

**A STUDY ON
PERFORMANCE OF COMMUNITY EYE CARE ACTIVITIES
OF LUMBINI EYE INSTITUTE (LEI) WITH THE FOCUS ON
CLIENT'S SATISFACTION, BHAIRAHAWA, RUPANDEHI**

THESIS

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RECOMMENDATION

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DECLARATION

I hereby declare that the work reported in this thesis entitled '**A Study on Performance Of Community Eye Care Activities Of Lumbini Eye Institute (LEI) with the focus on client's satisfaction, Bhairahawa, Rupandehi**' submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the Master's Degree of Business Studies (M.B.S.) under the supervision of Shankar Panthi of Bhairahawa Multiple Campus.

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ABSTRACT

The descriptive cross sectional study was carried out to find out different factors associated with the clients' satisfaction among users of Lumbini Eye Institute (LEI) services in Siddharthanagar Municipality of Rupendehi district.

Although 384 clients were to be interviewed but due to time and resource constraints only 108 clients and 14 more community people were interviewed in this study. Among clients interviewed at Inpatient of LEI, (68.5%) were found to be fully satisfied, 31.5% were partially satisfied and no one was found to be not satisfied.

The respondents have given multiple responses about the factors which make them satisfy from the different services they received. Almost, 90.7% were satisfied with the services of the LEI because of its affordable services, besides this around half of the respondents were satisfied because of the Good behaviour of service providers and accessibility of service.

In the study population, no respondents are found to be fully dissatisfied. Some of the clients were dissatisfied because of the longer time consumed by the LEI during the service provision, unavailability of some service and pain due to injection were some of the cause of dissatisfaction.

The suggestions for improving the clients' satisfaction were to increase the accessibility, counsel to the patients about the drug side effects, encourage the clients about the benefits of the services of LEI.

Clients' satisfaction is also related with the society's and village people's perception. To make this study more valid, 14 Key informants (FCHVs- 3, Social Workers/Leaders- 6 and School Teachers- 4) were selected and interviewed

asking open-ended questions related to LEI service and clients' satisfaction. The questions were concentrated in feeling, perceptions, values, beliefs and attitudes of communities. They also commented that the LEI services were popular because of easy, accessible and affordable services.

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Abbreviations

AHW	Auxillary health Worker
BCC	Behavior Change Communication
BOD	Board of Director
Cat.	Cataract
CEHP	Community Eye care and Health Promotion
D/PHO	District/Public Health Office
DR	Diabetic Retino Pathy
DST	Diagnostic Screening and Treatment
FCHV	Female Community Health Volunteers
HP	Health post
IEC	Information Education and Communion
IOL	Intral Occular Lens
L.V.	Low Vision
LEI	Lumbini Eye Institute
LRAEH	Lumbini Rana ambika Shah Eye Hospital
MDCs	More Developed Countries
Mgmt.	Management
NRCS	Nepal Red Cross Society
PECC	Primary Eye Care Centres
PR.	Public Relation
R & D	Research and Development
R E	Refractive Error
SRASEH	Shree Rana Ambika Shah Eye Hospital
SRC	Swiss Red Cross
VA	Visual Aquity
VIP	Visual Impairment Project
WHO	World health Organization

CHAPTER I

INTRODUCTION

1.1 Background Information

Lumbini Eye Institute is established in 1983 with only two rooms and four staffs, including the only one ophthalmologist doctor in government hospital, Bhim hospital premises. Today, Lumbini Eye Institute (LEI) has evolved from a small eye clinic to one of the leading and most successful eye care center among several eye hospitals run under Nepal Netra Jyoti Sangh in Nepal. It is also considered as one of the finest example of self sustainable eye care center in entire south Asia. It supplies its eye care facilities not only national level but also international level. The institute boasts a cadre of experience ophthalmologists and has a good backup of paramedical staffs. The mission of the LEI is to be developed as "world class eye institute with international trainee and research center". To achieve this mission the visions of LEI are

1. Total quality persons who will be working together
2. Assurance of excellent quality services
3. Ultramodern appropriate technologies
4. Research

Community based; To cater eye care services at grass root level

Hospital based;

- a. develop a culture of continuous development,
- b. keep pace with international standard,
- c. reduction of patient waiting time in the hospital from reception to discharge,
- d. reduction off cost without compromising quality,
- e. adequate trainings to all staffs working on related fields,
- f. to carry out various clinical, non clinical and research activities,

250 beds in this hospital served around 1,60,746 patients and performed 32,093 different types of eye surgeries in the year 2008/09. In order to share the expertise and experiences and of transfer of skills LEI conducts many national and international seminars and makes access to its staffs in such national and international programs. LEI also building institutional linkages in countries like Tibet, Cambodia, India etc to share its expertise and experiences.

LEI offers three years MD residency course on general ophthalmology. This program is affiliated with 'National Academy of Medical Sciences (NAMS)'. The institute also offers six months fellowship trainee on general ophthalmology and anterior segment. In addition LEI has been provided three years mid level ophthalmic assistance training program since 1990.

Several community eye care programs are being conducted to the underprivileged and unreached marginalized Nepali population. Few community eye care programs includes;

- a. DST(diagnostic screening and treatment) camp,
- b. surgical Eye camp,
- c. pediatric Eye camp,
- d. school screening programs,
- e. community based training and awareness programs,
- f. community based research,

Mentioned above activities are currently helping to reduce avoidable blindness of people.

In addition, with the noble objective of serving remote population, in the year 1986, LEI started expanding its wings as Primary Eye Care center in Palpa, which was latter on upgraded into Eye Hospital. By now it has already established well functioning primary eye care center in Parasi, Butwal,

Gulmi, Arghakhachi, Kapilbastu, Pyuthan, Taplegun, Dolkha, Tehrathum, Sankhuwasabha, and Dhankuta.

All these PECC's are helping to create awareness of avoidable blindness from the remote area of Nepal. The Mission, Vision, objectives and different activities conducted by the LEI are further explained as follows,

Mission Statement

"Lei – World Class Eye Institute With International Training And Reserch Centre"

- a. Innovate the Science and Art of Rural Eye Care,
- b. Prepare LEI to Provide comprehensive (Total) Quality Eye Care to All
Classes of Society
- c. Develop LEI into Ultimate Destination for Eye Care

Vision

- a. Dedicated Critical Mass: 200; Total Quality Persons will be Working
together with Missionary Zeal ,
- b. Assurance of Excellent Quality Service ,
- c. Ultramodern Appropriate Technology ,

Research

- a. Community based – to cater eye care services at grass root level.
- b. Hospital base research ,
- c. To develop a culture of continuous improvement
- d. Keep pace with international standards ,
- e. Reduction of patient waiting time from reception to discharge,
- f. Reduction of cost without compromising quality.

Vision 2020 aims to eliminate avoidable blindness worldwide by the year 2020, in order to give everyone in the world the right to sight. Twenty five years ago, Nepal was one of the countries with very poor eye care facilities and a few Nepalese who had the financial and social wherewithal traveled to India for their eye care needs. Since then there has been a phenomenal change. Nepal is now being acknowledged as an outstanding example of having attained self reliance in eye care working in very difficult terrain in one of the poorer countries. Lumbini Eye Institute/ Rana Ambika Shah Eye Hospital as it is commonly known is the preferred destination for eye care not only for the Nepalese but also for the Indians living along the border and beyond. Today it is one of the largest providers of eye care in Nepal, providing high quality comprehensive eye care that even a poor Nepal can afford. It has set up a network of rural eye clinics and a system of outreach to reach out to the populations in inaccessible hilly and terrain areas. Established in 1983, starting with only two rooms in the Government hospital (Bhim Hospital) today has evolved into one of the leading and most successful eye care centers run under Nepal Netra Jyoti Sangh in Nepal. It is also considered as one of the finest examples of a self-sustainable eye care facilities in South Asia. The Institute boasts a cadre of experienced ophthalmologists and has a good back-up of paramedical staff.

250 beds this hospital served 313,166 patients and performed 35,538 different types of eye surgeries in the year 2009/2010. In order to share the expertise & experiences and for transfer of skill, Lumbini Eye Institute is building institutional linkages in countries like Tibet, Cambodia. Lumbini Eye Institute offers a 3-year MD residency course on General Ophthalmology. This academic programme is affiliated with the National Academy of Medical Sciences. The Institute also offers 6-month fellowship training on General Ophthalmology and Anterior Segment. In addition, Lumbini Eye Institute has been providing 3-year mid-level ophthalmic assistant training since 1990.

Several community eye care programs are being conducted to reach marginalized and unreached Nepalese population are

- a. Surgical eye camp
- b. Pediatric Eye Camp
- c. Community based research
- d. School Screening Programe
- e. House to House Surveillace
- f. Diagnostic Screening and treatment (DST) Camps.
- g. Community based training & awareness programs.

Mentioned above activities are currently helping to reduce avoidable blindness of Nepal. other community programs held by Lumbini eye institute are:

Eye Health Education Activities

1. School Teachers Training

school teachers from various schools in different district are trained on basic eye examination techniques, eye diseases and eye problems in school going children. The training of school teachers are performed every year for awareness creation about eye diseases.

2. Female Community Health Volunteers (FCHV's) Training

Lumbini eye institute has been providing training on basic eye health education for creation awareness of eye health diseases in the community. With help of this training general eye disease are identified by the health volunteers and they refer the patient to the base hospital.

3. Traditional Healers Training

This training is conducted every year focusing on the traditional healer with the objective of creating awareness about eye disease focusing remote area with the help of Pandit ,Lama and others.

4. School Screening Camps

School screening programs are organized by LEI and its PECC/Secondary Eye Hospital, within the schools in districts of Lumbini Zone.

5. Diabetic Retinopathy Camps

With the main objective of screening diabetic retinopathy patients and provide them laser and surgical treatment, DR camps are organized within Lumbini Zone.

6. Low Vision Camps

low vision camps were organized in Lumbini Zone. low vision students are examined

7. World Sight Day Celebrations

To mark the world sight day on 11th of October, various programs are conducted to create awareness.

8. World Glaucoma Day Celebration

Lumbini Eye Institute celebrated the world Glaucoma Day with the following activities every year

Activities:

- a. Exhibition of IEC materials at Basdilawa Mela on the day of Mahashivaratri (The World Glaucoma Day)
- b. Quiz contest at LEI on Glaucoma

- c. Publish a article for new papers regarding glaucoma
- d. Broadcast a Interview through FM on Glaucoma

Objectives

- a. To prevent the blindness which is caused by Glaucoma
- b. To create awareness regarding Glaucoma

9. Radio programme

To create awareness related to the eye disease LEI conducts half an hour radio programme every week on Saturday. Including interview of Ophthalmologist about eye disease , drama of eye disease played by school students , service activities of hospital are broadcast on the programme.

10. Article of eye disease

Different article related to eye disease are published in the local newspaper .

11. Hospital service broadcasting in T.V.

LEI sometimes broadcasts hospital services and activities in the different T.V.

12. Shubhkamana on India Magazine .

LEI provides its services in Indian newspaper on the occasion different festival to extend its market in india .

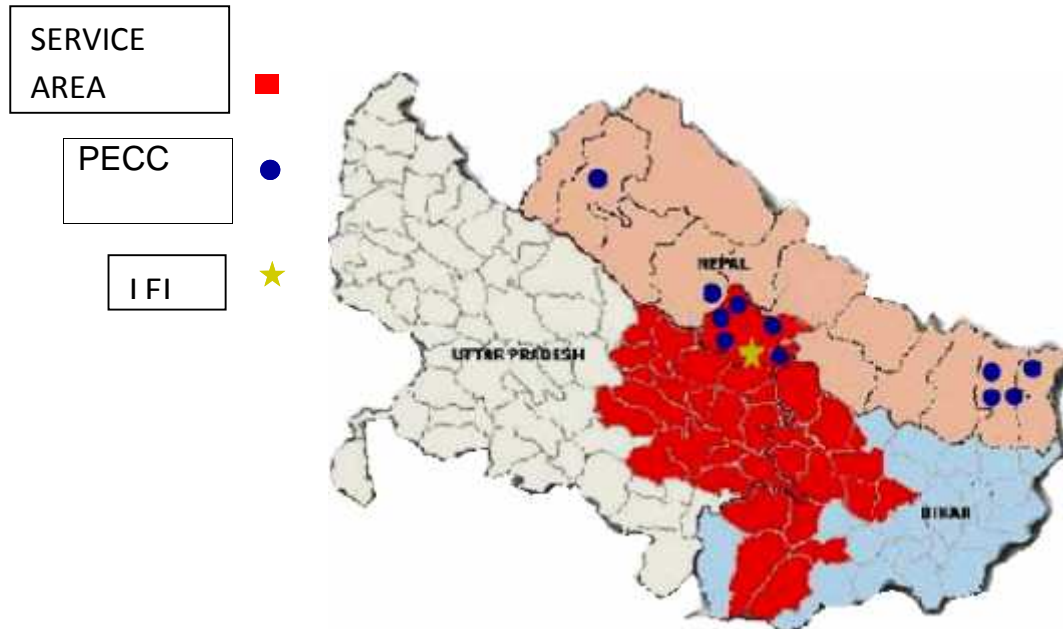
Outreach Based Activities

1. Surgical Eye Camps

A total of seven free surgical eye camps are conducted at various remote districts of Nepal under the joint sponsorship of Indian Embassy and LEI.

2. Diagnostic Screening Treatment (DST) Camps

DST camps are organized at various places of Rupandehi, Nawalparasi and Kapilvastu.



1.2 STATEMENT OF PROBLEMS

Although the LEI has well established infrastructure of its own in different parts of country, but there is very less number of studies conducted on the patient satisfaction towards the performances/services provided by the LEI. So, there is need of conduction of such behavioral studies to strengthen the existing system of services provided to general population and make it more effective.

To determine the effectiveness of the public relations strategy adopted by the Lumbini Eye Institute for awareness creation and effectiveness of the various media used as part of the public relations strategy. The study is going through the mentioned research work and able to find the key problem underneath the given study.

Vision loss associated with diabetes is largely preventable with timely detection and treatment of diabetic retinopathy. Despite this, diabetic

retinopathy remains a leading cause of blindness. Nearly all people with diabetes develop diabetic retinopathy within 20 years after diagnosis and approximately 10% of people with type II diabetes may have retinopathy at the time of diagnosis. There is a high rate of vision loss due to diabetic retinopathy when diabetes has been present for more than 30 years, with approximately two thirds of people having lost vision after 35 years of diabetes.

Current treatments, if appropriately timed and rigorously applied, may be effective in preventing up to 98% of severe visual loss and blindness due to diabetic retinopathy. This emphasizes the need to ensure that individuals with diabetes receive adequate screening and are offered timely treatment. Recommendations in LEI are for people with diabetes to have a dilated pupil examination at least every 2 years. People with signs of diabetic retinopathy, if not already seeing an ophthalmologist, should be referred to an ophthalmologist for further management.

Prompt and effective delivery of ophthalmic care to people with diabetes not only reduces personal suffering caused by blindness but also yields substantial cost savings. Previous studies have shown that the costs of providing preventative eye care are much less than the costs involved with providing support for a subsequent disability.

The current recommendations of LEI for periodic screening for diabetic retinopathy are not well adhered to. However, little research has been done in Nepal to determine whether people with diabetes receive regular eye examinations in accordance with recommendations. LEI's recent study showed that most general practitioners do not examine the fundus of their patients with diabetes, but usually refer them to an ophthalmologist.

The research has the following research questions;

- a. What are the factors associated with client's satisfaction among the clients of Lumbini Eye Institute's services of different socio-cultural status ?
- b. To which extent the factors related to service delivery affect the clients' satisfaction among Lumbini Eye Institute's service users ?
- c. What is the actual proportion of dropout (level of satisfaction) among the users of Lumbini Eye Institute's service ?
- d. Who are the most at risk age group visiting with the eye problem to Lumbini Eye Institute?
- e. What is the level of the satisfaction of the clients visiting to the Lumbini Eye Institute?

1.3 Objectives

1.3.1 General Objective

To find out different factors associated with the clients' satisfaction among users of Lumbini Eye Institute services of Rupendehi district.

1.3.2 Specific Objectives

The specific objectives of this study are;

- a. To find out the factors associated with client's satisfaction among LEI services of different socio-cultural status;
- b. To determine the factors related to service delivery which affect the clients' satisfaction among LEI service users;
- c. To assess the actual proportion of dropout (level of satisfaction) among the users of LEI service.

1.4 Significance Of The Study

Community eye care programme has become the vital and important tool in the field of service delivery through an organization. LEI implements several community eye care programs to reach local communities and enables to bridge the gap of health care professionals and local communities through Community Eye Care program. This study will benefit to the Community Eye Care program management of LEI and will provide important recommendations for the further improvement.

This study has tried to cover the clients' population in Out patient door, In patient door and at the community level as well. So, it is anticipated that this study will provide effective and indispensable role for the improvement of the activities carried out by the Lumbini Eye Institute.

As this institute is working for the people of the whole western Nepal as well as the whole population of the Uttar Pradesh and Bihar of the India, It is purported that this study will benefit to the health of those people of that part of the India and Nepal as well.

With respect to creation of awareness in local communities regarding eye health and eye care, PR has to consider perception of the importance of eye health. Perception of the importance of eye health is important because it determines the economic priority that a family will give for eye health. If the family perceives eye health as not important, it will be reluctant to spend on eye health. This is particularly true in families from weak socio-economic background. Therefore, individual families within local community need to regard eye health as very important and be willing to incur real / opportunity costs for eye care.

A number of cultural beliefs and taboos keep people from adopting new habits and ideas that could greatly improve the standard of living. Bringing

about a change in the health and sanitary practices of the community often require fundamental changes in people's attitude, perception and economic priorities .Further , there are some common myths regarding certain eye conditions , Some of which are given below :

- a. Children with squint are lucky.
- b. Cataract occurs only in adults.
- c. Squint is not treatable.
- d. Children should not undergo surgeries , surgery has to wait till they are sufficiently older,
- e. Use of first breast milk in eyes for conjunctivitis , red eyes is adequate treatment,
- f. Surgeries need to be done in winter,
- g. Use of various oils/lubricant/plant saps (titepati) for ocular trauma is appropriate treatment.

To bridge the gap between health care professional and the local communities , a culture of community participation continuous improvement of the communication process is necessary. The challenge lies in the fact that the people concerned often speak different language/dialects, have different levels of education and competence /abilities , different priorities in life and sometimes understand things differently.

LEI/SRASEH implements several PR models to reach local communities .The aim is to develop skills and confidence in members of local communities so that they can help themselves –ultimately resulting in early detection of patients ,referral to eye care centers and counseling /advice to overcome the community –held myths. Towards this end, LEI/SRASEH works with partners/donors and trains community health workers in eye screening and patient referral.

Hence, it has been strongly expected that this study will help to augment to the whole areas of the client's satisfaction of the Lumbini Eye Institute.

1.4 Limitation of the study

- a. The study is of qualitative in nature and sample size is small, so generalization can't be done.
- b. The non-satisfied clients don't come in health facility, so it is limited in continuous users and view of the users who would not be satisfied and discontinue taking advice.
- c. The finding of this study is depended on the subjective description of the respondents.
- d. Confounding is ignored during study, calculating p - value and interpretation.

1.6 Organization of the Study

This study has organized in five chapters. The first chapter has introduction, the second chapter has included review of literature, the third chapter has about research methodology, and fourth chapter has included presentation and analysis of data. Finally the fifth chapter has presented summary, conclusions and Recommendations.

The first chapter is INTRODUCTION about the topic in the primary level. It introduce the case study, objectives, vision, Community eye care activities from organization.

The second chapter REVIEW OF LITERATURE deals with different literature relate top the study. Review of the literature have been depended into books and related studies, annual reports, booklets and unpublished dissertation relating to the study .

The third chapter RESEARCH METHODOLOGY deals about research design, data collection procedure, data processing procedure, periods covered research variable and technique of analysis.

The fourth chapter PRESENTATION AND ANALYSIS OF DATA deals with presentation of collected data. In various table, diagrams and graphs require research question. These data have been presented with the help of various formats, technique and tools.

Finally the fifth chapter will deal with the SUMMARY, CONCLUSIONS AND RECOMMENDATION of the study.

CHAPTER II

REVIEW OF LITERATURE

2. Literature review

This chapter gives an empirical works which are entirely related to my study. The literature review from the Nepal as well as from the other parts of the world has been described as follows.

Role of mid level ophthalmic professionals in Nepal

“Before 1980, there were only three ophthalmologists outside the national capital Kathmandu and only 16 hospital beds dedicated to eye patients for a population of 14 million in Nepal. There was no other trained human resource in eye care to support this limited number of ophthalmologists. In 1981, a national programme for the prevention and control of blindness was launched in Nepal. The Nepal National Blindness Survey reported 0.84% of the population to be blind in both eyes using the best-corrected visual acuity definition in the better eye of $<3/60$. The prevalence of blindness among those aged 45 years and older was estimated at 3.77%. It was estimated that 80% of this blindness was either curable or preventable. Age related cataract was the major cause of blindness – 83% among those >45 years (65.4% among all ages).” (*Sapkota; 2004: 16*)

“Blindness was identified as a major public health problem that needed urgent attention. Existing infrastructure and human resources were far too low and insufficient to combat the huge magnitude of blindness. Specific programme objectives based on these survey results were established, and the country programme started building physical infrastructure and training human resource necessary to address the problem. Primary, secondary and tertiary care facilities dedicated to the prevention and treatment of eye

diseases were established on a need-based priority in different areas of the country. Resources from international, national, non-governmental and government organizations were mobilized and coordinated to implement this national strategy.” (Sapkota; 2004:41)

“Along with training of ophthalmologists to cater to the immediate need of eye care services and promote primary eye care, a desperate need was felt for an additional cadre of mid-level human resources such as ophthalmic assistants. Thus, indigenous training programmes for ophthalmic assistants were started in July 1981, in joint collaboration between the Government of Nepal (GoN) and WHO.” (Sapkota; 2004:43)

“The training programme was continued by Nepal Netra Jyoti Sangh at Himalaya Eye Hospital, Pokhara, and Lumbini Rana Ambika Eye Hospital, Bhairahawa. The programme has been recognised by the GoN, the Council for Technical Education and Vocational Training (CTEVT) and the Health Professional Council. To cater to the increasing demand for this mid-level human resource, Nepal Eye Hospital in collaboration with CTEVT and Tilganga Eye Center with affiliation to Kathmandu University, are also conducting training programme for OAs.” (Sapkota; 2004:43)

Distribution of trained ophthalmic assistants

“Ophthalmic assistants are not merely working in eye hospitals located in major cities of the country, they also provide primary eye care and increase awareness in rural eye centres throughout the country. They have covered all zones and 55 of the 75 districts of the country. However, the zonal distribution is not rational.” (Sherchan; 2005: 25).

The zonal distribution of Ophthalmic assistants is as follows:

Mahakali Zone – 3; Seti Zone – 18; Bheri Zone – 21; Karnali – 3; Rapti Zone – 4; Dhaulagiri Zone – 1; Gandaki Zone – 20; Lumbini Zone – 43; Bagmati Zone – 82; Narayani Zone – 31; Janakpur Zone – 16; Sagarmath Zone – 23; Koshi Zone – 15; Mechi Zone – 23; Abroad – 7; Not working – 5; Total – 315

Ophthalmic assistants service coverage district-wise

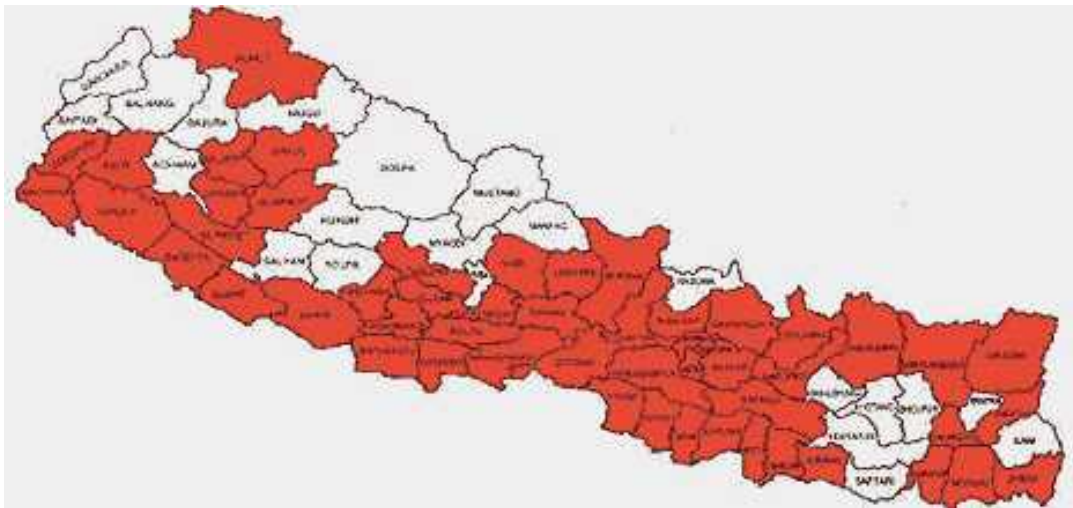
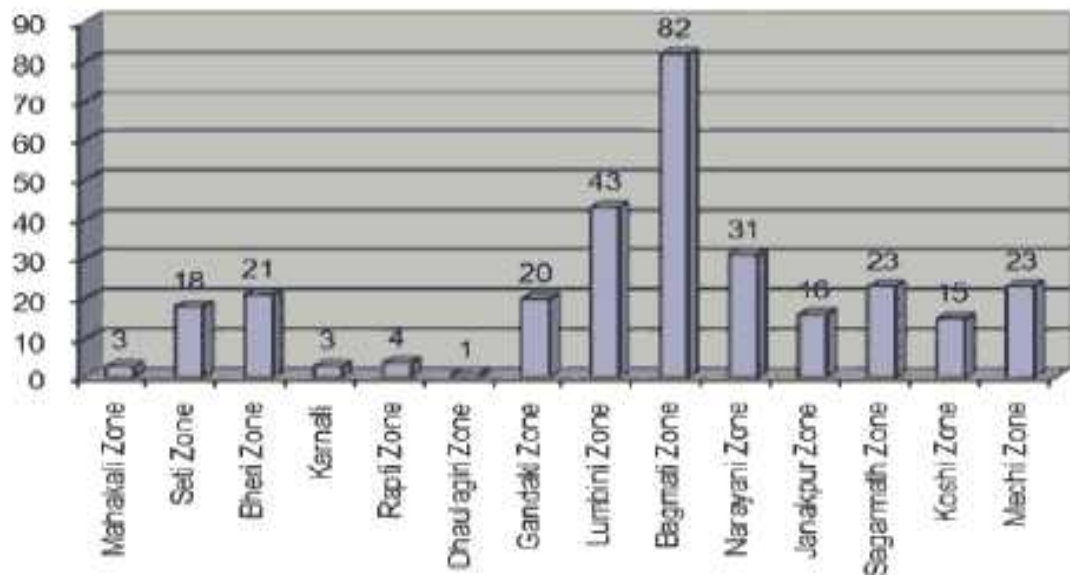


Figure No. 1 Distribution of Ophthalmic Assistant by zone



“Though there are some problems related to recognition and a career ladder in the country, ophthalmic assistants have proven to be the backbone of eye care service in Nepal. They are multifaceted eye health professionals who can work independently in remote eye centres and assist ophthalmologists in performing investigative tasks in ophthalmic examination at sophisticated eye hospitals. There is a great demand for such personnel in the country and, at the same time, the demand has increased in other countries like those in the middle east. This has created a further shortage; hence, the training programme desperately needs to be expanded.” (Sherchan; 2005: 27).

“The Lumbini Eye Institute conducted the Prevalence of blindness and cataract surgery in Lumbini Zone Nepal which showed that Out of 5916 selected subjects 86.9% were examined, mean age 60 years. Blindness (VA < 6/60 in best presenting eye) was 4.6% (95% confidence interval CI 3.4 to 5.8), with men (5%) and women as (4.3%). Cataract was the principal cause of bilateral blindness (48%) followed by refractive error (31%). Prevalence of blindness is higher in the plain area (5.8%) compared to the hill area (3.3 %). Cataract surgical coverage (% operated patients / bilateral cataract blindness) is similar in the plain and hill areas at 68 and 64%, respectively. The finding also suggests the need to focus more on cataract as well as other emerging priority to decrease the prevalence of blindness in the service area of hospital.” (Sherchan; 2005: 31).

“There are about 350 000 people known to have diabetes in Australia and possibly another 350 000 who have not been diagnosed. There is a high rate of vision loss due to diabetic retinopathy when diabetes has been present for more than 10 years, with approximately two thirds of people having lost vision after 35 years of diabetes Current treatments, if appropriately timed and rigorously applied, may be effective in preventing up to 98% of severe visual loss and blindness due to diabetic retinopathy.” (Levy Stuart; 2007: 12)

“Studies from the United States have shown that current recommendations for periodic screening for diabetic retinopathy are not well adhered to.” (*Levy Stuart; 2007: 46*)

However, little research has been done in Australia to determine whether people with diabetes receive regular eye examinations in accordance with recommendations. Our recent study showed that most general practitioners do not examine the fundus of their patients with diabetes, but usually refer them to an ophthalmologist.

“The study conducted by The Melbourne visual impairment project in the Melbourne population aged 40 and over, comprising people with and without diabetes. Compliance with current guidelines for ophthalmic examination among the participants diagnosed with diabetes was evaluated. If residents were unable to attend the test site owing to some physical condition, a modified home visit was offered to obtain as much information as possible. Trained interviewers conducted the personal household interviews. For the last four test sites, people who reported a previous diagnosis of diabetes were asked if they had ever had the back of their eye examined and if so who performed the examination and when it was last performed. People with diabetes who had been examined at the first five test sites were subsequently contacted by telephone and asked the same question. From the study it was concluded that there is a high rate of relationship between public relation activities and awareness creation in the society.” (*Levy Stuart; 2007: 53*)

Diabetic retinopathy study

“There are about 350 000 people known to have diabetes in Australia and possibly another 350 000 who have not been diagnosed. There is a high rate of vision loss due to diabetic retinopathy when diabetes has been present for

more than 30 years, with approximately two thirds of people having lost vision after 35 years of diabetes Current treatments, if appropriately timed and rigorously applied, may be effective in preventing up to 98% of severe visual loss and blindness due to diabetic retinopathy.” (Crifasi C.; 2000: 42)

“Studies from the United States have shown that current recommendations for periodic screening for diabetic retinopathy are not well adhered to However, little research has been done in Australia to determine whether people with diabetes receive regular eye examinations in accordance with recommendations. Our recent study showed that most general practitioners do not examine the fundus of their patients with diabetes, but usually refer them to an ophthalmologist.” (Saunders; 2004: 43)

“The purpose of this study was to assess the use of eye care services in a representative sample of the Melbourne population aged 40 and over, comprising people with and without diabetes. Compliance with current guidelines for ophthalmic examination among the participants diagnosed with diabetes was evaluated.” (Saunders; 2004: 43)

“A study on impact of the Public relations activity in awareness creation of the Lumbini Eye Institute, portrays Public relations is not about occasional exercises in goodwill, but about deliberate, planned and continuous efforts to help your customers develop both an understanding and positive image of your services. Bad public relations can be avoided, but good public relations do not just happen by chance.” (Acharya; 2008:53)

Similarly, from another study about corporate reputation in the health-conscious, environmentally aware and social-oriented decade of the 1990 s, and even more in the new century, as Fombrun (1996) emphasises, companies involved in the so-called sinful industries such as tobacco, liquor and gaming; businesses that deliberately pollute the environment or exploit

their employees struggle hard to defend their reputations to investors and creditors as well as prospect employees and customers. “A current example of the far-reaching consequence of a damaged reputation is the well-known Enron scandal, especially with regard to its auditor Arthur Andersen.” (*Levy Stuart; 2007: 55*)

“A study conducted by Department of Ophthalmology, University of Melbourne, VIC. to outline the spectrum of eye injuries in the Victorian population showed that Most ocular trauma occurs in young people and could be prevented by proper use of safety eyewear.” (*Scott, M ; 1994: 10*)

“Singapore National Eye Center and Singapore Eye Research Institute conducted study on define the epidemiology of severe ocular trauma in Singapore showed that Severe ocular trauma in Singapore varied with age (highest in young adults and elderly), gender, and race (highest in Indian men), suggesting demographic-specific differences in exposure to high-risk injury settings.” (*Center, Allen H.; 1995: 14*)

The impact and implications are examined in four broad areas. First, the impact of technology on how public relations practitioners do their work is considered. Second, the implications of technology on the content or messages developed and delivered in public relations is examined. Third, the implications of technology on organizational structure, culture and management is evaluated. Finally, the impact of technology on the relationships between or among organizations and their publics is analyzed. These four areas of impact are assessed through a combination of what research tells us as well as case studies, anecdotal evidence and interviews with leading experts, scholars and professionals.” (*Crifasi, C.; 2008: 182*)

“Note that although this four-part framework is used to organize this analysis, these four themes are not meant to be mutually exclusive. In fact,

many of the technologies examined here have implications for two or more of these areas. Moreover, much of the research literature on technology does not specifically address the implications of these new media for public relations. As a result, in this paper a conceptual framework outlining the possible implications for public relations is essential.” (Crifasi, C.; 2008: 18)

Further, this paper views the field of public relations broadly, and inclusive of far more than just media relations. “Although many of the technologies examined here address the area of media relations, the consequences of these emerging new media extend far into the broader realm of managing relationships between organizations and their publics, as well as developing a strategic approach to the overall utilization of digital technologies in those relationships.” (Kelly and Kathleen S.; 1998: 122)

Based on this examination, a series of recommendations for the profession is presented. In addition, a research agenda is outlined for future investigation of technology and its impact on the profession of public relations. A bibliography is also provided.

“Technology has long influenced how public relations practitioners do their work. Once typed on paper and sent via mail or fax, press releases are now produced on a computer and delivered via email. PR Newswire sent the first electronically transmitted press release on March 8, 1954. The electronic press release was sent to 12 media outlets in New York. By 2007, a variety of competitors offer a wide range of online media services, ranging from an RSS (really simple syndication) feed to ProfNet expert source services to free media monitoring. Video news releases are delivered digitally via satellite or the Internet. Public opinion surveys are conducted via the World Wide Web. Photography and video graphy are widely produced and delivered digitally.” (Crifasi, C; 2008: 18)

“Because much of the strategy and tactics of public relations rely on use of the media, as media have evolved technically, practitioners have adapted their methods as well.” (Kelly; 1998: 71) Some of these adaptations have been strategic and intentional, designed to improve the effectiveness, efficiency or efficacy of various tactics or techniques. In other cases, the changes have been perhaps more subtle and unintentional.” (Wilcox; 2002: 21)

Baltimore Institute (2004), on “*Prevalence of Ocular survey report*” showed that Lifetime prevalence’s of ocular injuries were similar among both black and white men, but the visual consequences of the injuries were more severe among black men. From twitter to mash-up media, new technology presents significant implications for public relations. Whether in the form of blogs, podcasts or YouTube videos, the Internet and World Wide Web have transformed how the public accesses information. The traditional role of media gatekeepers is in a state of enormous flux. Moreover, a wide spectrum of other technologies, ranging from satellites, to cell phones, to video news releases, has become the standard tools that continue to influence public relations practices and policies.

Lumbini Eye Institute (F.Y. 2008/2009), “*An annual report*” illustrates a study on Prevalence of blindness and cataract surgery in Lumbini Zone Nepal which has purpose of to estimate the impact the of Lumbini Eye Institute (LEI) on the prevalence of blindness and low vision the Lumbini Zone (population 3 million) of Nepal. The methods were People aged 50 years and above were enrolled using a stratified cluster-randomization design in six districts of Lumbini Zone. Subjects in the 32 selected clusters (total clusters 2267) were recruited through door todoor visits. Each recruited subject had visual acuity (VA) and clinical examination conducted by an ophthalmologist. The result is Out of 5916 selected subjects 86.9% were examined, mean age 60 years. Blindness (VA < 6/60 in best presenting eye)

was 4.6% (95% confidence interval CI 3.4 to 5.8), with men (5%) and women as (4.3%). Cataract was the principal cause of bilateral blindness (48%) followed by refractive error (31%). Prevalence of blindness is higher in the plain area (5.8%) compared to the hill area (3.3 %). Cataract surgical coverage (% operated patients / bilateral cataract blindness) is similar in the plain and hill areas at 68 and 64%, respectively.

The annual report further shows the prevalence of blindness has decreased from 5.3% in 1995 to 4.6 % in 2006. Patients in the 1995 study were 45 years and older, with 30% between age 45 and 50, resulting in an underestimate of prevalence compared with the population studied here (age 50 and older). The cataract surgical coverage has increased from 46% in 1995 to 66% in 2006. The increase in blindness in the plain area cannot be explained.

In conclusion of that study was the need to focus more on cataract as well as other emerging priority to decrease the prevalence of blindness in the service area of hospital.

In the same annual report of Sri Rana Ambika Shah Eye Hospital, now known as the Lumbini Eye Institute (LEI) was established in 1983 at the birth place of Buddha, Siddharthanagar Bhairahawa Lumbini Nepal. LEI has grown into a tertiary referral centre with multiple subspecialty services, annually performing 30,000 operations and seeing 250,000 outpatients. In 2004 the National Academy of Medical Science named LEI as a centre for human resource development. LEI is concerned that, because approximately 70% of its programs serve a transient India population crossing the nearby border, they are under serving the Nepali population in the Lumbini Zone. Therefore, LEI undertook a study of the prevalence of blindness and visual impairment, service utilization, as well as the cataract surgical coverage among the adult population of the Lumbini Zone and one district of Narayani Zone (Chitwan) which is included in its catchments area.

Lumbini zone has 6 districts, three in the southern plain area (Rupandehi, Kapilvastu and Nawal Parasi) and three in the northern hills (Gulmi, Palpa and Arghakhachi). Agriculture is the main occupation, except in some hilly districts (Magar, Gurung) which includes army profession called GURKHA (British and Indian Army). The objectives of the study were: (a) to estimate the prevalence of blindness for those fifty years of age or older (b) to investigate the cataract surgical coverage rate; (c) to assess the outcome of surgical treatment, including visual acuity and intra and post surgery complications; (d) to evaluate the cost effectiveness of community outreach strategies; (e) to identify issues related to gender and blindness; and (f) to identify the barriers to uptake the cataract surgery. This paper will report on the first two objectives i.e estimate prevalence of blindness and surgical coverage. Results of cataract surgery and barriers to up take a cataract surgery will be presented in a separate paper.

ORBISH (2008), "*An Analysis of the five year planning of the ORBISH Eye Care Programme Report*" study was conducted in seven districts of Gulmi, Palpa, Argakhanchi, Rupendehi, Nawalparashi, (Lumbini zone) and Chitawan district (Narayani zone) of Nepal. These seven districts cover both terrain, such as valleys, hills, mountains, and the plane areas. More than 90% of the in-country service recipients of LEI and its eye care service network are from these districts.

The report further details about the selection of the study clusters which followed the following steps:

List the wards and their population based on the census 2001 estimates.

A) Identifying the areas that constitute the sampling frames: The target area must have minimum of 60,000 persons of age ≥ 50 while it is preferable that it would be less than 100,000. Thus the target area should have a minimum population (all ages) of 800,000. This will constitute the sampling frame.

B) Create sampling clusters to yield about 175 (108 to 216) persons ≥ 50 years. Thus the total population in the cluster will be between 850 and 1,700. The sampling clusters are to be created by grouping villages with the less than 850 population, or subdividing villages with more than 1,700 populations into segments as A, B, C, etc. For example: two wards with the population of 800 and 750 will be combined into one cluster for the purpose of sampling. Vice versa, a large ward of 6,000 will be subdivided into 4 clusters as A, B, C, and D. The actual geographic boundary of these segments based on local layouts was defined only for such segments that are chosen.

C) 32 clusters were selected using a simple random sampling of clusters out of which 16 were hills and 16 were in plain areas. The principle is to ensure that each village resident has an equal chance of being selected regardless of village size. One approach is to proceed as follow: 1) Order the sample frames by geographic location of village or alphabetically; 2) Generate random numbers between one and the total number of clusters until 32 clusters are selected without replacement.

Sample size calculation

The following assumptions were made in calculating the sample size appropriate to estimate the prevalence of cataract blindness in persons of age 50 years and over.

Estimated prevalence of cataract blindness (VA<6/60) 8% ($p=0.08$)

Confidence Interval : 95% ($Z=1.96$)

Error bound (precision): 15% $\{\Omega= p (0.08) \times \text{error} (15\%) = 0.012\}$

The sample size formula to estimate prevalence with specified relative precision is

$$N = z^2 (1-p) p \Omega^2$$

Substituting the values in the formula: $N = (1.96)^2 (1 - 0.08) (0.08) = 1,963(0.012)^2$

In simple random sampling, the sample size is scattered across the population. Cluster sampling makes the survey more practical and has the benefit of both reducing the cost of the survey as well as improving response rate through better rapport in a cluster. It has a cost in terms of sampling inefficiency, which is usually determined by design effect. In cluster sampling, the design effect is an indication of the variation due to clustering. So the sample sizes have to be adjusted for the cluster design effect. It is estimated by the ratio of the variance when cluster sampling is used to the variance when simple random sampling is used. Based on the few surveys conducted so far, we have information on design effects for varying cluster sizes. Considering average village sizes and operational factors a cluster size of ≈ 200 is appropriate with an associated design effect of 2.0. Assuming a design effect of 2.0 for clusters of 200 and a response rate of 85%:

Sample needed by cluster sampling $(1,963 \times 2.0 \div 0.85)$ 4,619 persons of age ≥ 50

Rounding off the sample size required 5,000

The proportion of the population ≥ 50 in this area 12.75% (2001 census)

The total population (all ages) to be surveyed 39,216

Based on a cluster size of 850 to 1,700, the number of clusters require were 32.

Field Procedure

The population-based survey in 6 districts of Lumbini zone and Chitwan district of Narayani zone of Nepal was carried out in 32 clusters. Each cluster had approximately 175 persons who were 50 years or older. Data was collected at Cluster level (village/ward), household level and individual level. Quality assurance data in a prescribed format was collected at individual level.

Field work took place over 12 weeks beginning in October and ended in 31 December 2006. After mapping the selected clusters all residents > 50 years of age were enumerated in a door to door survey by an enumeration teams each team consisted 2 field workers and one supervisor. One village volunteers was hired locally to get necessary support from the community and to introduce at the community. Residency was defined as having lived in the same village for the last 6 months or more. One clinical team consist of two ophthalmic assistant, one senior ophthalmologist (principal investigator), conducted visual acuity test and ophthalmic examination at site within each village over a two days period. Verbal informed consent was obtained from all participants at the examination site. The examination protocol which was the same as used earlier in Nepal, China and India survey was cleared by world Health Organization (WHO) Seriate Committee on Research committee involved Human subject.

A letter of introduction describing activities was sent to the community and political leaders of Towns and Villages prior to the visit. Necessary permissions from the concerned health authorities were obtained. A personal meeting between the community leaders and the enumeration supervisor was followed, to describe the proposed survey and seek their co-operation. A central site was identified preferably school, village offices, health post/sub-health station and permission was obtained to use it on the

scheduled dates for eye examination of individuals ≥ 50 yrs from the selected cluster.

A mapper was a part of the enumeration team whose primary responsibility was to map the cluster boundaries with details such as schools, temples, and health centers, other land marks, streets, houses etc. The map was then given to the enumerators who were used this as a reference to check the households that ensure that all the houses in the map have been enumerated. For larger villages the segmentation was done using the map and the segment labels were assigned randomly. The first randomly selected segment was called as 'A' the second "B" and so on. On completion of mapping the mapper was joined the enumeration team and assisted in all their other activities.

At the household level, enumerators complete the household folder. All those ≥ 50 years were requested to come to the central site for examination by the ophthalmologist. Each household is given a ticket with list of person's ≥ 50 years and date and time for examination by the clinical team. For each person ≥ 50 years, the person's identification data is filled in the Eye Examination Record and is kept inside the household folder. At the end, the enumeration supervisor filled the Survey Summary details.

Prior to the arrival of the clinical team, the enumeration team was prepared the central village site for eye examination. The clinical team arrives on the day as per prior communication. All enumerated persons ≥ 50 years are tested for VA by the ophthalmic assistant and examined by ophthalmologist as per the protocol and Eye Examination Record is completed. Persons who don't present themselves at the central examination site in spite of repeated efforts were made to visit in their homes towards the end of the work in the site. Refraction was not done to those cases at home. All the forms were

checked and crosschecked by the other enumerators, and the ophthalmologists to ensure that it is completed.

Registration: Enumerator identifies the person from the referral slip and verifies the age, name of the head of the household against that in the Eye Examination Record in the household folder. The household folder then is given to the participant, who then will proceed to the visual acuity station. Those who will show up for examination without being belonged to the survey cluster, will be asked to wait in a separate queue and examined later when the enumerated persons presenting at the examination site have all been examined.

Visual acuity assessment & Refraction: The ophthalmic assistant determines the visual acuity by using a back illuminated ETDRS chart at a distance of 4 meters. The details of this are given in Chapter 8 on forms filling. The presenting VA is measured first and if the person wears glasses then the VA is measured again without glasses. After this the ophthalmic assistant enquires and checks if the person has had cataract surgery and examines both eyes by torchlight. Deep anterior chamber, jet-black pupil, presence of IOL, iridodonesis are signs of cataract surgery. Slit lamp will be used to confirm the cataract surgery when necessary. After the visual acuity and examination for cataract surgery, the ophthalmic assistant records it and sends the person to refraction or to the ophthalmologist. All persons with presenting VA $< 6/18$ and those operated for cataract in either eye was sent for refraction and the rest were proceed directly to the ophthalmologist for a detailed eye examination. Refraction was done on all patients with presenting VA $< 6/18$ in either eye. Special care was taken while refracting aphakics and pseudophakics as the visual outcome in this group is of interest. Those who were blind due to refractive error (presenting visual acuity $< 6/60$) and aphakics and psuedoaphakics were provided free glasses.

Dilation: Those with best corrected vision < 6/18 in either eye and not due to corneal causes, or those suspected to have cataract, open angle glaucoma, retinal or disc abnormalities, were dilated their pupil for ophthalmoscopy and slit lamp examination. The ophthalmologist used his or her judgment as to whether to dilate the person.

Examination: External eye, anterior segment and fundus assessment was done by the ophthalmologist using slit lamp and direct ophthalmoscope. All suspected glaucoma cases were measured pressure with a prenkins tonometer.

Treatment: the ophthalmic assistant provides treatment for ocular illnesses as advised by ophthalmologist.

ORBISH (2008), *“An Analysis of the five year planning of the ORBISH Eye Care Programme Report”* put forward the recommendations with persons who have completed the examination leave the area. Those needing further treatment are provided with an explanation and referral slip for treatment to Lumbini eye Institute, where those with curable cataract and VA < 6/60 in either eye was offered free surgery with IOL implantation.

Staff training

The enumeration team is responsible for listing all the individuals above 50 years of age and ensuring that they come to the central examination site. The enumeration gives the denominator, based on which many of the results are computed. Hence accuracy of the survey depends largely on the complete account and examination of the enumeration.

The enumerators were trained to enumerate all households in the area mapped by the mappers. Additionally, since they were making the first contact with the subjects during the survey process, they were also trained to build rapport and create an inviting and comfortable climate for the subjects.

The program Advisor and Co-Investigator were providing training with the support from a statistician who has in depth expertise in the survey and enumeration methodologies. The training was held for one week in the institution and for one week in the field to ensure familiarity with field situations.

Training of Ophthalmic Assistants

The Ophthalmologist and the ophthalmic assistants were attend training sessions in the Lumbini eye institute for one week and in the field for an additional week, and become familiar with the field activities. They discussed the overall purpose and the details of the fieldwork; study the field action manual; discuss the clinical examination form in detail. As part of the training, they filled out the Eye Examination Forms for fifty hospital out-patients in order to familiarize themselves with the form's format and content.

In addition to above discussions, ophthalmic assistants were further trained on vision testing, in field environment. Taking intra-ocular pressures using applanation tonometer, refraction, and dilating the pupils are practiced on outpatients in the Hospital. Additional responsibilities in the field such as care and maintenance of equipment will also be discussed in detail.

Nepal Red cross society survey on eye care services

Nepal Red cross society (2008), "*Annual report*" explains about the survey that was conducted rural villages about eye care services. Nepal is one of the poorest countries in the world, and over 80% of the populations live in the rural villages. The prevalence of blindness in Nepal is around 1% and the leading causes of blindness are cataract, trachoma, nutritional deficiencies (Vitamin A), injuries, etc. which are either curable or preventable. This situation on eye health is obvious indicators of a least developed socio-economy, as developed countries have <0.5% of

prevalence of blindness and none of the above said diseases are the major causes of blindness. Despite of armed conflict in Nepal, as a neutral organisation, Nepal Red Cross Society (NRCS) has profound access to the community. The country is facing serious impact of armed conflict and that has further deteriorated reach of basic services to the people living the remote areas. NRCS is one of the leading agency provides curative, promotive and preventative eye care services in Nepal with the financial and technical support of Swiss Red Cross (SRC). The main objective of the programme is to fight against the poverty induced needless blindness in 2 zones (out of 14) in Nepal. CEHP (Community Eye Care and Health Promotion) is one of the joint projects of NRCS/SRC serves mid-west development region of Nepal and mobilization of volunteers to reach the unreached for health promotion is one of the important components of the programme. CEHP supports conduction of various community outreach activities to provide curative, pomotive and preventative activities to NRCS, and school eye health is one of the important activities to reach the unserved.

School Eye Health Activity by NRCS

In the rural setting in Nepal, the school teachers are not only delivering education to the students but also playing a role of community resource person for all sorts of health and development issues. The community members consult teachers to seek solutions to their issues, and as an intellectual the teachers in the rural community have effective influences to the community members to resolve the issues. Seeing this potentiality, NRCS has mobilized the school teachers in primary eye care as well. NRCS has its Youth/Junior Red Cross wing in almost all middle and high schools in the country, led by one of the teacher of the school. CEHP programme through school eye health aims to enhance understanding of teachers on socio-economic impact of blindness in the society and enables them to

support, educated, counsel and refer the eye patients from the schools and communities to the proximal community eye centres or hospital. CEHP trains over 200 teachers each years and targets reaching over 600 (with over 90% coverage) schools of from Bheri zone (5 districts) and 2 districts of Karnali zone in mid-west development region by 2007.

In collaboration with the local Red Cross unit and the District Education Office, the CEHP and its community eye care centres provide 3 days intensive training on primary eye care to the school teachers, focusing on common eye health problems in school students and community cause blindness. The training also imparts skills to screen vision (sight). The teachers are also made fully aware about the services available in the proximal eye centre or hospital. Practical sessions are organised as school visits and eye screening camps to visualise the eye health problems to the teachers. During these sessions the teachers exercise vision testing, eye health education and counselling for the eye patients and students. The teachers are provided with a vision chart, information-education-communication materials for eye health education, primary eye care booklet and referral forms. Following the course the teachers carry out vision assessment of all students of their school twice a year; usually at the beginning and middle of the academic year. The students found with abnormal vision or any other eye problems are informed their parents and are referred to the students to the near by eye centre or eye hospital for further management. Each school provides vision assessment report to CEHP and the staff responsible analyse them. Based on the information of the report, a paramedical staff (ophthalmic assistant) may go to the school to carry out further examination. This process is done only if the school is located far from the eye centre or hospital. Around 5% of the children are found with eye health disorder and the major reasons are cataract, refractive error, corneal opacities, xerophthalmia, trachoma, conjunctivitis, squint,

amblyopia, etc. CEHP has provision of subsidy for the students could not afford surgical and medical intervention at the hospital.

District Public health Office Rupendehi (2009), *“Annual Report”* explains that the trained teacher also carries out eye health education sessions at the school to inform about the preventative measures. The teacher asks the students to disseminate the eye care message in their family and in the neighbours.

Tilganga Eye Hospital (2009), *“A study on Diabetic Retinopathy Report”* shows that the effective conduction of teachers training is the most important part for the success of the school eye health programme. It has to be designed participatory and skill based, then it gives a strong value and motivation to the teachers for their commitment to work for the people. We always found the teachers enthusiastic on learning about eye care and prevention of blindness. Mr. Kaman Singh Khanal, 35, teacher at Mahadevpuri Primary School at Banke district is proud to learn about eye care. He has successfully completed vision test of all 320 students of his schools and referred 17 students to Nepalgunj eye hospital for further management. In response to his work, he has already got a thanks letter from CEHP. Recently he has also escorted Mr. Daljeet Khatri, 65 years old to Nepalgunj eye hospital who had no capacity to reach the hospital. Mr. Daljeet was operated at Nepalgunj eye hospital and could see again. Mr. Khanal said it was one his punya karma (holy work) that helped to restore invaluable sight. Thus, the school eye health is an effective tool for social marking of eye care services.

Baltimore Institute (2004), *“Prevalence of Ocular survey report”* shows that the community eye care of CEHP adopts fundamentals of "Vision 2020: The Right to Sight" global initiative to fight against avoidable blindness also give a high priority to the activities targeted for children, as their suffering with

blindness has enormous socio-economic impact to a family and society. Thus the schools health programme is a successful attempt to reach a wide area in the rural communities cost effectively. CEHP's school eye health programme will reach around 125,000 school children and 100,000 families during Using data compiled from the ophthalmic literature and WHO's Blindness Data Bank, the available information on eye injuries from an epidemiological and public health perspective has been extensively reviewed. This collection of data has allowed an analysis of risk factors, incidence, prevalence, and impact of eye injuries in terms of visual outcome. However, most of the estimates are based on information from More Developed Countries (MDCs). The severity of eye injuries can be assessed through proxy indicators such as: (i) potentially blinding bilateral injuries; (ii) open-globe injuries; (iii) endophthalmitis; (iv) enucleation or (v) defined visual impairment.

Major risk factors for ocular injuries include age, gender, socioeconomic status and lifestyle. The site where the injury occurs is also related to a risk situation. Available information indicates a very significant impact of eye injuries in terms of medical care, needs for vocational rehabilitation and great socioeconomic costs. The global pattern of eye injuries and their consequences emerging from the present review, undertaken for planning purposes in the WHO Programme for the Prevention of Blindness, suggests that: - some 55 million eye injuries restricting activities more than one day occur each year; - 750,000 cases will require hospitalization each year, including some 200,000 open-globe injuries; - there are approximately 1.6 million blind from injuries, an additional 2.3 million people with bilateral low vision from this cause, and almost 19 million with unilateral blindness or low vision. Further epidemiological studies are needed to permit more accurate planning of prevention and management measures; a standardized international template for reporting on eye injuries might be useful to this

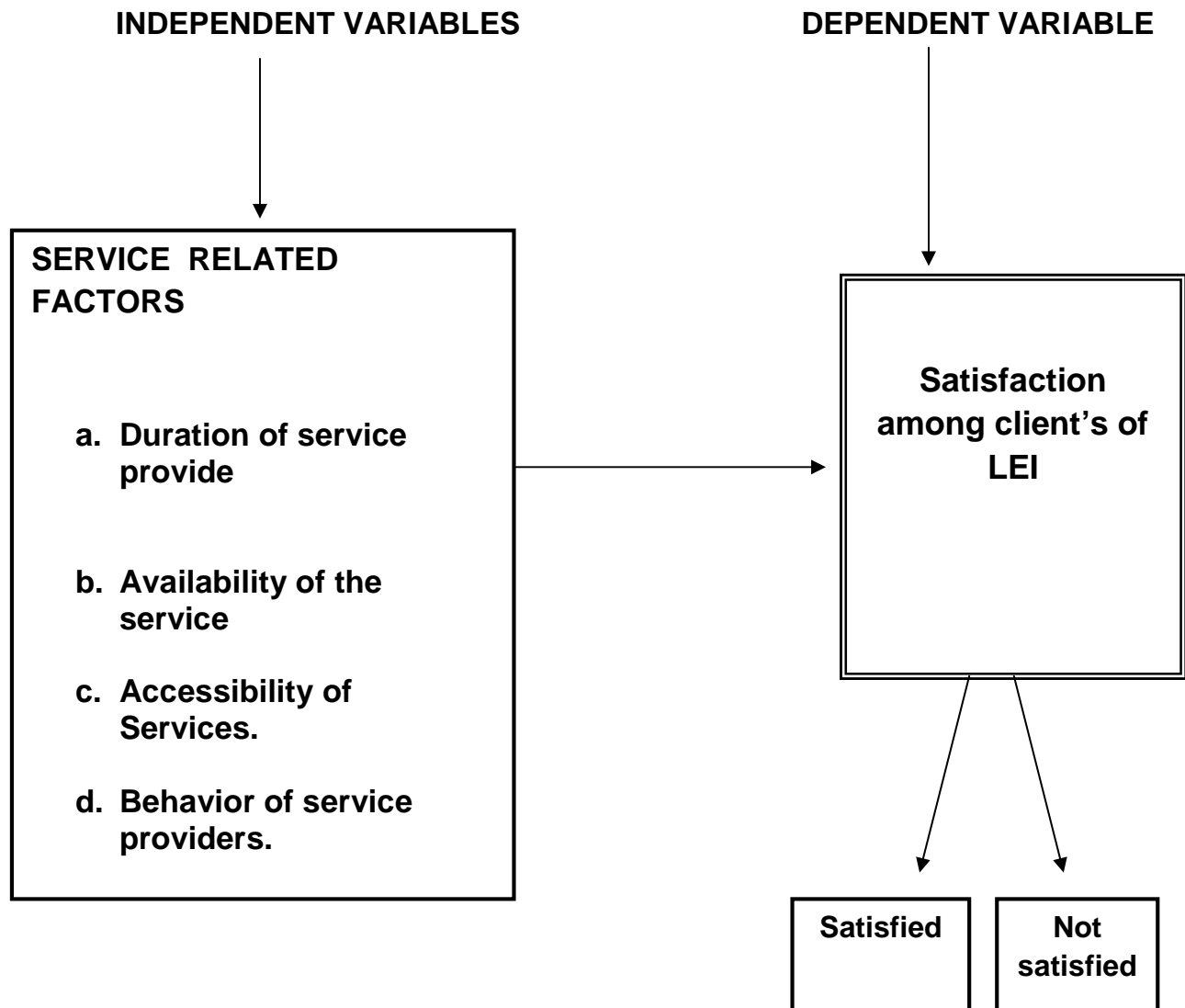
effect, along the lines of the reporting occurring through the US Eye Injury Registry.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Conceptual Framework

The conceptual framework illustrates about the consequential effect fo the independent variable to the dependent variable which are the main factors through which study was conducted and conclusion made and recommendations provided.



3.2 Research Design

This is a descriptive cross sectional study.

3.2.1 Dependent variable

Client's satisfaction among service users of LEI.

3.2.2 Independent Variables

- a. Educational Status of the clients
- b. Ethnicity of the clients
- c. Occupation of the clients
- d. Knowledge on side effects of drug used in the clients
- e. Behaviour of service providers
- f. Duration of service use
- g. Accessibility of the services
- h. Availability of the service

3.3 Hypothesis of the study

Whether or nor there is dissatisfaction among Highly Educated people standing on waiting line for the process of treatment.

3.4 Population and sampling

Study population will be the clients of LEI attending at outpatient and inpatient wards.

3.5 Sampling Techniques and Sample Size

3.5.1 Sampling technique

The LEI was selected purposively because the researcher has worked in LEI for about 3 years as a Middle level health worker. The LEI is selected because of the security conditions (it is head quarter of the district and no security problems will be perceived). All clients generally come for receiving

eye care service in the institute and will be interviewed during the study period. Similarly, key informants will be selected purposively, and be interviewed to verify the other data.

3.5.2 Sample size

Here, n = the desired sample size

z = confidence level set at 95% which corresponds to 1.96

p = the estimated prevalence of patient's satisfaction

q = 1-p = 1-0.5 = 0.5

d = degree of accuracy desired, usually set at 5% (0.05)

There is not exact prevalence of patient's satisfaction have been found. So, it calculated through applying thumb rule i.e. 50%

The following formula applied for sample size estimation

$$\begin{aligned}n &= \frac{z^2 pq}{d^2} \\&= \frac{(1.96)^2 (0.5) (0.5)}{(0.05)^2} \\&= (1.96)^2 \times 0.50 \times 0.50 / (0.05)^2 \\&= 3.8416 \times 0.50 \times 0.50 / 0.0025 \\&= 384.16 \\&= 384 \text{ approx.}\end{aligned}$$

(Thus required sample size was 384. But because of time constraint and availability of respondents only 169 respondents were interviewed).

3.6 Study Area

LEI, at outpatient and inpatient department.

3.7 Study Period

This study would be carried out within Sep. 1 2010 to Oct 1 2010.

3.8 Study instruments (tools)

A combination of semi structured and structured type questionnaire according to set objectives and variables of the study will be a data collection tools. This tool will be pre tested before actual data collection. Sample of questionnaire is attached in annex.

3.9 Data collection procedure

For data collection, two days orientation will be given for providing the knowledge about the methodology of data collection and familiarizing with tool of data collection. One of them will conduct exit interview at health facility and other will conduct interview of key informants and case study will be conducted by the researcher herself. The work will be assisted by Paramedical staffs of Ward and OPD in LEI.

3.10 Inclusion and Exclusion criteria

3.10.1 Inclusion criteria

- a. Those who are willing to give oral consent and participate in interview.
- b. Study sample will be free from mental and chronic illness.
- c. Clients visited during the period of study.

3.10.2 Exclusion criteria

- a. Refusal to give informed consent.
- b. Will be the inhabitant out of Rupandehi district.

- c. Will not covered who have not using LEI.
- d. Mentally retarded

3.11 Validity and reliability

- a. To ensure the content validity, the instrument will be given concerned teacher and experts according to their suggestions if necessary some modifications will be made and translation in Nepali will be done (If necessary) with the help of language-experts.
- b. To ensure reliability, interview questionnaire and schedule will be pre-tested in similar settings.
- c. To ensure validity triangulation in data collection and analysis will be done.
- d. Recurrent feed back will be received from supervisor of research (Chairperson for the study).
- e. Researcher closely must supervise data collectors and involve in data collection.

3.12 Data processing and analysis plan

Data will be edited first for error correction. Coding, classification and tabulation will be done for facilitating analysis and interpretation. Data will be entered in computer software programmes. And the data will be recoded and computed. Data analysis will be done with descriptive method with the use of cross table and statistical tools in SPSS programmes in computer. Simple percentage and Chi-square test will be used to test association between dependent and independent variables. Level of confidence will be 95% confidence limit.

3.13 Ethical Considerations

Informed consent will be taken with respondents explaining the objectives of study clearly. Confidentiality and privacy will be maintained throughout the study. Anonymity of subject will be done.

CHAPTER IV

DATA PRESENTATION AND ANALYSIS

4.1 Background characteristics of the respondents

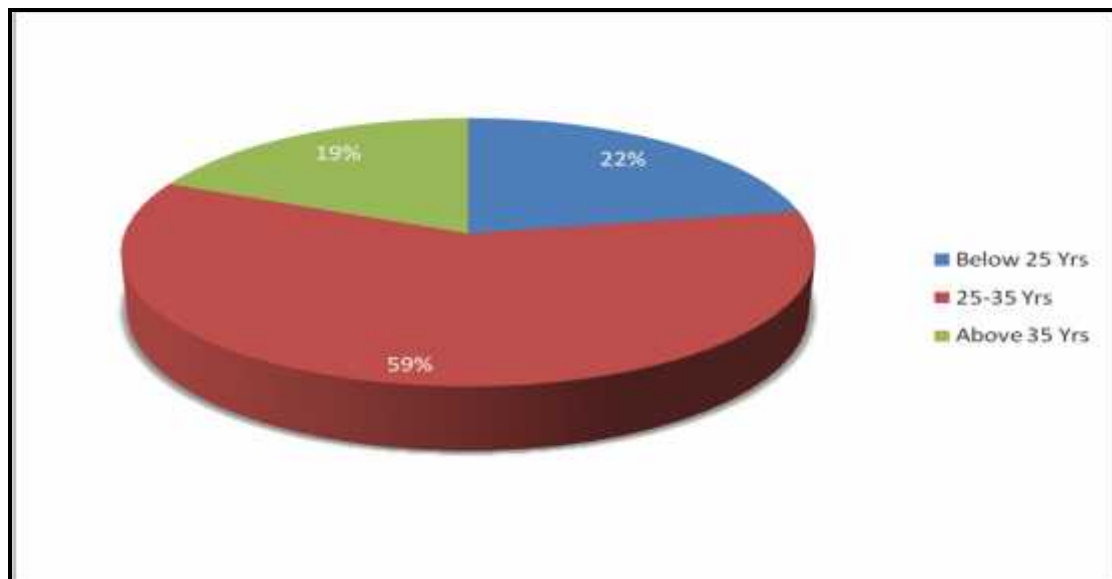
The following tables show the data about the background characteristics of the respondents i.e., age, ethnicity, educational background and occupation of the respondents.

4.1.1 Age of Lumbini Eye Institute Service users

Table No. 1 Age of the LEI Service users

Respondents' age (yrs.)	Number	Percent
Below 25 Yrs	24	22.2
25-35 Yrs	64	59.3
Above 35 Yrs	20	18.5
Total	108	100.0

Figure No. 2 Age of LEI service users



Among the clients interviewed, the highest age groups with use of LEI services was found among the clients of 25-35 years age group (59.3%). The lowest use found among the clients above the age of 35 years (18.5%) and the remaining 22.2% clients are of below 25 years of age. The highest age of users was 46 years and the lowest was 19 in the study population. It could be that because the age group at 25 to 35 are highly aware about their health, highly active age group and are literate may augment for the better enrolment to the search of the health service of the Lumbini Eye Institute. It also shows that program for the later age and early should be focussed for the behaviour change communication to enrol them to early looking for health service.

4.1.2 Ethnicity of LEI service users

Table No. 2 Ethnicity of users

Ethnicity of users	Number	Percent
Brahmin/Chhetri	30	27.8
Tharu	24	22.2
Rai/Limbu	20	18.5
Satar	20	18.5
Kami/Damai	14	13.0
Total	108	100.0

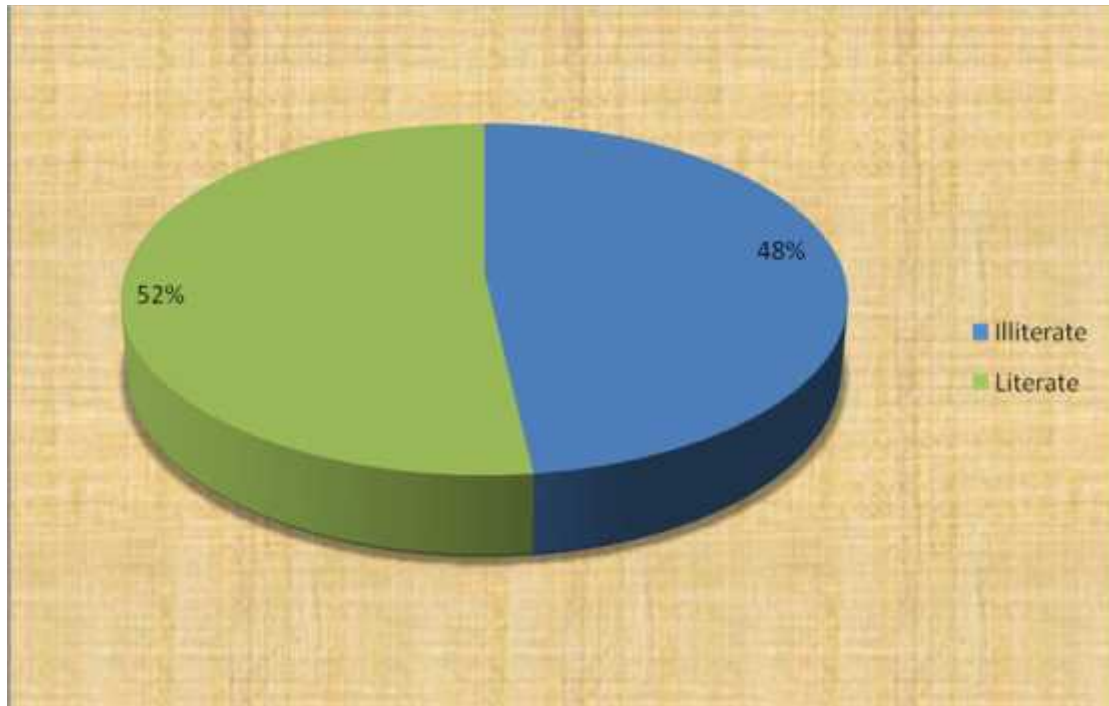
The highest numbers of clients (27.8%) were from Brahmin/Chhetri group. Similarly, the lowest numbers (13.0%) were from Kami/damai. Others clients are; 22.2% from Tharu, 18.5% each from Rai/Limbu and Satar.

4.1.3 Education of LEI service users

Table No. 3 Educational background

Educational background	Number	Percent
Illiterate	52	48.1
Literate	56	51.9
Total	108	100.0

Figure No. 3 Education of LEI service users



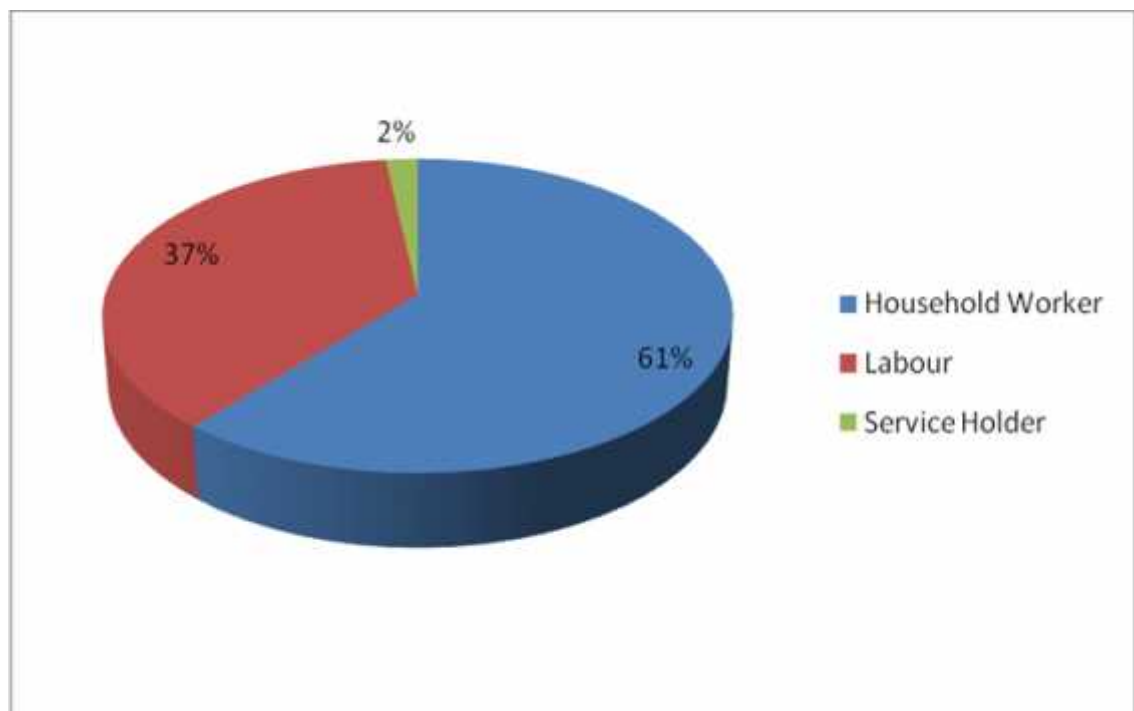
Among the respondents, literates and illiterates are about 50/50; 48.1% are illiterates and 51.9% are literates. .

4.1.4 Occupation of LEI service users

Table No. 4 Occupations of Service users

Occupations	Number	Percent
Household Worker	66	61.1
Labour	40	37.0
Service Holder	2	1.9
Total	108	100.0

Figure No. 4 Occupation of LEI users



The table shows that majority of the clients are Household workers which are 61.1% following labour 37% and service holder only 1.9%.

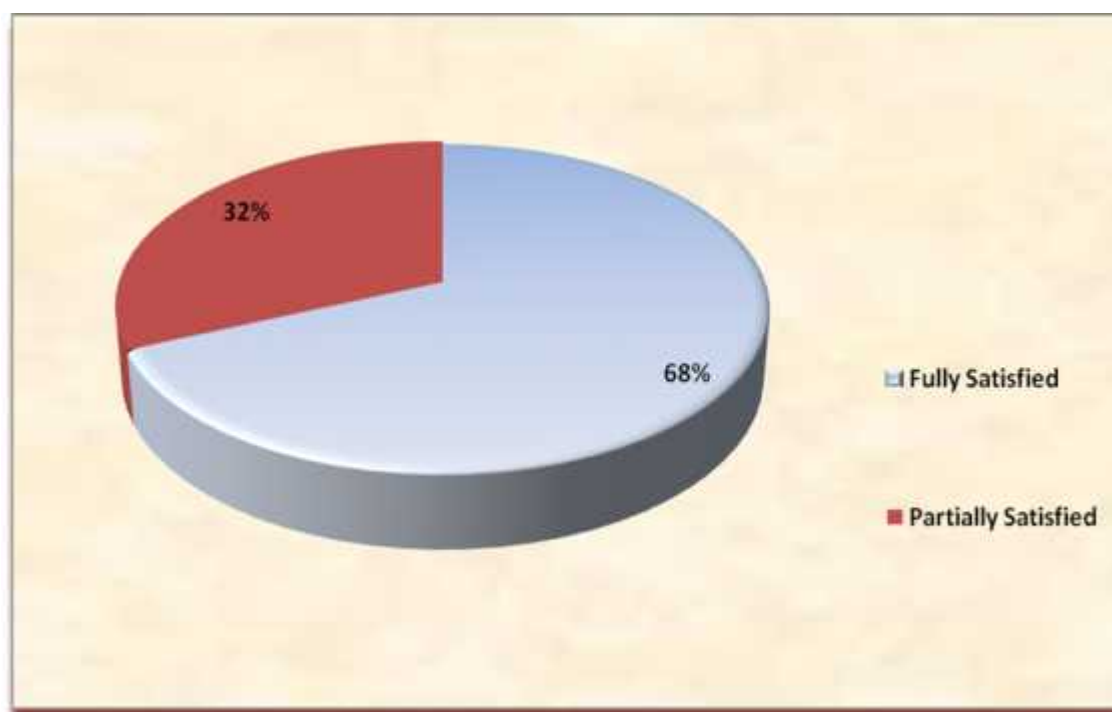
4.2 Level of satisfaction in different background characteristics

4.2.1 Level of satisfaction among all clients using LEI services

Table No. 5 Level of Satisfaction among all Clients

Level of Satisfaction	Number	Percentage
Fully Satisfied	74	68
Partially Satisfied	34	32
Total	108	100.0

Figure No. 5 Level of satisfaction among all clients.



The table illustrates that out of total clients, two third are (68%) are fully satisfied and rest one third (32%) are partially satisfied and non are not satisfied.

4.2.2 Level of satisfaction among the different age groups

Table No. 6 Level of satisfaction in different age groups

Age groups	Level of Satisfaction		Total	Remarks
	Fully Satisfied	Partially Satisfied		
Below 25 Yrs	12(50.0%)	12(50.0%)	24(100.0%)	d. f.= 2 p = 0.009
25-35 Yrs	54(84.4%)	10(15.6%)	64(100.0%)	
Above 35 Yrs	8(40.0%)	12(60.0%)	20(100.0%)	
Total	74(68.5%)	34(31.5%)	108(100.0%)	

The table shows that among the respondents, the highest was found among the clients of 25-35 years age group (64 clients), among them 84.4% clients are fully satisfied and 15.6% are partially satisfied. The lowest use found among the clients above the age of 35 years (20 clients), among them 40% are fully satisfied and 60% are partially satisfied. Remaining clients (24) are of below 25 years of age, among them 50% are fully satisfied and 50% are partially satisfied. The highest age of users was 46 years and the lowest was 19 in the study population. The Chi-square test shows the significance association between age of LEI service users and the level of Satisfaction

4.2.3 Level of satisfaction among the different Ethnic groups

Table No. 7 Ethnic groups

Ethnic groups	Level of Satisfaction		Total	Remarks
	Fully Satisfied	Partially Satisfied		
Brahmin/Chhetri	18(60.0%)	12(40.0%)	30(100.0%)	d. f.= 4 p= 0.788
Tharu	18(75.0%)	6(25.0%)	24(100.0%)	
Rai/Limbu	12(60.0%)	8(40.0%)	20(100.0%)	
Satar	16 (80%)	4 (20%)	20(100.0%)	
Kami/Damai	10 (71.4%)	4(28.6%)	14(100.0%)	
Total	74(68.5%)	34(31.5%)	108(100.0%)	

The highest numbers of clients (30) are from Brahmin/Chhetri ethnic group, among them 60% are fully satisfied and 40% are partially satisfied. Similarly, the lowest numbers (14) are from Kami/damai, among them 71.6% are fully Satisfied and 28.6% are partially satisfied. Others clients are from Tharu (24), Rai/Limbu (20) and Satar (20) ethnic groups, among them, 75%, 60% and 80% are fully satisfied and 25%, 40% and 20% are partially satisfied respectively. The Chi-square test shows no association between ethnic groups of respondents and level of satisfaction.

4.2.4 Level of satisfaction among the different Education background groups

Table No. 8 Level of satisfaction among Education background groups

Educational background	Level of Satisfaction		Total	Remark
	Fully Satisfied	Partially Satisfied		
Illiterate	34(65.4%)	18(34.6%)	52(100.0)	d.f. = 2 P= 0.233
Literate only	40(71.4%)	16(28.6%)	56(100.0%)	
Total	74(68.5%)	34(31.5%)	108(100.0%)	

Among the clients interviewed, literates and illiterates are about equal. 48.1% (52) are illiterate and 51.9% (56) are literate. Among Illiterates, 65.4% are fully satisfied and 34.6% are partially satisfied. Similarly, among literates, 71.4% are fully satisfied and 28.6% are partially satisfied. The Chi-square test shows no association between educational status of respondents and level of satisfaction.

4.2.5 Level of satisfaction among the different Occupations background groups

Table No. 9 Occupation background groups

Occupations	Level of Satisfaction		Total	Remark
	Fully Satisfied	Partially Satisfied		
Household Worker	40 (60.6%)	26 (39.4%)	66 (100%)	d. f.= 2 p= 0.267
Labour	32 (80.0%)	8 (20.0%)	40 (100%)	
Service Holder	2 (100.0%)	0 (0.0%)	4(100%)	
Total	74 (68.5%)	34 (31.5%)	108 (100%)	

The highest number of clients 66 (61.1%) are household worker, 40 (37%) are labour and only 2 (1.9%) is service holder. Among them, 60.6% are fully satisfied and 39.4% are partially satisfied in household workers, 80% are fully satisfied and 20% are partially satisfied in labours and the remaining 2 is fully satisfied in service holder. No statistical association found between occupation and satisfaction among users of LEI.

4.2.6 Level of satisfaction among the different knowledge background groups

Table No. 10 Knowledge background groups

Level of knowledge about services of LEI	Level of Satisfaction		Total	Remark
	Fully Satisfied	Partially Satisfied		
Good knowledge Level	42 (61.8%)	26 (38.2%)	68 (100.0%)	d.f.=2 P=0.183
No knowledge Level	18 (100.0%)	0 (0.0%)	18 (100.0%)	
Total	60 (67.4%)	26 (32.6%)	86 (100.0%)	

Among the 86 clients, 68 (79.6%) stated that they have the good knowledge about services of LEI and rest 18 (23.4%) don't have knowledge about services of LEI. Among the clients who stated that they have good knowledge, 61.8% (42) are fully satisfied and 38.3% (26) are partially satisfied in good knowledgeable. Among the clients who are no knowledgeable remaining 100% (18) are fully satisfied. The Chi-square test shows no statistical significant association between knowledge of respondents on side effects of LEI and level of satisfaction.

4.2.7 Level of satisfaction among the different duration of service use groups

Table No. 11 Duration of service use groups

Duration of service use	Level of Satisfaction		Total	Remark
	Fully Satisfied	Partially Satisfied		
<1 Year	18 (56.3%)	14 (43.7%)	32 (100.0%)	d. f.= 2 p= 0.240
1 to 5 Years	40 (69.0%)	18 (31.0%)	58 (100.0%)	
>5 years	16 (88.9%)	2 (10.1%)	18 (100.0%)	
Total	74 (68.5%)	34 (31.5%)	108 (100.0%)	

Among the clients, 32 (29.6%) have been using LEI for less than 1 year, 58 (53.7%) have been using for 1-5 years and rest 18 (16.7%) have been using for more than 5 years. Among the clients who have been using LEI for less than 1 year, 18 (56.3%) are fully satisfied and 14 (43.7%) are partially satisfied, 40 (69.0%) are fully satisfied and 18 (31.0%) are partially satisfied in 1-5 years category and 16 (88.9%) are fully satisfied and 2 (10.1%) is partially satisfied among clients using LEI more than 5 years. The Chi-square test shows no association between duration of LEI use by respondents and level of satisfaction.

4.2.8 Level of satisfaction among the different time to reach clients to LEI

Table No. 12 Time to reach clients to LEI

Time to reach LEI	Level of Satisfaction		Total	Remark
	Fully Satisfied	Partially Satisfied		
<1 Hour	58(70.7%)	24(29.3%)	82(100.0%)	d. f.= 1 p= 0.534
>1Hour	16(61.5%)	10(38.5%)	26(100.0%)	
Total	74(68.5%)	34(31.5%)	108(100.0%)	

Similarly the table shows the time for reaching LEI from the respondents' house. 82(75.9%) of respondents stated that it takes less than 1 hour and remaining 26 (24.1%) stated that it takes more than 1 hour to reach the LEI from their house. Among the clients who stated that it takes less than 1 hour to reach the LEI from their house, 58 (70.7%) are fully satisfied and 24 (29.3%) are partially satisfied. Similarly, among the clients who stated that it takes more than 1 hour to reach the LEI from their house, 16(61.5%) are fully satisfied and 10 (38.5%) are partially satisfied. The Chi-square test shows no association between accessibility of LEI service and level of satisfaction in respondents.

4.2.9 Level of satisfaction among the clients for service availability to LEI

Table No. 13 Service availability to LEI

Service availability	Level of Satisfaction		Total	Remark
	Fully Satisfied	Partially Satisfied		
Yes	74(72.5%)	28(27.5%)	102(100.0%)	d. f.= 1 p= 0.047
No	0(0.0%)	6(100.0)	6(100.0%)	
Total	74(68.5%)	34(31.5%)	108(100.0%)	

It also shows the respondents view on the availability of the service in the LEI when they come for receiving LEI service. Most of the respondents 94.4% stated that they received service when they come for that and only 5.6% stated they didn't. Among the respondents who stated that they received service when they needed, (72.5%) are fully satisfied and (27.5%) are partially satisfied. The respondents who didn't receive service when they needed, all are partially satisfied. The Chi-square test shows significance association between availability of LEI service and level of satisfaction among LEI users.

4.3 Behaviour of service providers

Table No. 14 Points of Positive Behaviour of Service Providers

Points of positive behaviour	Number	Percent
Friendly speaking of health workers	62	57.5
Advice about regularity of LEI	60	55.6
Provide service in time	42	38.9
Advice about side effects	40	37.0
Answer the query	18	16.7
No partiality	10	7.5
Exam blood pressure	4	3.7
Total	108	100.0

(Total percentage is more than 100 due to multiple responses).

Total respondents stated that the behaviour of the service providers is positive towards clients. No one replied that the behaviour of service provider of LEI is negative or bad. Among the 108 respondents, highest numbers 62 (57.5%) stated that friendly speaking of service providers is point of good behaviour of service providers. The lowest numbers 4 (3.7%) stated that examination of blood pressure at the time of visit is point of good behaviour of service providers. Other points of measuring good behaviour of service providers are; advice about regularity of service (55.6%), provide service in time (38.9%), advice about side effects (37%) answer the query (16.7%), no partiality (7.5%). The points of positive behaviour are shown in table number 14.

Case Study

Bina Kami, 34 years old lady, lives at Amawa VDC ward No. 4 of Rependehi district. She has 3 children (1 male and two female). She is illiterate and a household worker. Her husband is a carpenter and they are of poor family. They have own small land (10 kattha) and with the help of the carpentry of her husband, they are just living hardly. Little child is of 9 years old. When the little child was 5 months of age, she went to the LEI. It takes half an hour to reach LEI from their house. Health worker counselled her well at the time of first injection and as the advice of the health worker; she began to use LEI. At start, she had night blindness periods for about 6 months, but according to the advice of the health worker, she continued using Vit. A capsule. After some months, her vision good at night. At starting she was much worried about the less frequent vision sight, but counselling of health worker made her assured of harmlessness from that. It has been more than 8^{1/2} years of using Vit. A and she feels satisfied using it. She has no complaints about the service she received.

4.4 Causes of satisfaction among users of LEI

Table No. 15 Causes of satisfaction among users of LEI

Causes of satisfaction	Numbers	Percentage
Easy to Use	98	90.7
Good Behaviour of Service Providers	46	42.6
Accessibility of Service	46	42.6
Availability of Service	36	33.3
Less Side-effects knowledge	18	16.7

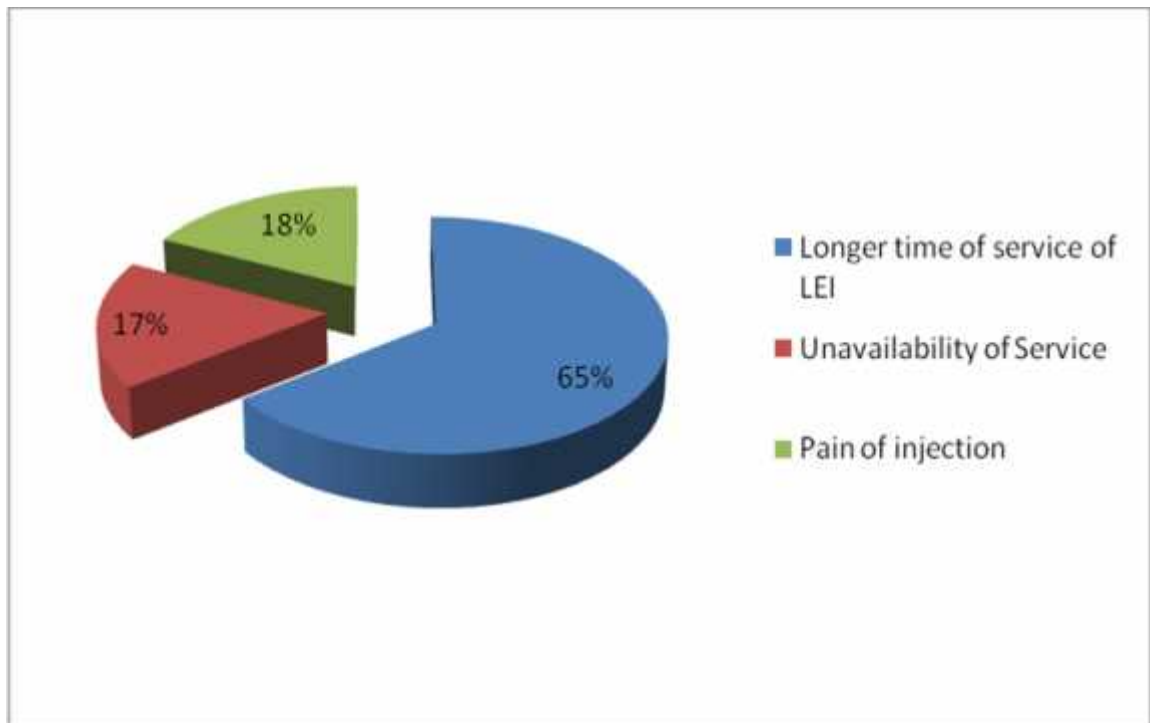
Table number 15 shows the factors associated with clients' satisfaction among respondents using LEI. The respondents have given multiple responses about the factors which make them satisfy from service they received. Almost, 98 out of 108 (90.7%) replied that easy to afford is the main factor of satisfaction to continue LEI for them. Equal 46 respondents (42.6%) replied that Good behaviour of service providers and accessibility of service are the other factors of clients' satisfaction. Similarly, 36 (33.3%) and 18 (16.7%) replied that availability of service in time and less side effects caused by LEI respectively are also the factors which make the clients satisfy among LEI users.

4.5 Causes of dissatisfaction (partial satisfaction) among LEI users

Table No. 16 Causes of dissatisfaction among LEI Users

Causes of dissatisfaction	Number	Percent
Longer time of service of LEI	22	65
Unavailability of Service	6	18
Pain of injection	6	18
Total	34	100.0

Figure No. 6 Causes of dissatisfaction among service users



The table shows that the major reason for the dissatisfaction by the clients is longer time of the LEI service which is 65%. The other causes of the dissatisfactions are unavailability of service 18% and the pain caused by the injections during the medical procedures 18% are the equal contributing causes of the dissatisfactions to the clients visiting to the LEI.

4.6 Suggestions for improvement of the quality of the service

Table No. 17 Suggestions for Improvement of the Quality of the Service

Suggestions to improve quality of service	Number	Percent
No ideas about quality of service	92	85
Provide Training to Service Provider	16	15
Total	108	100.0

Figure No. 7 Suggestions for improvement of the quality of the service

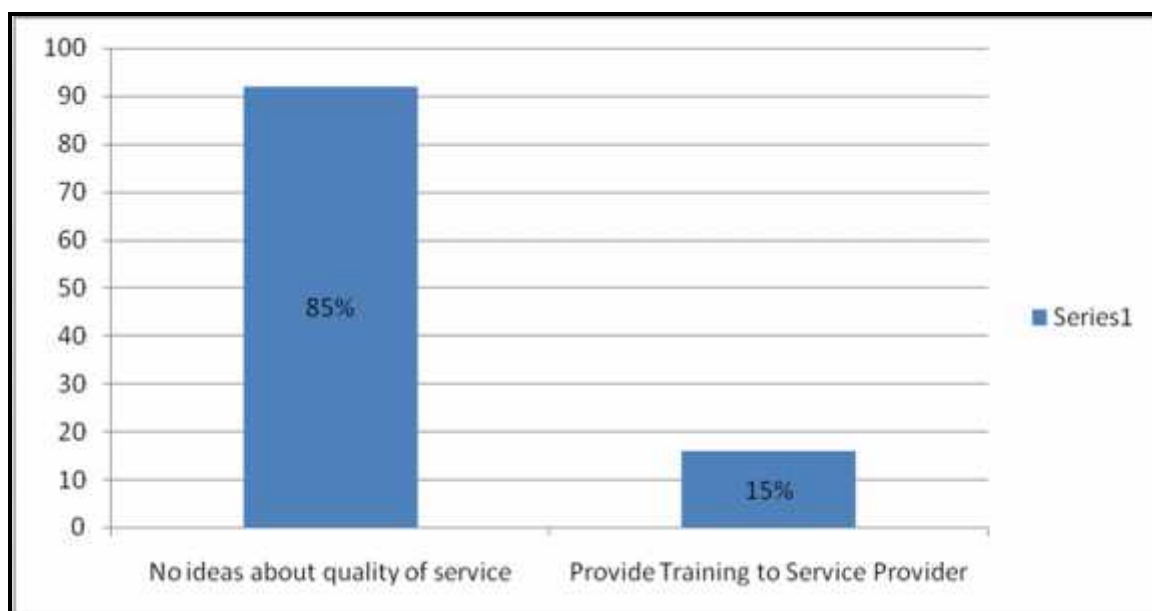


Table number 17 shows the data on the respondents' suggestions to improve the quality of the eye care services, especially of LEI. 92 (85.2%) respondents have given no suggestion as they have no idea about it and remaining 16 (14.8%) suggested that training should be provided to service providers to improve quality of the service.

4.7. Suggestions for improvement of the clients' satisfaction

Table No. 18 Suggestions for Improvement of the Clients' Satisfaction

Suggestions to improve clients' satisfaction	Number	Percent
Encourage defaulter for reuse	8	7.4
Advice about the side-effects of drugs	10	9.3
Make service more accessible	4	3.7
Counsel the clients well	4	3.7
Encourage users explaining benefits of services of LEI	6	5.6
No idea	76	70.4
Total	108	100.0

Figure No. 8 Suggestions for Improvement of the Clients' Satisfaction (in Percentage)

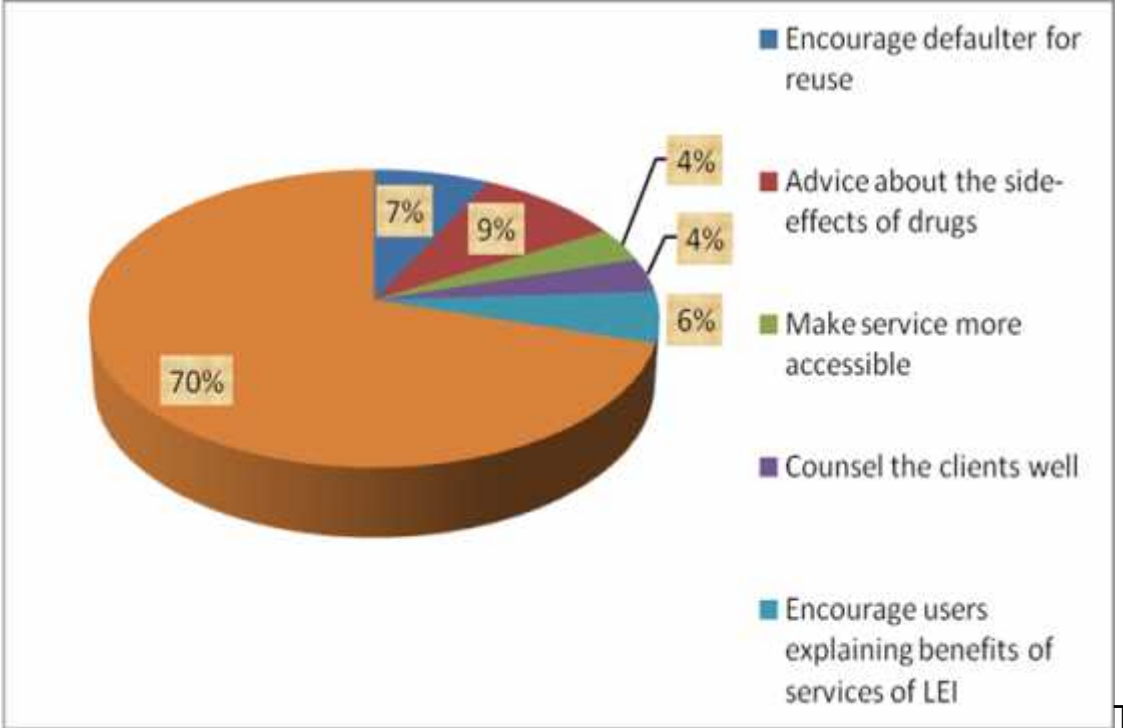


Table number 18 shows the data on suggestions for improving the clients' satisfaction given by the respondents. 76 (70.4%) respondents replied that they had no idea about that. Among the remaining clients, 10 (9.3%), 8(7.4%), 6(5.6%), 4 (3.7%), 4 (3.7%) replied advice about side effects should be given to the users, encourage defaulter for reuse, encourage users explaining benefits of LEI, make service more accessible and counsel the clients well for improving the clients' satisfaction respectively.

4.8 Findings from key informants' interview

Clients' satisfaction is also related with the society's and village people's perception. To make this study more valid, 14 Key informants (FCHVs- 3, Social Workers/Leaders- 6 and School Teachers- 4) were selected and interviewed asking open-ended questions related to LEI service and clients' satisfaction. The questions were concentrated in feeling, perceptions, values, beliefs and attitudes of communities.

Total key informants agreed that the attitudes of village people towards LEI advices are being positive now a days. Most people are interested to adopt the advices of LEI according to them. But some traditional people are not interested in modern LEI procedures. According to them, people take LEI advices as the advice to improve the health of the clients but they are worried about the side effects of the drugs.

Table No. 19 Causes of popularity of LEI (stated by the key informants)

Causes of popularity	Number	Percent
LEI services are easy to use	14	100.0
Accessibility	8	57.1
Available when needed	6	42.9
Less side effects appeared with drugs	5	35.7
Effectiveness of Drugs	5	35.7
Others	5	35.7

The table shows that according to the key informants, LEI is the most popular among the modern medical service available. All respondents agreed that one of the causes of being popular is LEI services are easy to use for the clients. According to them, the other causes of being popular are shown in table No.19

The others comments are accessibility (57.1%), Available when needed (42.9%), Less side effects appeared with drugs (35.7%) and Effectiveness of Drugs (35.7%) are the causes of the popularity of the LEI, the other (35.7%) respondents' comments are that the behaviour of health workers (working there) towards the clients is good. The good points of health behaviour agreed by them are; counseling clients well, speaks with clients well, good response to the clients, provide service carefully and no partiality is done among the clients. The service providers counsel well to the clients.

Table No. 20 Cause of satisfaction of services available in LEI (stated by the key informants)

Causes of satisfaction	Numbers	Percent
Availability of service	11	78.6
Less side effects of Drugs	10	71.4
LEI is easy to use	9	64.2
Effectiveness of Drugs	9	64.2
Accessibility of service	8	57.1
Good behaviour of service providers	4	28.6
Others	3	21.4

The table shows about the causes of satisfaction of the key informants found through the focussed group discussion. Most of them 78.6% (11) agreed that

availability of service in time and LEI services are less side effects of drugs 71.45 (10) are the main cause of satisfaction in LEI users. The other causes stated by the respondents are LEI is easy to use (64.2%), effectiveness of drugs (64.2%), accessibility of service shown (57.1%) and good behaviour of the service providers (21.4%) are contributing causes of satisfaction according to the respondents.

During the discussion with focussed group interview, the key informants also agreed that there are also the points of further improvements to make clients more satisfied, which include; Improvement on counselling service, management of side effects well, make sure on the availability of service in stated places and time, show the positive attitudes towards clients, make services more accessible, provide essential training to the service providers, Increase awareness about LEI services and modern devices and increase the follow-up of the clients.

Similarly, the key informants have suggested some points for improvement of quality of the service of LEI. All points are similar to the points of improving the clients' satisfaction except regular monitoring and supervision to the service providers by the higher authority.

4.9 Findings

After the careful analysis of the data available, the following findings have been drawn.

1. The study showed that the people of the age group of 25 to 35 which are 59.3% (64) are mostly visiting age group. This could be because they are the most active age group. The other causes could be because they are more conscious to their personnel health as well as they have adequate knowledge about the services available in the LEI.
2. The study also showed that the highest number of clients are from Brahmin/Chhetri castes 27.8%(30) where as other are from, Tharu 22.2% (24), Rai/Limbu 18.5% (20), Satar 18.5% (20) and Kami/damai 13% (14). The majority of the clients of the Brahmin and chhetti could be because of the high literacy rate and counsciousness in those caste. The least visiting caste is Kami/Damai which could because of that they are less aware and more illiterate.
3. The study also further showed that only half of the people visited to LEI were literate 51.9% (56).
4. The majority of the people visited are house hold workers 61.1% (66) followed by labours 37% (40) and very least (only 2%) were service holders. This could be because the house hold workers are more exposed to the smoke and labours are exposed to day sun glare and other agriculture works where there is maximum chance of eye injury. So, they got the eye problem.
5. Among clients interviewed at Inpatient of LEI, Majority of the clients around two third are found to be fully satisfied which is 68.5% (74) , around one third

are partially satisfied which is 34 (31.5%) and no one is found to be not satisfied

6. While making cross analysis of the age groups and the satisfaction it showed that when the people are less than 25 or more than 35 age, they were dissatisfied whereas when people are at the age of 25 to 35 they are more satisfied. The statistical analysis showed that there is significant association between age and satisfaction rate. ($P=0.009$)
7. The satisfaction is not associated with the ethnicity. All casts are uniformly satisfied or dissatisfied. ($P=0.788$)
8. The literate people are more satisfied than the illiterate people, it also could be because of less access to the information of the LEI services to the illiterate people than the literate people.
9. The level of satisfaction is not associated with occupation background, duration of service use, time to reach. These factors are not statistically associated with the level of satisfaction. ($P > 0.05$)
10. The main positive behaviour of the service providers are friendly speaking of health workers 57.5% (62) and advice about regularity of LEI 55.6% (60). The other least contributing factors are providing service in time. The very least contributing factors that showed clients perception about the positive behaviour of the service providers are advice about side effects, answer the query, no partiality and exam blood pressure.
11. The respondents have given multiple responses about the factors which make them satisfy from the different services they received. Almost, 90.7% were satisfied with the services of the LEI because of its affordable services,

besides this around half of the respondents were satisfied because of the Good behaviour of service providers and accessibility of service.

12. The majority of the clients had no idea about the improvement of the service of the LEI service 85 % (92) where as only few clients suggested about the staff training 15% (16).
13. For the suggestions about the improvement of the client's satisfaction, majority had no idea 70.4% (76), but the rest replied for delivering the advice about the side effects, encourage defaulter for reuse in service, make service more accessible, counsel the clients well, encourage users explaining benefits of services of LEI.
14. During the Key informants interview, the all the key informants replied that service easy to use is the main cause of the popularity. Around more than half replied accessibility and the rest one third cause were available when needed, less side effects appeared with drugs, effectiveness of Drugs.
15. At the same time, the major cause of satisfaction of services available in LEI stated by the key informants are availability of services and less side effects of Drugs. The other main causes are easy to use, effectiveness of drugs and accessibility of service.
16. Clients' satisfaction is also related with the society's and village people's perception. To make this study more valid, 14 Key informants (FCHVs- 3, Social Workers/Leaders- 6 and School Teachers- 4) were selected and interviewed asking open-ended questions related to LEI service and clients' satisfaction.

17. The questions were concentrated in feeling, perceptions, values, beliefs and attitudes of communities. They also commented that the LEI services were popular because of easy, accessible and affordable services.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary and Conclusion

The research questions of study were about the level of satisfaction among LEI service users and the factors associated with their satisfaction. Among the users under study, more than 2/3 of the users (68.5%) are found to be fully satisfied and left 31.5% are partially satisfied. No completely dissatisfied users are found in this study.

According to the users of LEI service easy to use is the main factor for clients' satisfaction among users of LEI service found from this study which is 90.7% of total users. Other factors associated with clients satisfaction found from users are; good behaviour of the service providers, availability of service in time and places as stated and accessibility of the servic. Besides these points, the key informants added other points for clients' satisfaction among LEI service users, which are; effectiveness of drugs, availability of service free of cost and Female service providers. The causes of dissatisfaction found among LEI service users in this study are; side effects of some drugs, unavailability of service and pain of injection.

Most of the users were found of age group 25- 35 years and fully satisfied users were also found highest in this age group (84.4%) in comparison to the other age groups, i.e. 50% in below 25 years and 40% in above 35 years. Statistical significant association between users' age and level of satisfaction has been found. Similarly, statistical significant association between availability of service in specified time and places and level of satisfaction among users has been found. No statistical association found among other studied factors and level of satisfaction except these two are found.

The factors related to service delivery and usage, have been found associated with the clients' satisfaction. These factors are; availability of the services, accessibility of the services and behaviour of the service providers. All these things have been found well in the place of study and also more users of LEI service are found to be satisfied. So, factors related to service delivery are very important to make clients satisfied from LEI service.

5.2 Recommendations

- a. The positive behaviour of service providers have been found very important to the satisfaction of the clients using the LEI service, so the health activities should also be concentrated with improving the service providers' behaviour towards their clients.
- b. Service availability (in stated places and time) has been found significantly associated with the satisfaction of the clients using LEI service, so service availability should be ensured.
- c. PECCs are the alternate to make LEI service accessible to the community people, which is also associated with the client's satisfaction. So well functioning of the PECCs should be ensured.
- d. Appropriate advice and counseling are related with good behaviour of service provider, quality of service and satisfaction of the clients; and inappropriate advice and counseling may be related to dissatisfaction. So good counseling skills should be adopted by the service providers and activities should also be concentrated to improve the counseling skills of service providers.
- e. Almost LEI service users agreed that LEI service is easy to use, which is important factor for satisfaction among users, so advocacy and awareness creation should be increased ensuring other factors needed for clients satisfaction.

BIBLIOGRAPHY

- Acharya, G. P. (2008). *Impact of the Public relation activity in awareness creation of the Lumbiny Eye Institute*. Lumbini: Rana Ambika Eye Hospital.
- Boyde, Harper W. (1990). Ralph Westall, and Stanly Stach, *Marketing Research Text book and cases*. Richard D. Irwin, Inc.
- Center, Allen H. (1995). *Public Relations Practices*. Upper Saddle: Prentice Hall.
- Crifasi, C. (2000). *Everything's Coming Up Rosie*. New York: From Public Relations Tactics, Public Relations Society of America.
- Dr. Sherchan, A. (2005). *The Prevalence of blindness and cataract surgery*. Lumbini: Lumbini Eye Institute.
- Kelly, Kathleen S. (1998). *Effective Fund Raising Management*. Mahwah: Lawrence Erlbaum Associates.
- Koirala, Dr. Kundan Datta (2057 BS). *Marketing Management*. Kathmandu: M.K. Publishers and distributors.
- Kothari, C. R. (1993). *Research Methodology: Methods and Techniques*. Wiley Eastern, Ltd.
- Kotler, Philip (1990). *Marketing Management Analysis, Planning, Implementation and Control*. New Delhi: Prentice hall of India Ltd.
- Levy Stuart, (2007). *Public Relations and Integrated Communication*. India: Lotus Press.

Sapkota, Y. D. (2004). *Role of mid level ophthalmic professionals*. Kathmandu: Nepal Netra Jyoti Sangh.

Saunders, Anthony and Cornett, Marcia M. (2004). *Financial markets and Institutes*. New delhi: Tata Mc Graw Hill publishing company Limited.

Scott, M. (1994). *Effective Public Relations*. New Jersey: Prentice-Hall, Inc. A Simon and Schuster Company, Englewood Cliffs.

Wilcox, D.L. (2002). *Public Relations Strategies and Tactics*. Boston: Allyn & Bacon.

Wolf, Howard K. and Prem R. Pant (1999). *Social Science Research and Thesis Writing*. Kathmandu: Buddha Academic Enterprises Pvt. Ltd,

Reports Journals and Articles

Baltimore Institute, (2004). *Prevalence of Ocular survey reports*. Baltimore.

District Public health Office, (2009). *Annual Report*. Rupendehi: DPHO.

Lumbini Eye Institute, (F.Y. 2009/2010). *Annual report*. Bhairahawa: LEI.

Nepal Red Cross Society, (F. Y. 2008/2009). *Annual Report*. Rupendehi.

Orbish Eye Care Program, (2008). *An Analysis of the Five year planning*. Bhairahawa: Orbish Eye Care Program

Singapore National Eye centre, (2005). *A Comprehensive Report*. Singapore: Eye research Institute.

Tilganga Eye Hospital, (2009). *A study on Diabetic Retinopathy*. Kathmandu: Eye Care Program.

Appendix-1

Questionnaire

Factors associated with clients' satisfaction among LEI service users in Rupandehi district

Questionnaire for exit interview of LEI service users

Date-

1. Name of the respondent- Age-
2. Name of the guardian- Age-
3. Total No of live children- Male- Female-
4. Age of the smallest child-
Occupation; Husband- Wife-
5. Education of wife-
6. Caste (ethnic group)-
7. How long time does it take to come in LEI?
a. <1 hour b. >1 hour
8. What factors contributed you to choose LEI?
9. Who counseled/informed you to choose LEI?
10. Do you know about the side effects of drugs of prescribed in LEI?
a. Yes b. No
12. If yes, what are the side effects of it known?
13. When you started to use LEI?
Year ----- Month -----

14. Do you satisfied from the service you received from the service centre?

- a. Yes
- b. No

15. If yes, at what extent

- a. Fully satisfied
- b. partially satisfied
- c. not satisfied at all

16. If satisfied, what are the causes of satisfaction?

- a. Good behaviour of service providers
- b. Availability of the service in time
- c. Availability of the service nearer
- d. No harms caused by LEI service
- e. Easy to use
- f. Very effective
- g. Others (specify)

17. If not satisfied,

A. Do you want to continue further? Yes ----- No-----

B. What are the causes of dissatisfaction?

- a. Bad behaviour of the service providers
- b. Side effects of the Drugs
- c. Unavailability of the service in time
- d. Unavailability of the service nearer
- e. Not effective (failure)
- f. Pain during injection
- g. Others (specify)

18. Do service providers provided adequate message about LEI?

- a. Yes b. No
- 19. If yes, what are the messages you received?
- 20. If no, what did you expect from them?
- 21. How the service providers deal with you?
 - a. Positively b. Negatively
- 22. If positively, what are the positive points?
- 23. If negatively, what are the negative points?
- 24. What do you expect from them?
- 25. Do you get the service all the time you come for that?
 - a. Yes b. No
- 26. What are your suggestions to improve quality of the LEI service?
- 27. What are your suggestions to improve clients' satisfaction in users of LEI?

**Factors Associated with Clients' satisfaction among LEI Users in
Amawa VDC of Rupendehi district**

Questionnaire for Key Informants' interview

District- Rupandehi

VDC-Amawa

Ward-

Name of the respondent-

Date of interview-

1. Now a day, what is the attitude of your village people about acceptance of LEI service?
2. What is the acceptance of LEI in your village women?
3. Why is it increasing or decreasing?
4. Are village women getting LEI from health worker where it is said to be maid available when they needed?
a. Yes b. No
5. If no, why or what are the difficulties?
6. Are health workers available to provide the LEI service as stated when people needed?
a. Yes b. No
7. If no, what should be done for improvement?
8. Is health workers' behaviour good towards clients?
a. Yes b. No
9. If yes, what are the good points?
10. If no, what should be done to improve?
11. Does LEI service provided by health workers have good quality?
a. Yes b. No
12. If yes, what are the good points?

13. If no, what should be done to improve?
14. Are the clients satisfied with LEI service?
 - a. Yes
 - b. No
15. If yes, what are the causes of satisfaction?
16. If no, what should be done to make clients satisfy?
17. What are your suggestions to improve quality of the service?
18. What are your suggestions to improve clients' satisfaction?

Appendix-2

Lumbini Eye Institute - Brief Profile

Vision 2020 aims to eliminate avoidable blindness worldwide by the year 2020, in order to give everyone in the world the right to sight. Twenty five years ago, Nepal was one of the countries with very poor eye care facilities and a few Nepalese who had the financial and social wherewithal traveled to India for their eye care needs. Since then there has been a phenomenal change. Nepal is now being acknowledged as an outstanding example of having attained self reliance in eye care working in very difficult terrain in one of poorer countries. Lumbini Eye Institute/ Rana Ambika Shah Eye Hospital as it is commonly known is the preferred destination for eye care not only for the Nepalese but also for the Indians living along the border and beyond. Today it is one of the largest providers of eye care in Nepal, providing high quality comprehensive eye care that even a poor Nepal can afford. It has set up a network of rural eye clinics and system of outreach to reach out to the populations in inaccessible hilly and terrain areas. Established in 1983, starting with only two rooms in the Government hospital (Bhim Hospital) today has evolved into one of the leading and most successful eye care centers run under Nepal Netra Jyoti Sangh in Nepal. It is also considered as one of the finest examples of a self-sustainable eye care facilities in South Asia. The Institute boasts a cadre of experienced ophthalmologists and has a good back-up of paramedical staff.

250 beds this hospital served 130,000 patients and performed 28,500 different types of eye surgeries in the year 2006/2007. In order to share the expertise & experiences and for transfer of skill, Lumbini Eye Institute is building institutional linkages in countries like Tibet, Cambodia. Lumbini Eye Institute offers a 3-year MD residency course on General Ophthalmology.

This academic programme is affiliated with National Academy Of Medical Sciences. The Institute also offers 6 months fellowship training on General Ophthalmology and Anterior segment. In Addition, Lumbini eye Institute has been providing 3 year mid-level ophthalmic assistant training since 1990.

Several Public relation programs are being conducted to reach marginalized and un reached Nepalese population.

- a. Surgical eye camp
- b. Pediatric Eye Camp
- c. Community based research
- d. School Screening Programe
- e. House to House Surveillace
- f. Diagnostic Screening and treatment (DST) Camps.
- g. Community based training & awareness programs.

Mentioned above public relation activities is currently helping to reduce avoidable blindness of Nepal.

Sri Rana Ambika Shah Eye Hospital, now known as the Lumbini Eye Institute (LEI) was established in 1983 at the birth place of Buddha, Siddharthanagar Bhairahawa Lumbini Nepal. LEI has grown into a tertiary referral centre with multiple subspecialty services, annually performing 30,000 operations and seeing 250,000 outpatients. In 2004 the National Academy of Medical Science named LEI as a centre for human resource development.

LEI is concerned that, because approximately 70% of its programs serve a transient India population crossing the nearby border, they are under serving the Nepali population in the Lumbini Zone. Therefore, LEI undertook a study of the prevalence of blindness and visual impairment, service utilization, as

well as the cataract surgical coverage among the adult population of the Lumbini Zone and one district of Narayani Zone (Chitwan) which is included in its catchments area.

Lumbini zone has 6 districts, three in the southern plain area (Rupandehi, Kapilvastu and Nawal Parasi) and three in the northern hills (Gulmi, Palpa and Arghakhachi). Agriculture is the main occupation, except in some hilly districts (Magar, Gurung) which includes army profession called GURKHA (British and Indian Army).

The objectives of the study are: (a) to estimate the prevalence of blindness for those fifty years of age or older (b) to investigate the cataract surgical coverage rate; (c) to assess the outcome of surgical treatment, including visual acuity and intra and post surgery complications; (d) to evaluate the cost effectiveness of community outreach strategies; (e) to identify issues related to gender and blindness; and (f) to identify the barriers to uptake the cataract surgery.

This paper will report on the first two objectives i.e estimate prevalence of blindness and surgical coverage. Results of cataract surgery and barriers to up take a cataract surgery will be presented in a separate paper.