

A REPORT ON

**Cost-effectiveness and patient satisfaction
with health care Facilities provided
by Kathmandu Medical College teaching
Hospital: A prospective study**



PRINCIPLE INVESTIGATOR

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TABLE OF CONTENTS

| | |
|---|----|
| Chapter 1 Introduction..... | 1 |
| 1.1 Focus of the study | 2 |
| 1.2 Statement of the problem..... | 3 |
| General..... | 3 |
| Specific..... | 3 |
| Chapter 2 Literature review | 5 |
| 3.1 General research design..... | 13 |
| 3.2 Sources of data..... | 13 |
| 3.3 Population of study | 14 |
| 3.4 Sampling method..... | 14 |
| 3.5 Data collection method | 14 |
| 3.6 Data analyzing procedure | 14 |
| Chapter 4 Data Analysis and Findings..... | 15 |
| Chapter 5 Summary..... | 18 |
| Chapter 6 Conclusion | 19 |
| References | 20 |

Figures

Annexes

A study on "Cost effectiveness and patient satisfaction with health care facilities by Kathmandu Medical College teaching Hospital: A prospective case study"
Investigator: Mrs Nayan Manandhar

Chapter 1 Introduction

For any health care organization, especially profit based hospitals strategy should focus on patient's needs and wants¹. In this competitive market, every hospital therefore focuses on how to improve the flow of the patients, the health care service and likes to access their performance².

Today all the present reforms of health care systems are focusing on how to improve quality and reduce cost without limiting access and equity. Hospitals, as the main consumers of health care resources, are a major factor in the ongoing reforms and most of the European Health Care services are looking at ways to improve performance of hospitals, without increasing costs to sustain in the hospital market ³. In this high competence world, to respond to changing health needs, the European Hospitals are in verge of renovations.

The World Health Report 2000 stressed that the organization, configuration and delivery of services impact on the performance of the overall health system configuration⁶. The current restructuring of health care services among European countries - both western and eastern European countries - highlights the importance of efficient hospital organization throughout Europe⁶. The development of new common policy orientations, focusing on the demand for accountability, quality improvement strategies, and a growing interest for patient satisfaction assessment, are incentives for developing hospital performance assessment⁷.

In this context , the countries like in Australia, The hospital performance project was initiated in September 2002. A task force has been set up to develop a comprehensive and well-defined model of hospital performance assessment,

oriented towards the promotion of WHO specific goals, and using evidence-based indicators. The overarching purpose of that project is quality improvement through hospital performance assessment⁸.

However, Even though in Nepal, health care industry is undergoing a radical transformation in past ten years. The consolidation of excess hospital capacity, fierce competition within a shrinking medical marketplace and a growing number of competitive health care organizations are causing a urgent need of strategic planning and marketing to increase hospital performance to cope with market-driven competitive challenges¹⁵. Therefore Health care organizations must identify the factors to support strategic planning, market promotion, market research, market sales and product line management to satisfy the patient's needs and wants. So, this study is a small step towards identifying the factors that affect the KMCTH hospital to exist in the market, maintain its quality and with the moving time keep pace with change in renovations according to the patients need and this new cadre must hold the value of satisfaction that customers (physicians, patients, and employers) are the most valuable asset of the health care organizations.

1.1 Focus of the study

This study primarily focuses on the important aspects of hospital service, cost effectiveness and patient satisfaction that affect the hospital in existing hospital market and to identify the patients' needs and wants to satisfy the incoming patients to sustain in the competing hospital market.

1.2 Statement of the problem

Even though there are a number of hospitals and nursing homes are opening in Nepal still large amount of Nepalese still visit out of the country to seek health treatment. Therefore, it should be a concern for profit making hospital like KMCTH to know what can be done to give quality care at the rate of affordable budget to the common Nepali patient.

1.3 Hypotheses

- The locality or placement of Kathmandu Medical College Teaching Hospital in an urban area like Sinamangal , near to Baneswor inside Kathmandu valley does affect the incoming patient for the hospital.
- The hospital costing is affordable for common Nepali People.

1.4 Objectives of the study

General

- Age sex variation of patients visiting to KMCTH
- Which locality people prefers the hospital most?

Specific

- To quantify the cost-effectiveness of, and evaluate patient satisfaction with, twenty four hour outpatient and inpatient services of KMCTH
- The effect of locality, facilities, infrastructure and specialties available in KMCT hospital
- Do common Nepali people can afford the hospital service costing?

1.5 Limitations of the study

Due to constraint of time available to submit the report the sample size taken was small and other prevailing factors like speciality and super speciality available, presence of reputed doctors, available infrastructures and modern surgical machineries etc could not be included and comparative study between the other hospital could not be done.

1.6 Rationale of the study

This study gives the brief picture of the present KMCT hospital reputation among the patients and the factors like cost effectiveness and patient satisfaction, influencing the hospital to exist in the competitive hospital market and for the future, the activities that should focus on the development of performance measurement and structural indicators; on best practices for hospital accreditation and investment on infrastructure. Like for example these areas: Hospital investment in infrastructure, Hospital accreditation guidelines, Hospital performance assessment

Chapter 2 Literature review

A Retrospective descriptive study suggests "...Pregnancy day care is a cost-effective method of providing care for women with hypertensive disorders of pregnancy. Women prefer day care to inpatient care ..."; Dunlop L, Umstad M, McGrath G, Reidy K, Brennecke S., Cost-effectiveness and patient satisfaction with pregnancy day care for hypertensive disorders of pregnancy.; Department of Perinatal Medicine, The Royal Women's Hospital, Carlton, Victoria, Australia, Aust N Z J Obstet Gynaecol. 2003 Jun; 43(3):207-12.

In 1995, the Australian Health Ministers' Advisory Council recognised the importance of national costing activities and agreed that the Commonwealth would conduct an annual hospital costing survey to be called the NHCDC (National Hospital cost data collection); <http://www.health.gov.au/casemix/costing/costmain1.htm>

Loubeau PR, Jantzen R ,suggests; "...Research applications are particularly pronounced at for-profit institutions, those heavily involved in managed care programs, and hospitals that are part of an integrated delivery system. However, the majority of hospital administrators surveyed indicated they do not invest in marketing research to track the effectiveness of their own institution's advertising....."Marketing research activities in hospitals. Satisfaction surveys of inpatients and outpatients are the most widely used application. Department of Health Care Programs, Iona College, New Rochelle, NY, USA , Mark Health Serv. 1998 Spring; 18(1): 12-7

Alexander K. suggests, "..... Among the many customers providers serve are managed care organizations. The strategic relationships providers develop with these payers greatly influence the long-term success of both organizations and specially focuses on providing high-quality customer-service.....", Ten strategies for creating successful managed care relationships., Jennings Ryan & Kolb, Atlanta, GA, USA., Healthc Financ Manage. 1997 Jun;51(6):48,50.

Pink GH, Murray MA, McKillop I. writes, "..... The objective of this study was to investigate the relationship between efficiency and patient satisfaction for a sample of general, acute care hospitals in Ontario, Canada Hospital size and teaching status also appear to affect satisfaction, with lower satisfaction scores reported among non-teaching and larger hospitals. included measures of hospital size, teaching status and rural location....." Department of Health Policy and Administration, University of North Carolina, Chapel Hill 27599, USA, Hospital efficiency and patient satisfaction., Health Serv Manage Res. 2003 Feb;16(1):24-38.

Palmer HC Jr, Halperin A, Elnicki M, Powers R, Kolar M, Evans K, Anderson K. suggests, In 1998, the Patient Care Partnership Project was conducted by general internal medicine physicians and hospital administration in an academic health care center. The project was designed to optimize cost, quality, and service results to inpatients. A collaborative effort between generalists and hospital administration led to a significant improvement in resource utilization compared with the three control groups, with no compromise in quality outcomes; Department of Medicine, West Virginia University School of Medicine, Morgantown, WVa 26506, USA., Effect of a patient care partnership project on cost and quality of care at an academic teaching hospital., South Med J. 2002 Nov;95(11):1318-25

Spooner SH., found "..... With a response rate of 34.2%, it appears that nonresponse bias may have an impact. When looking at variables that may affect the overall score, the multiple regression model used in this analysis was able to explain only 7.5% of the variability in the overall satisfaction score seeming to indicate the unpredictability of the score. This study supports the need to analyze groups of patients rather than patients as a whole to determine what affects their response, both within and between healthcare organizations....."

Department of Information Technology, Iowa Health System, Sioux City 51104, USA, Survey response rates and overall patient satisfaction scores: what do they mean?, J Nurs Care Qual. 2003 Jul-Sep;18(3):162-74

HCUPnet (HCUP) is a family of administrative, longitudinal databases, Web-based products and software tools developed and maintained by the Agency for Healthcare Research and Quality (AHRQ). HCUP is part of a Federal-State-Industry partnership to build a standardized, multi-state health data system.;*HCUPnet, Healthcare Cost and Utilization Project*. December 2003. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/data/hcup/hcupnet.htm> provides *national statistics and trends and selected State statistics about hospital stays*. to select specific conditions or procedures of interest, to rank order conditions or procedures (show the conditions with the highest length of stay, total charges, or death rates), or to examine all discharges in general.

Boshard N. suggests "Health care organizations must identify a new cadre of health professionals to support strategic planning, market promotion, market research, market sales and product line management. This new cadre must hold the value that customers (physicians, patients, and employers) are the most

valuable asset of the health care organizations", A planning and marketing prototype for changing health care organizations., Health Care Strateg Manage. 1986 Nov; 4(11): 14-8

Paul DP 3rd, Honeycutt ED Jr. College of Business & Public Administration, Old Dominion University, Norfolk, VA 23529, USA suggests 'Early attempts at marketing by hospitals were haphazard and focused primarily upon advertising and public relations. Through a review and discussion of documented hospital marketing practices, the hospital-patient marketing relationship is examined. Conclusions about hospital marketing practices and suggestions for future research are also provided', An analysis of the hospital-patient marketing relationship in the health care industry J Hosp Mark. 1995; 10(1): 35-49

According to Lazarus IR., National Health Enhancement Systems, Phoenix, AZ., With or without federal health care reform to impact the delivery of health care services in the U.S., hospitals must commit to service marketing and strategic alliances as a fundamental business strategy. Service marketing not only differentiates the provider, but with the proper programs in place, it may actually facilitate the formation of strategic alliances. The combination of these strategies will be particularly effective in preparing for any health care policy change., Combining service marketing and strategic alliances in health care., Health Care Strateg Manage. 1993 Nov; 11(11): 14-7

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type of business strategy adopted by the hospital. *J Hosp Mark.* 1997; 11(2): 39-59.

Krampf RF, Miller D, Graduate School of Management, Kent State University, gives emphasis on sales and advertising based upon marketing research programs thus indicating entrance into the "Integrated Tactical Marketing" phase. This study also indicates that a few hospitals have entered the "Strategic Marketing Orientation" phase while future plans reported by the CEOs provide evidence that this trend is likely to continue., Hospital successes and failures indicate change in hospital marketing., *J Hosp Mark.* 1993; 7(2): 11-8.

This study Integration mechanisms and hospital efficiency in integrated health care delivery systems. By Wan TT, Lin BY, Ma A, Department of Health Administration, Virginia Commonwealth University, Richmond, USA, analyzes integration mechanisms that affect system performances measured by indicators of efficiency in integrated delivery systems (IDSs) in the United States. The service differentiation strategy such as having more high tech medical services have much stronger influences on efficiency than other integration mechanisms do. High efficiency in hospital care can be achieved by employing proper integration strategies in operations., *J Med Syst.* 2002 Apr; 26(2): 127-43

Welch JR, Kleiner BH., School of Business Administration and Economics, California State University at Fullerton, USA, suggests , Changes in the health care environment over the past ten years have prompted changes in the way hospitals are being managed. The rising cost of health care has affected Medicare reimbursement, caused business to be a discerning selector of medical care, and given birth to alternative forms of health care delivery. All these conditions have resulted in decreased revenue and increased competition for hospitals. Focuses on what hospitals have done to adapt to these changing conditions: cost

containment, marketing strategies, and human resource management, since these areas have undergone the most meaningful changes. New developments in hospital management , Health Manpow Manage. 1995; 21(5): 32-5

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Simon CJ, Dranove D, White WD, Institute of Government and Public Affairs and School of Public Health, University of Illinois-Chicago 60607, USA studies To determine the effects of managed care growth on the incomes of primary care and specialist physicians and concludes Evidence is consistent with a relative increase in the demand for primary care physicians and a decline in the demand for some specialists under managed care. Market adjustments have important implications for health policy and physician workforce planning, The effect of managed care on the incomes of primary care and specialty physicians., Health Serv Res. 1998 Aug; 33(3 Pt 1): 549-69

Massey TK Jr, Blake FW suggests Competition in the health care industry is intensifying. The changing environment is making it necessary for executives to integrate quantitative market identification methods into their strategic planning systems. The authors propose one such method that explicitly recognizes the relative strength of competition in the marketplace and offer two examples of its

implementation., Estimating market boundaries for health care facilities and services.

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Hospital marketing orientation and managed care processes: are they

coordinated?; White KR, Thompson JM, Patel UB.; Graduate Program in Health Administration, Virginia Commonwealth University, Richmond, Virginia, USA.

krwhite@vcu.edu The hospital marketing function has been widely adopted as a way to learn about markets, attract sufficient resources, develop appropriate services, and communicate the availability of such goods to those who may be able to purchase such services. The structure, tasks, and effectiveness of the marketing function have been the subject of increased inquiry by researchers and practitioners alike. A specific understanding of hospital marketing in a growing managed care environment and the relationship between marketing and managed care processes in hospitals is a growing concern. Using Kotler and Clarke's framework for assessing marketing orientation, we examined the marketing orientation of hospitals in a single state at two points in time--1993 and 1999. Study findings show that the overall marketing orientation score decreased from 1993 to 1999 for the respondent hospitals. The five elements of the Kotler and Clarke definition of marketing orientation remained relatively stable, with slightly lower scores related to customer philosophy. In addition, we evaluated the degree to which selected managed care activities are carried out as part of its marketing function. A significant ($p < .05$) decrease in managed care processes coordinated with the formal marketing function was evident from 1993 to 1999. With increasing numbers of managed care plan enrollees, hospitals are likely focusing on organizational buyers as important customers. In order to appeal to organizational buyers, hospital executives may be focusing more on clinical quality and cost efficiency in the production of services, which will

improve a hospital's position with organizational buyers, *J Healthc Manag.* 2001 Sep-Oct; 46(5): 327-36; discussion 337

Managing the market. Focusing on a select group of customers can keep an organization competitive.; MacStravic RS.; The real challenge in healthcare marketing today is managing markets, focusing on selected groups of customers rather than on the organization or its services. Market management includes three distinct but related levels: Strategic market management assesses current and potential markets and chooses those the organization can serve best; segment management focuses on the needs and wants of subsets of chosen customers; and customer management reinforces long-term commitments to the organization. The patient care experience can be broken down into specific contacts with each staff member. The key to managing the experience is to identify and achieve standards of performance for each contact by examining what each event means to the patients and how patients judge each staff member, as well as the overall care experience. Regular feedback helps. An unavoidable risk in market management is that a given segment may decline in size, in need for services, or in cohesiveness as a segment. Yet those organizations which can identify the right segments and "manage" them effectively will have an advantage in a competitive market.; *Health Prog.* 1989 May; 70(4): 22-5

Marketing research activities in hospitals. Satisfaction surveys of inpatients and outpatients are the most widely used application.; Loubeau PR, Jantzen R.; Department of Health Care Programs, Iona College, New Rochelle, NY, USA. Virtually unheard of in health care 30 years ago, marketing research by hospitals is expanding at a notable rate, particularly among larger institutions located in

A study on "Cost effectiveness and patient satisfaction with health care facilities by Kathmandu Medical College teaching Hospital: A prospective case study" 12
Investigator: Mrs Nayan Manandhar

highly competitive urban markets. Research applications are particularly pronounced at for-profit institutions, those heavily involved in managed care programs, and hospitals that are part of an integrated delivery system. However, the majority of hospital administrators surveyed indicated they do not invest in marketing research to track the effectiveness of their own institution's advertising. *Mark Health Serv.* 1998 Spring; 18(1): 12-7.

Chapter 3 Research Method

This is a prospective, cohort, case study, having Qualitative approach, and tried to quantify the qualitative aspects like satisfaction by services, facilities, etc. The data was collected in between mid November 2003 to mid January 2004. To control the variables closed ended subjective, structured questionnaires were formatted and designed and provided to every 3rd patient entering the ticket counter of KMCTH reception department for discharge.

3.1 General research design

A prospective, cohort, case study, having Qualitative approach with random sampling. Having variables: Age, sex, sociodemographic, socioeconomic background, ethnicity, opinion about services and facilities available, disease, department visited.

3.2 Sources of data

Primary data, Prepared closed ended subjective, structured questionnaires in Nepali (see Annex)

Data collection site:

Kathmandu Medical College Teaching Hospital, Sinamangal

3.3 Population of study

21 patient themselves and patient care takers were provided to fill the questionnaires, among which 12 were Males and 9 were females

3.4 Sampling method

Random sampling, every 3rd patient entering the ticket counter of KMCTH reception department for discharge

Closed ended questionnaire to the patients

3.5 Data collection method

Prepared closed ended subjective, structured questionnaires in Nepali (see Annex)

3.6 Data analyzing procedure

Data Analyzing tool: Microsoft Excel, Chart wizard

11 main questions - age, sex, address, ethnicity, discharged ward/ concerned dept, education, eco status, comment about provided facilities, services, how's the hospital costing, complaint of the patient

- Economic status is categorized as Lower class, Lower Middle, Middle class, Higher class and scored as L=1, LM=2, M=3, H=4

- Facilities included reception, medicine supply, pathology laboratory facility , physical infrastructures, house keeping, cleanliness (satisfactory = 1, un- satisfactory = 2)
- Services included visits and treatment of doctors , nurses their behavior towards them clinically and psychologically (satisfactory = 1, unsatisfactory = 2)
- Hospital service Costing for patient (very dear=1, dear=2, ok=3, cheap=4)
- Age is categorized as below 10=1, 11-20=2, 21-50=3, over 50= 4(old)
- Ethnicity is categorized as Brahmin = 1,Chetri = 2, Newar = 3, Rai/ limbu /lama=4, Madhesi = 5, others= 6
- Demographic locality is categorized as (with in 3 Km of the hospital =1, within ring-road/valley=2, within Kathmandu district=3, outside of KTM valley=4)
- Education : illiterate=1, under SLC=2, SLC till Bachelor=3 Above Bachelor=4

Chapter 4 Data Analysis and Findings

Age and Sex distribution

- Among 21 respondents , 12 were Males and 9 were females
- Most of the patients admitted were found to be matured adults and substantial nos are old among 21 respondents and very few were less than 20 yrs This shows: most of the diseased pts were matured adults in that area since the local people visits most, may be due to todays modern lifestyles

- Most patients visiting to the hospital were found to be Males ie in that locale most of the Males get diseased in comparison to females

Department/ complaint of patient

- Substantial no of patient seemed complication regarding heart and lung like COPD and asthma and diabetes and jaundice too, therefore more no of pt seemed to admit in Med ward most may be due to cold season
- And second most complication patient is having is with surgical with surgical problem like kidney stone, gall bladder stone, appendectomy and hysterectomy
- And there are substantial number of patient visiting to pediatric

Ethnicity/ Locality

- The Brahmins and Chetris are more health conscious and sensitive towards their health than other ethnic group, however this might have affect of the locales living since there are more Brahmins and chetris than other ethnicity living in that locale
- The locals living near the hospital locality visits the hospital in comparison to farther area locales however substantial number of people outside Kathmandu also visits Kathmandu Medical College Teaching Hospital.

Education

- Most of the patients were under SLC/ illiterate and considerable people are SLC to Bachelor and very few were Over Bachelor. This shows most of the patients were either under SLC or studied till Intermediate but considerable number of patients were educated.

Economic status

- Most of the patients' economic status is middle class and considerable number were lower middle class and very few were Lower class and higher class nil.
- And the Hospital service charges to patient seemed to come within their budget and ok to them.

Opinion about Facilities and Services

- Most of the patients seems to be satisfied with the facilities and services of the KMCTH Hospital however very few were unsatisfied.

Chapter 5 Summary

The real challenge for profit making service oriented like Kathmandu Medical College Teaching Hospital (KMCTH), Sinamangal, is managing markets, focusing on selected groups of customers. Market management includes three distinct but related levels: Strategic market management assesses current and potential markets and choose best possible service; and should focus on the needs and wants of subsets of chosen customers; and since customer management reinforces long-term commitments to the organization⁹. The key to access all these management aspects requires the information to identify and achieve standards of performance for each department and how patients judge each available resources, facilities, as well as the overall care experience¹¹.

Therefore, this study a prospective, cohort, case study, having Qualitative approach with random sampling, having sample size of 21. The result shows most of the patients visiting in this KMCTH were nearby locals, living around hospital area, among which most were matured, adult males. Most of the patients are possessing complaint of heart and lung disease. And most of the locals are Chetris and Brahmins so are the patients and most of the patients were satisfied with the services and facilities of the hospital.

Chapter 6 Conclusion

- Males get diseased more in comparison to females
- Most of the diseased pts were matured adults in that area since the local people visits most, may be due to today's modern lifestyles
- Substantial no of patient seemed complication regarding heart and lung like COPD and asthma and diabetes and jaundice too
- Second most complication patient were having is with surgical
- Brahmins and Chetris are more health conscious and sensitive towards their health than newar, rai limbus and madhesis
- Locals living near the hospital visits more than farther area however substantial number of people outside KTM also visits KMCTH.
- Most patient seems to be educated as per average Nepali education.
- Most of the KMCTH customers seems to be of Middle class and the service charge of KMCTH are affordable to them, however some found it very cheap and no patient commented of service charge as dearer or very dear.
- The patients seem to be satisfied with the KMCTH facilities and services provided by nurses and doctors however very few complained about less visit of senior doctors and few commented about water and sanitary facility.

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16 **MARYLAND HOSPITAL PERFORMANCE EVALUATION GUIDE , A REPORT (HOSPITALGUIDE.MHCC.STATE.MD.US, HEALTH SERVICE COST REVIEW COMMISSION**

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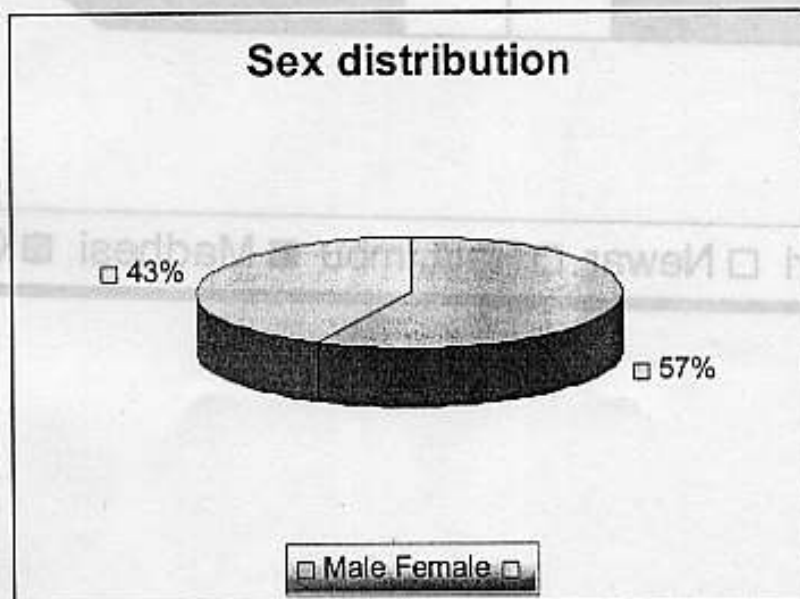
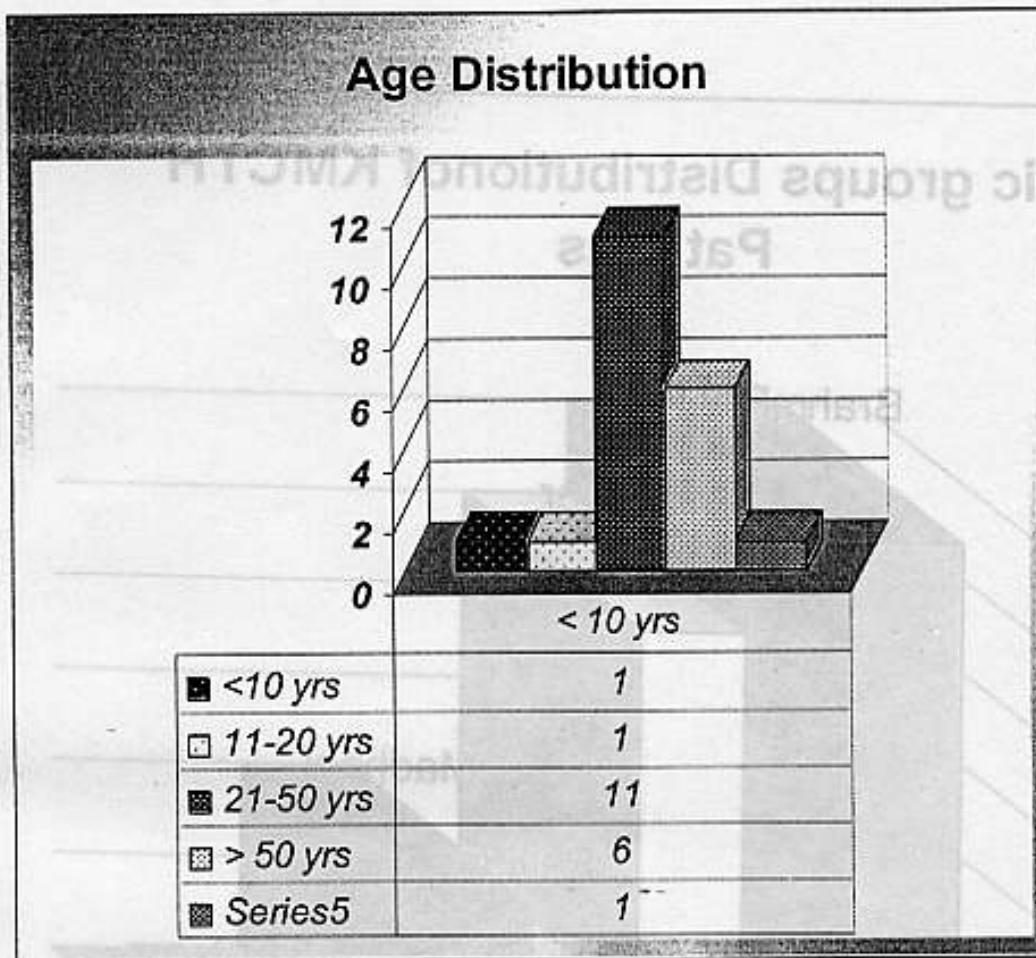
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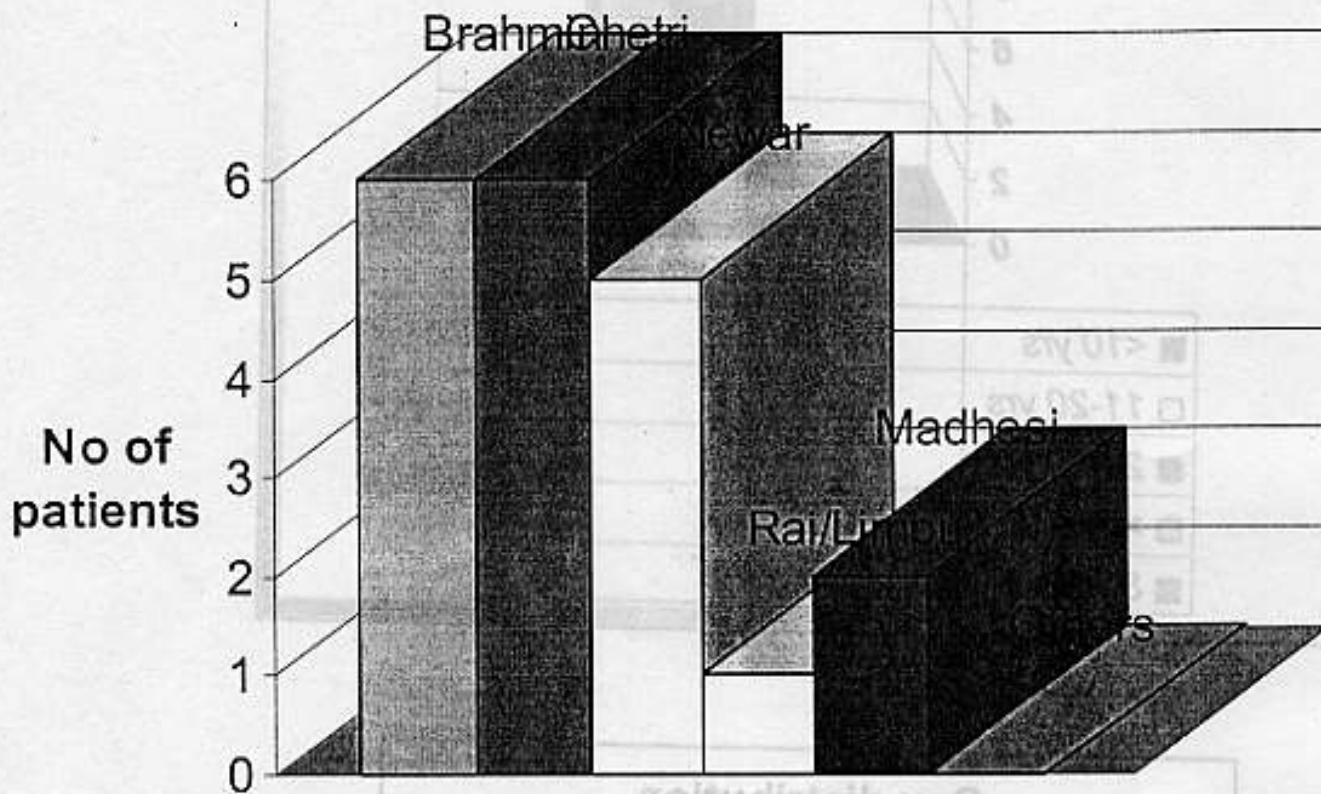
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Charts & Figures

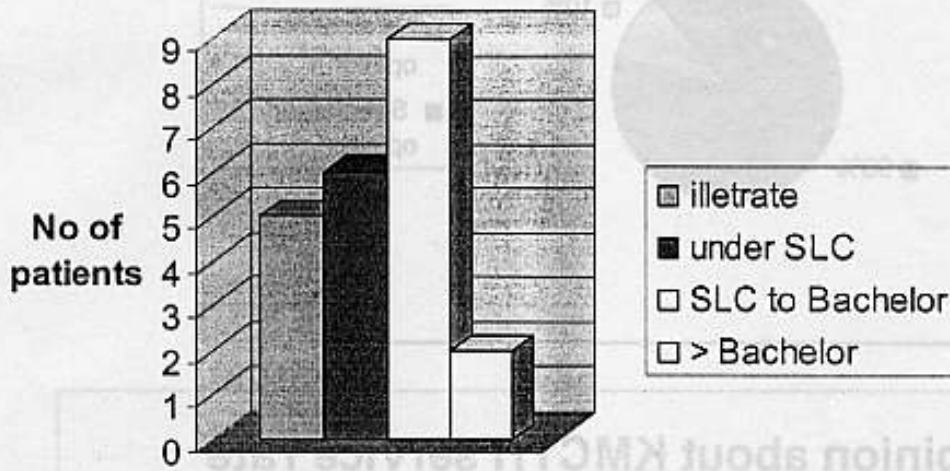


Ethnic groups Distribution of KMCTH Patients

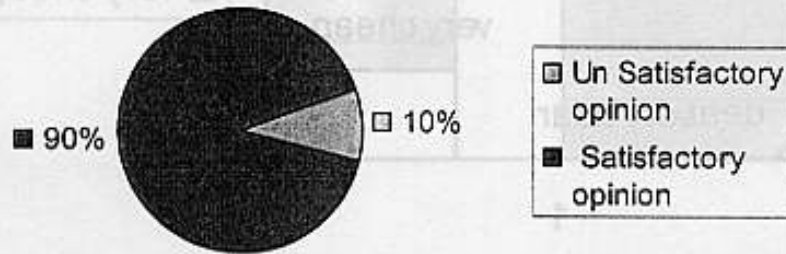


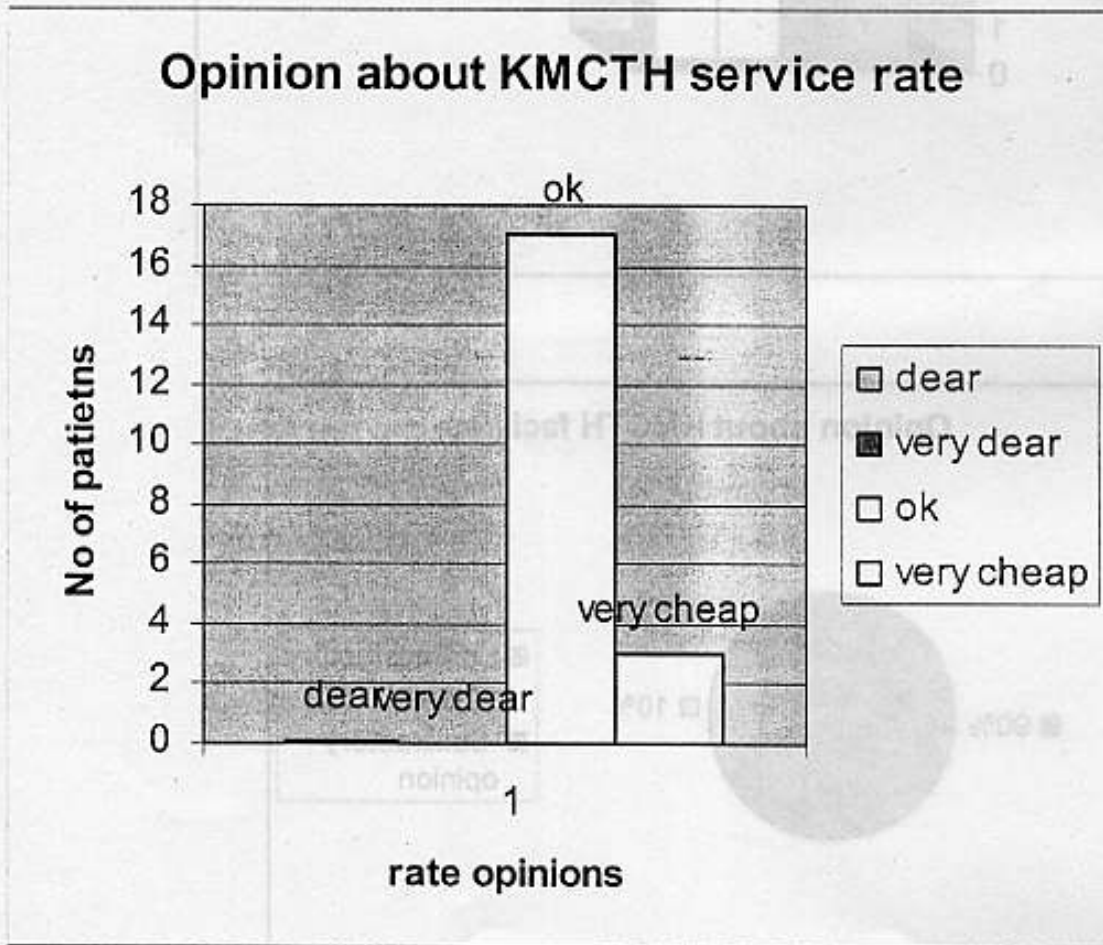
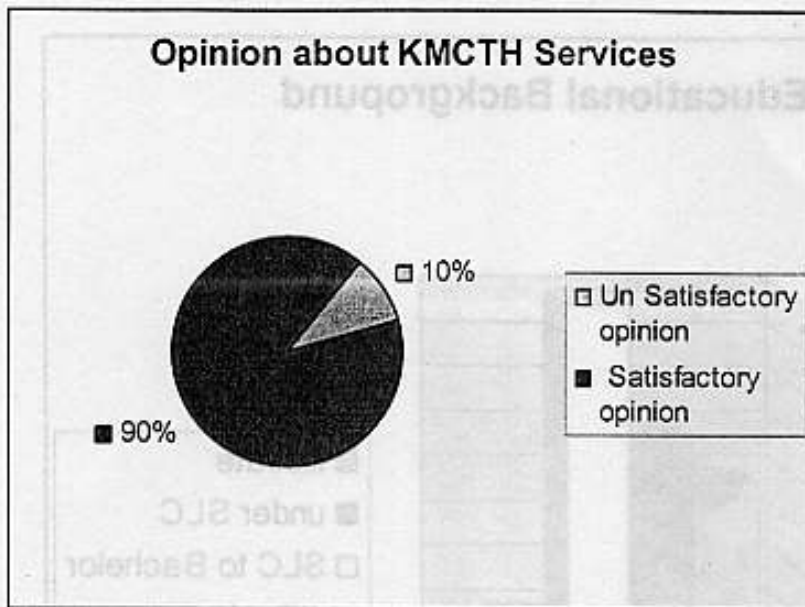
Brahmin
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 Rai/Limbu
 Madhesi
 Others

Educational Backgropund

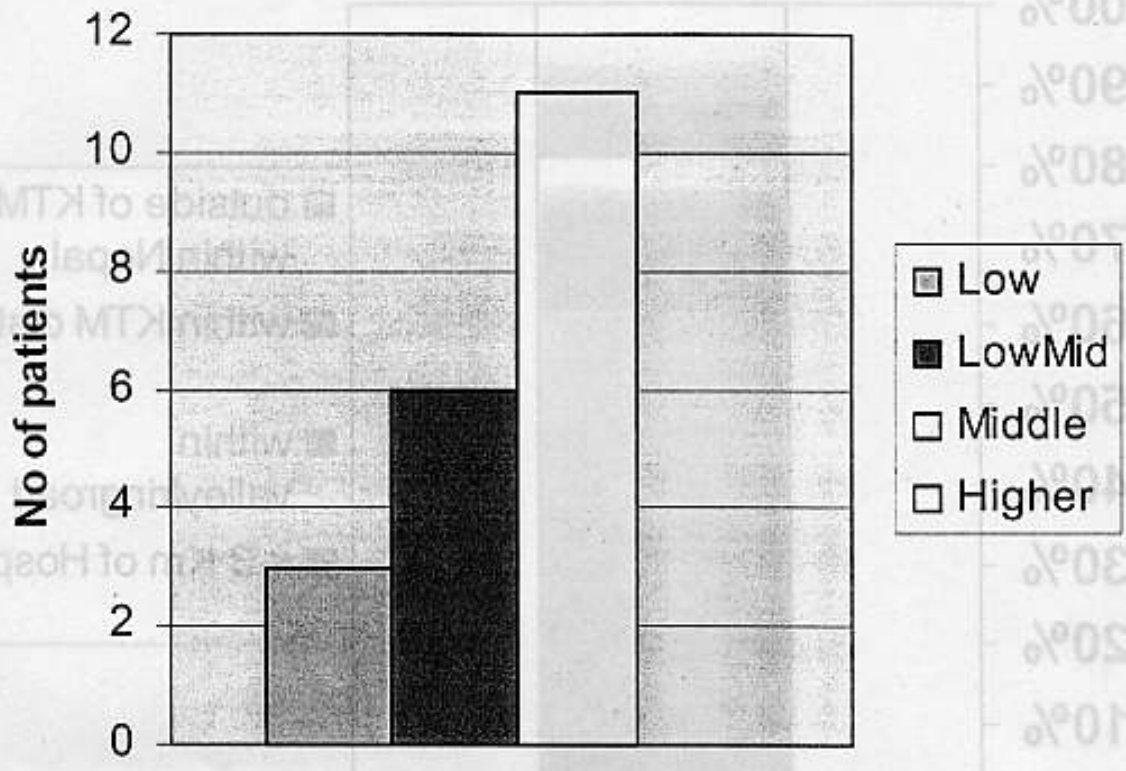


Opinion about KMCTH facilites





Economic Status



Demographic distribution

