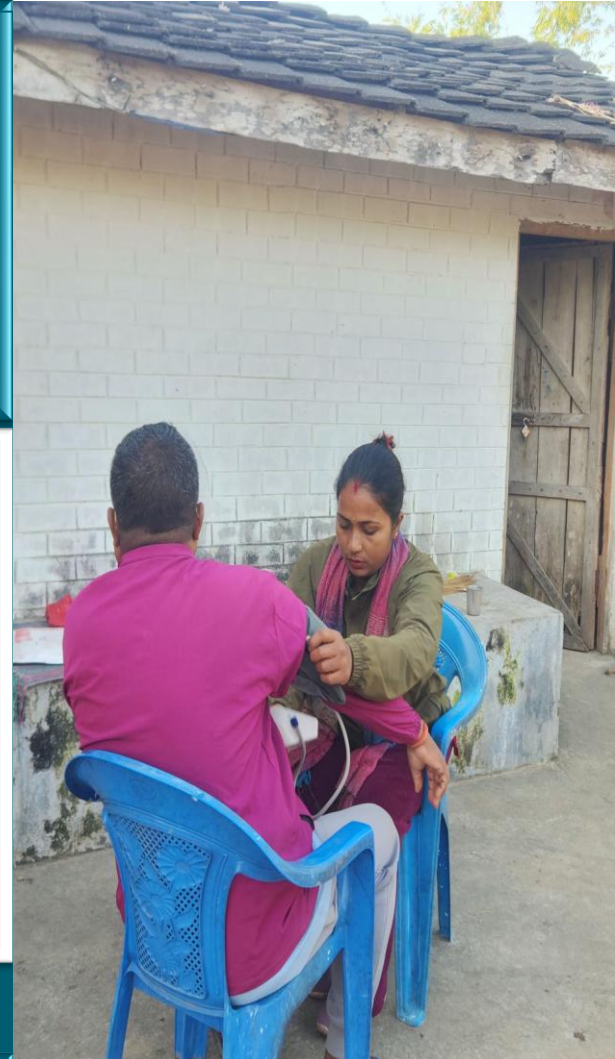


OBJECTIVE OF THE PRESENTATION

This is a broader type-II hybrid implementation study with a stepped-wedge cluster-randomized controlled trial designed to assess the effectiveness of BECOME on CMHC and NCD outcomes in Nepal.

1. To present preliminary community-based data on the prevalence of comorbid CMHC and NCDs.

2. To share early insights and key challenges encountered in delivering BECOME, along with adopted strategies.



SAMPLING AND SAMPLE FRAME

- Of 29 clusters (also called a ward, the smallest administrative unit) from two municipalities, first randomly chose 20 clusters
- Sampling frame of individuals aged 40 years and above was obtained from the Community Health Program in the study sites, complemented by the list obtained from the municipality.
- Systematic sample, starting from the cluster mid-point identified with GPS coordinates, followed by a systematic sequence of adjacent nearest houses by walking distance.
- Lottery method was used to select the potential participant for screening if there is more than one eligible individual in the household.
- If the selected potential participant was ineligible, the next member of the family was screened using the lottery method again.



Research Outcome Assessors conducting Screening at the household level

DATA COLLECTION PROCESS, MANAGEMENT AND ANALYSIS

	Status
Data Collection	<ul style="list-style-type: none"> • <u>Prevalence</u>- HIPPA compliant data collection platform- Research Electronic Data Capture (REDCap); Collected by Trained Research Outcome Assessors at the participant's household • <u>Early insights</u>- Activity logs; in-depth interviews and focus discussions with patient, CHW and PCPs participants; observation and field notes
Screening tool	<ol style="list-style-type: none"> 1) Anxiety (Hopkins Symptom Checklist (HSCL)-25 anxiety subscale ≥ 1.75) and/or depression (HSCL-25 depression subscale ≥ 1.75); 2) NCD using WHO Package of Essential Non-Communicable (PEN) Disease criteria: Hypertension (Systolic Blood Pressure ≥ 130 and/or Diastolic Blood Pressure ≥ 80) and/or Diabetes Mellitus (fasting blood glucose ≥ 126mg/dl).
Data Storage	<ul style="list-style-type: none"> • Saved in Restricted Folder • Accessible only to relevant team members
Data Analysis	<ul style="list-style-type: none"> • <u>Prevalence</u>- Descriptive analysis for the CMHC and NCD co-morbidity, focusing on the prevalence of the comorbid NCD and MH conditions using STATA BE 18.0 • <u>Early insights</u>- Thematically

ETHICS

- Ethical approval was obtained from
 - IRB (Nepal Health Research Council (NHRC) # 256/2023)
 - UCSF (IRB # 22-38288)
- Registered at clinicaltrials.gov- NCT06449521
- Voluntary written Informed consent was obtained from each participant

**PRELIMINARY COMMUNITY-BASED FINDINGS
ON PREVALENCE OF COMORBID CMHC AND
NCD BASED ON SCREENED INDIVIDUALS**

FLOWCHART OF SCREENING

29 clusters from 2 municipalities

Randomization

20 clusters (10/municipality)

Total number of individuals approached
n= 4619

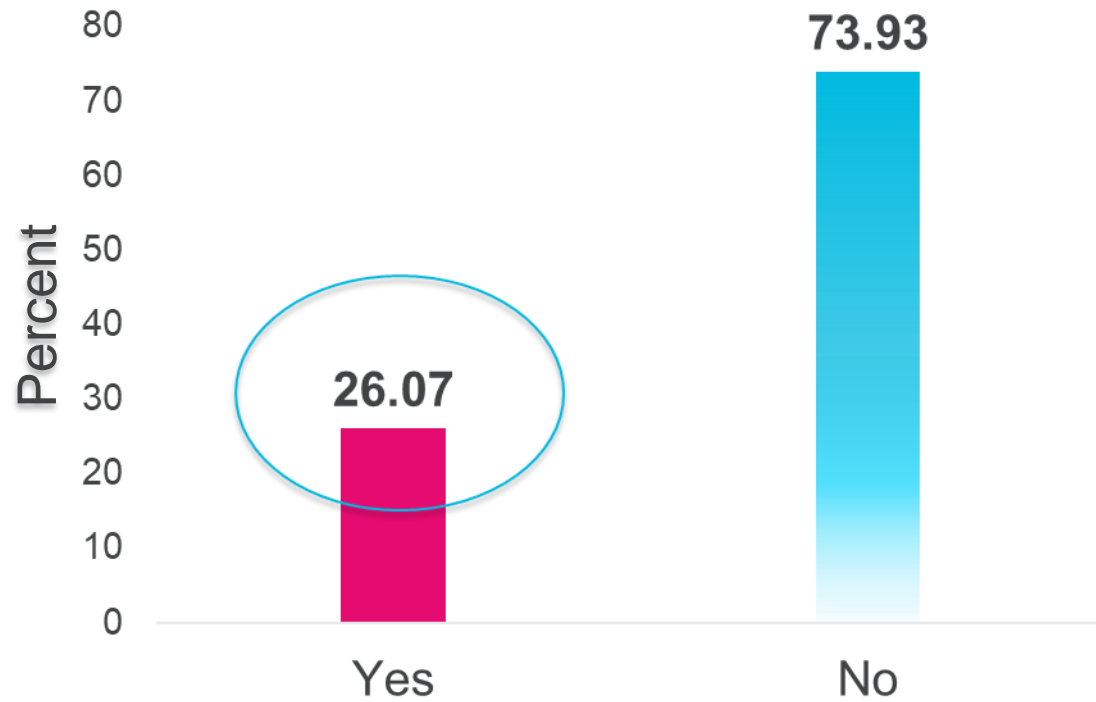
Screening Started on
16th June 2024

**Total participants completing the
screening n= 3579**

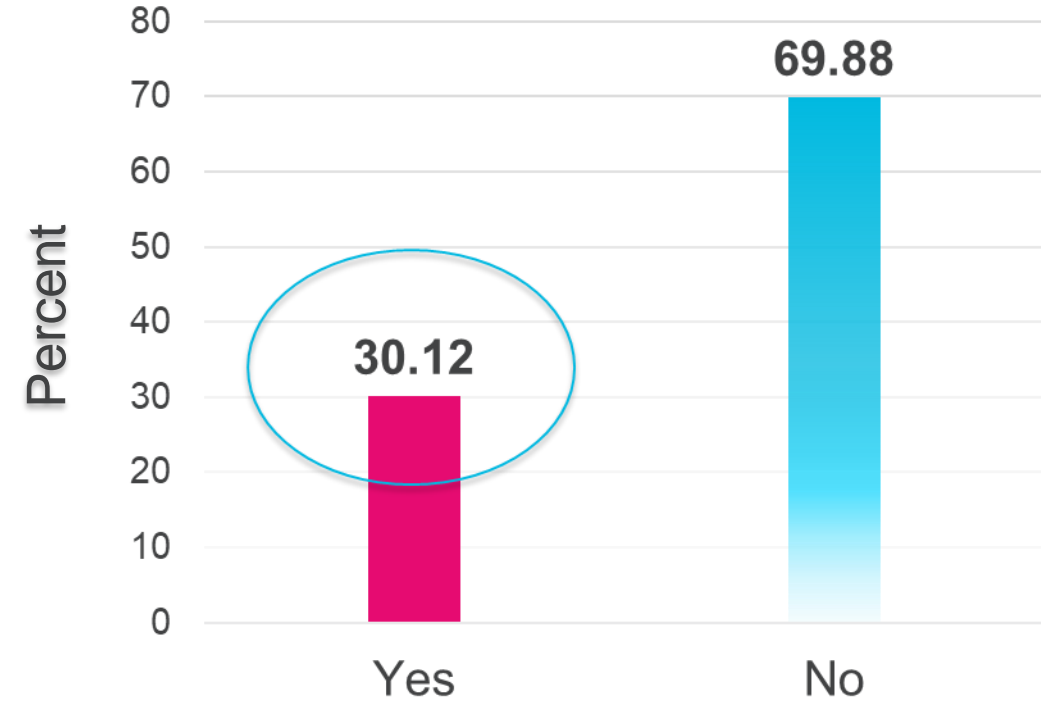
Major reasons for refusals

- Unable to commit time for study procedures
- Plan of migration outside the study clusters
- Expectation of medicine

ANXIETY & DEPRESSION AMONG SCREENED INDIVIDUALS (N=3579)

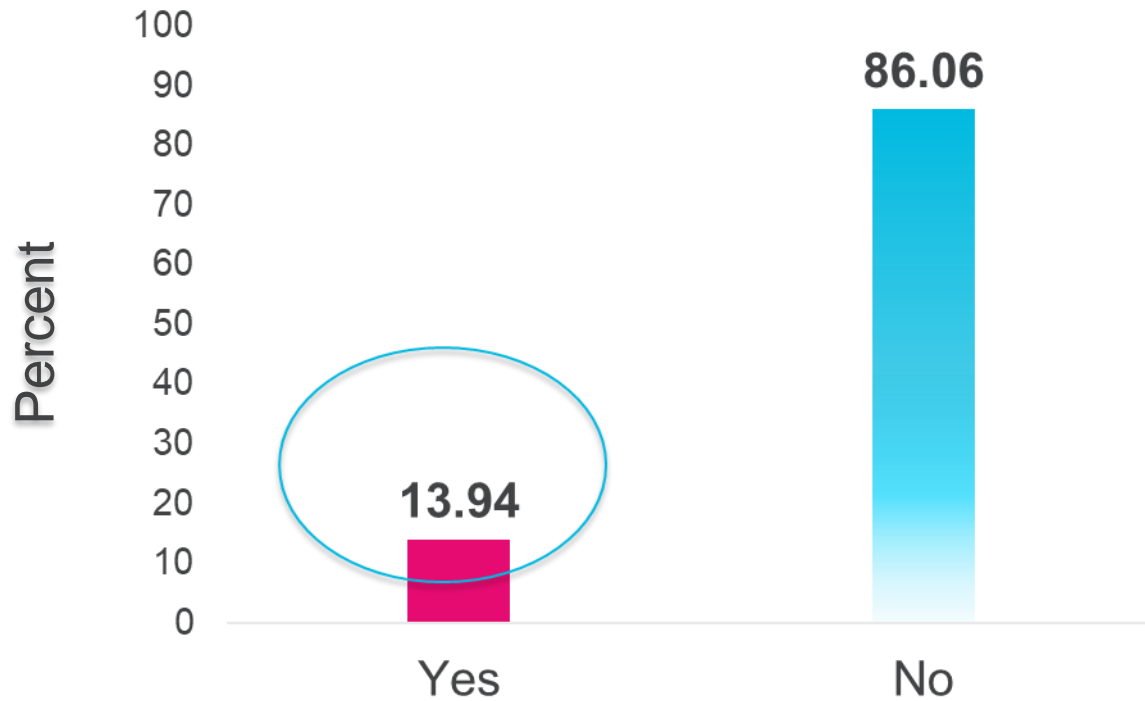


Prevalence of Anxiety (%)

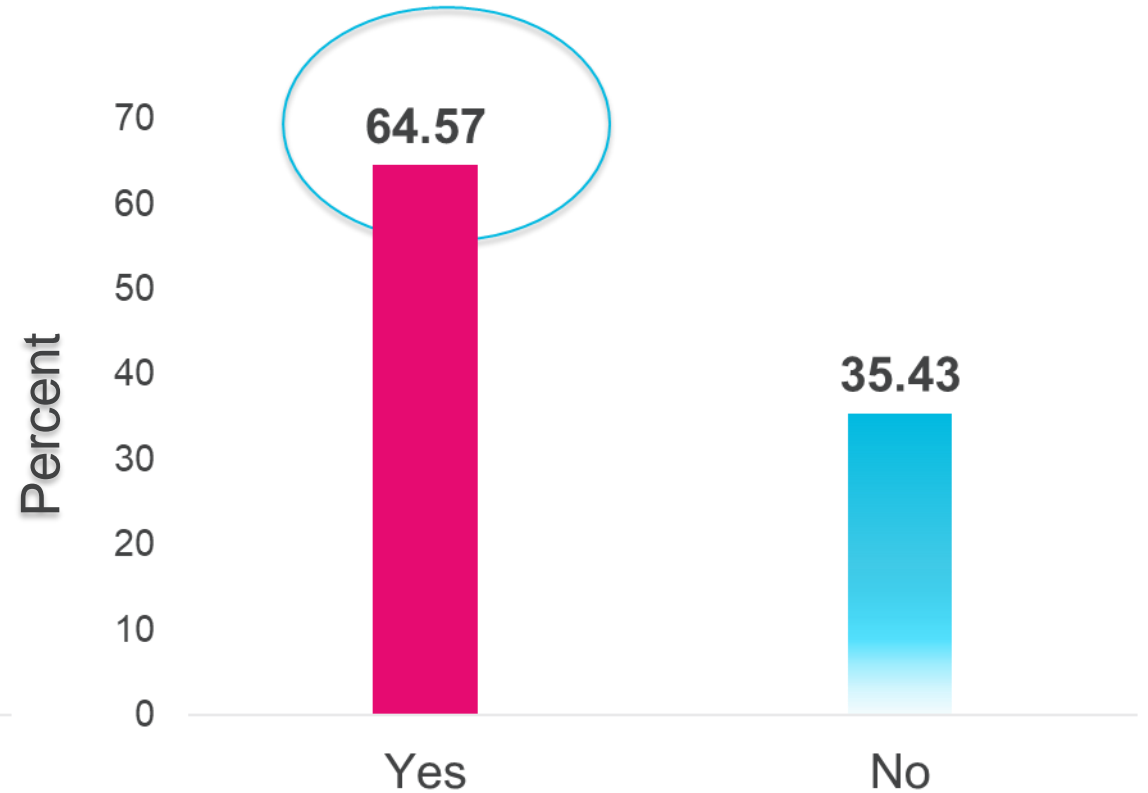


Prevalence of Depression (%)

DIABETES AND HYPERTENSION AMONG SCREENED INDIVIDUALS (N=3579)

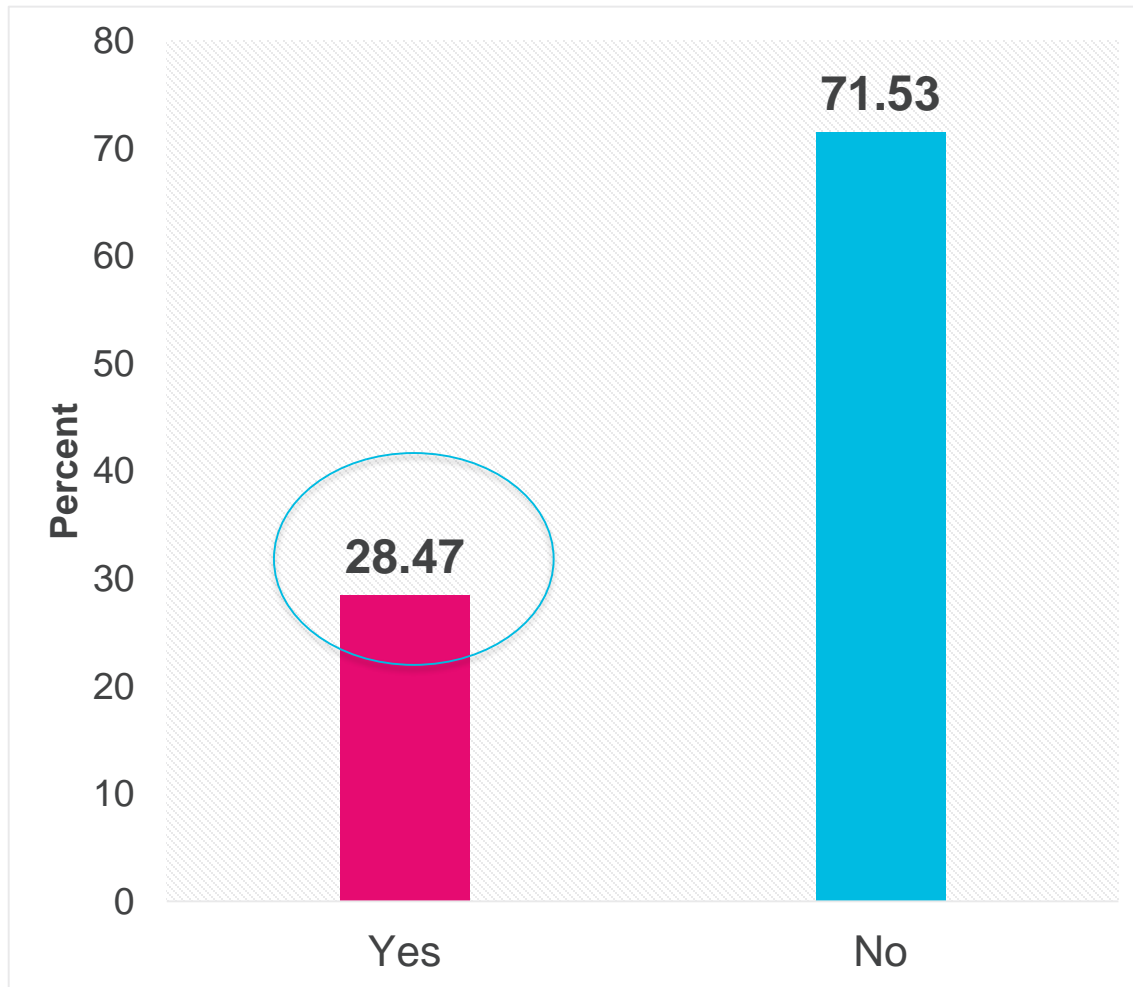


Prevalence of Diabetes (%)



Prevalence of Hypertension (%)

COMORBID CMHC-NCD AMONG SCREENED INDIVIDUALS (N=3579)



Prevalence of CMHC-NCD
comorbid condition
(N=3579)

EARLY INSIGHTS, CHALLENGES AND ADOPTED STRATEGIES

Early Insights: Importance and Effectiveness of Behavioral Interventions

- At first, people did not trust health advice, but regular visits by CHNs slowly built trust.
- More patients are now visiting for diabetes and hypertension care.
- CHNs helped health workers reach homes that were difficult to access before.
- People have started improving their lifestyle (less alcohol, better food, more exercise).
- Communities are now more aware and accepting of preventive health practices.

“My husband's pressure also decreased after following me... so I feel happy.”[Participant]

“I used to drink two bottles of alcohol, now I've reduced to one.”[Participant]

“Due to their lifestyle, they had hypertension and diabetes. Very few knew about it until CHNs visited their homes. After following their advice, some have even reduced their medicine doses.”- PCP participant

Implementation Challenges

Recruitment and Retention Barriers

Due to lack of community trust and familiarity with community-based behavioral intervention; lack of patients' availability/time; migration

Striking balance between CHW's regular work and BECOME intervention fidelity

CHW turnover, lack of motivation, competing work priorities, weekly session scheduling difficulties, non-negotiating intervention component

Mental Health Stigma

Fear of family discovering their anxiety or depression.

Emotional fatigue of CHWs from engaging with comorbid patients

Lack of confidence and emotional vulnerability; handling difficult cases

Technical glitches related to CHT and BECOME flow

Issues with CHT and BECOME flow

Adopted Strategies



- Adjusting workflows/sessions without compromising intervention fidelity; reframing the importance of behavioral intervention in a less stigmatized way, engaging family members
- Strengthening case discussion, simulation during training and supportive supervision to CHWs
- Offering 1:1 and small group psychosocial support to CHWs through clinical psychologist
- Proactive troubleshooting in collaboration with NSSD and technical partner
- Deployed study nurse to attend cases beyond office hours, and address the gap in CHW turnover
- Expectation Recalibration



Conclusions & Key Takeaways

- The community-based prevalence of depression/anxiety and hypertension/diabetes comorbidity is slightly higher than national estimates (28% vs 18%).
- Delivering community-based combined behavioral intervention for comorbid NCD and mental health through CHW-driven longitudinal care is feasible. Still, it requires a strong municipal and primary healthcare support system, adaptive implementation, and continuous supportive supervision.

Acknowledgements

- Research Participants and Community Health Workers
- Kathmandu University School of Medical Sciences
- Ministry of Health and Population
- Nepal Health Research Council
- Nursing and Social Security Division [NSSD]
- Epidemiology and Disease Control Division [EDCD]
- Chandragiri and Bardibas Municipalities
- Implementation Research Committee and Community Advisory Board
- University of California, San Francisco
- Wheaton College
- SunyaEK Computing
- National Institutes of Health

For more details



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Thank you



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