CHAPTER - I

INTRODUCTION

1.1 Background of the Study

Malnutrition is defined as a state in which the physical function of an individual is impaired to the point where he or she can no longer maintain natural bodily capacities such as growth, pregnancy, lactation, learning abilities, physical work and resisting and recovering from disease. The term refers to deficiencies in vitamins and minerals, stunting, wasting, and being underweight or overweight/obese. Protein energy malnutrition is a severe form of malnutrition characterized by an energy deficit due to a lack of macronutrients; determined by physical measurements - weight or height - and age. Stunting reflects shortness-for-age; an indicator of chronic malnutrition and calculated by comparing the height-for-age of a child with a reference population of well-nourished and healthy children. Wasting reflects a recent and severe process that has led to substantial weight loss, usually associated with starvation and/or disease. Calculate by comparing weight-for-height of a child with a reference population of well-nourished and healthy children often used to assess the severity of emergencies because it is strongly related to mortality. Underweight: measured by comparing the weight-for-age of a child with a reference population of well nourished and healthy children.

A cleft is a birth defect that occurs when the tissues of the lip and/or palate of a fetus do not properly fuse very early in the pregnancy. A cleft lip, sometimes referred to as a harelip, is an elongated opening between the upper lip and the nose. It may involve one or both sides of the lip and may occur with or without a cleft palate. A cleft palate, in which the roof of the mouth abnormally opens into the floor of the nose, may also occur without a cleft lip. One of every 30 babies is born with some type of birth defect. Approximately one in 700 has a cleft, Twice as many boys as girls are afflicted with a cleft lip, both with and without a cleft palate. However, twice as many girls as boys are afflicted with a cleft palate without a cleft lip. Clefting occurs most often in Asians, Latinos, and Native Americans (one of 500 births) and least often in

people of African descent (one of 1000 births). Babies born with cleft lips or cleft palates may have trouble breathing, as well as swallowing. They cannot adequately suck, so they cannot nurse and must be fed with a special bottle or a bulbar syringe. Later, when their teeth erupt, the upper and lower teeth and jaws are often misaligned, resulting in difficulty chewing. Thus, clefting leaves children vulnerable to dehydration and malnutrition. A cleft palate also affects a child's speech, since the palate is necessary for speech formation. Even when a cleft palate is surgically repaired, it can permanently affect an individual's speech patterns. A cleft result when developing facial structures fail to fuse between the fourth and eighth weeks of gestation. This failure may be initiated by either genetic or environmental factors. The genes that cause clefting may be passed from either parent. A parent with a cleft has at least a 5% chance of passing along the trait. However, if the clefting is associated with a recognized genetic syndrome in which the genes are dominant rather than recessive, the chance of inheritance becomes 50%. Clefting may also result from environmental disruptions in development. These disruptions may be triggered by drugs, tobacco, or the rubella virus. The mother's diet during pregnancy may also affect the likelihood of clefting. This critical fusion stage takes place very early in the pregnancy, before many women even find out they are pregnant, so they may not yet have stopped using substances that may be harmful to the fetus or begun taking prenatal vitamins. Clefting is apparent upon examination immediately after birth. The extent of the deformity varies with the severity of the cleft lip or palate. Clefts may be repaired with reconstructive surgery that closes the palate and returns the lip to its normal position. Cleft lip defects may be repaired shortly after birth, but many doctors prefer to operate on infants according to the "rule of 10": when the child is at least 10 weeks old and weighs at least 10 pounds. While repair of the cleft lip is usually successful in one operation, a second operation may be performed later to refine the scar. Repair of a cleft palate is performed in a series of operations not usually completed by the time the child is two years old. If the defect lies primarily in the forward, bony portion of the palate (called the hard palate), doctors may wait to operate until the child is between five and seven years old and has more bone growth. Nonsurgical treatment of a cleft palate is available for patients who do not want surgery or who are at high risk in surgery. One option is a prosthetic appliance worn as an artificial palate. Later, the child will need orthodontic treatment to realign the structures of the mouth for proper function. The child may also need speech therapy

to produce intelligible sounds with cleft-affected anatomy. Children with clefts are also vulnerable to frequent ear infections. Their Eustachian tubes do not effectively drain fluid from the middle ear to the mouth, so fluid accumulates, pressure builds, and infection sets in. These children must have drainage tubes inserted into their ears to prevent hearing loss. Children born with cleft lips and palates that become unduly self-conscious of their appearance and speech differences may benefit from psychological therapy. Parents who suffer guilt over their child's birth defect may also find help in professional counseling. With reconstructive surgery, orthodontic treatment, and speech therapy, the effects of clefting may be minimized. Breathing, eating, and speech are also greatly improved with treatment. With the anatomical structures corrected and their functions restored, a child born with a cleft lip and/or palate may lead a normal life. No known means of preventing clefting in a developing baby is known, although early pregnancy detection and good prenatal care, including prenatal vitamins and the avoidance of harmful substances appear to reduce the risk. Couples with an incidence of clefting in their families may wish to consult a genetic counselor.

No universally accepted classification scheme exists for clefts of the lip and palate. Veau categorized clefts into 4 classes, as follows:

- Clefts of the soft plate alone
- Clefts of the soft and hard palate
- Complete unilateral clefts of the lip and palate
- Complete bilateral clefts of the lip and palate

This classification scheme does not provide a means of classifying clefts of the lip alone and ignores incomplete clefts. The Kernahan stripped–Y classification allows the description of the lip, the alveolus, and the palate. In this classification, the incisive foramen defines the boundary between clefts of the primary palate (lip and Premaxilla) and those of the secondary palate.

Clefts of the lip may manifest as microform, incomplete, or complete clefts. Microform clefts are characterized by a vertical groove and vermilion notching with varying degrees of lip shortening. Unilateral incomplete lips manifest varying degrees of lip disruption associated with an intact nasal sill or Simonart band (a band of

fibrous tissue from the edge of the red lip to the nostril floor). Complete clefts of the lip are characterized by disruption of the lip, alveolus, and nasal sill. Bilateral clefts are almost always associated with cleft palate, with 86% of patients with such clefts of the lip presenting with palatal clefts. Unilateral clefts of the lip are associated with palatal clefts in 68% of cases. Nasal regurgitation during suckling may indicate an associated cleft of the palate. All infants with clefts of the lip should have a complete head and neck examination, including careful examination of the palate as far as the tip of the uvula. The presence of a bifid uvula, a translucent central zone in the velum, and a detectable notch of the posterior border of the hard palate indicate sub mucosal palatal cleft. All patients with clefts are best referred to multidisciplinary cleft lip and palate centers. Persistent Otitis media and middle ear effusions are associated with palatal clefts and warrant regular follow-up care. Depending on the preference of the surgical centers, the otolaryngology may elect to perform myringotomy before or after definitive cleft lip and palate repair. Most cases of lip clefts are non syndromic. Parents should be reassured and advised sensitively. At the initial visit, review feeding techniques carefully. For the infant, breastfeeding and the capacity to suck are difficult. However, breastfeeding may be possible with isolated clefts of the lip and the alveolus. For infants with palatal clefts, a variety of special bottles and nipples are available. Crosscut soft nipples made for premature infants facilitate feeding of infants with cleft palate. At the conclusion of the initial consultation, the parents and the infant should be comfortable with the feeding method.

1.2 Statement of the Problem

Cleft lip is among the most common of congenital deformities. The condition is due to insufficient mesenchymal migration during primary palate formation in the fourth through seventh week of intrauterine life. This results in disfigurement and distortion of the upper lip and nose. Cleft lip may be associated with syndromes that include anomalies involving multiple organs. Patients may have impaired facial growth, dental anomalies, and speech disorders (if a cleft palate is present), and they may experience late psychosocial difficulties.

The incidence of cleft lip in the white population is approximately 1 in 1000 live births. The incidence in the Asian population is twice as great, whereas that in the black population is less than half as great. Male children are affected more often than

female children. Isolated unilateral clefts occur twice as frequently on the left side as on the right and are 9 times more common than bilateral clefts. Combined cleft lip and palate is the most common presentation (50%), followed by isolated cleft palate (30%), and isolated cleft lip or cleft lip and alveolus (20%). Fewer than 10% of clefts are bilateral.

For parents with cleft lip and palate or for a child with cleft lip and palate, the risk of having a subsequent affected child is 4%. The risk increases to 9% with 2 previously affected children. In general, the risk to subsequent siblings increases with the severity of the cleft. Feeding is the common problem for Cleft Lip and/or Palate patient and also URTI, Chocking.

The research questions have been made to investigate the prevalence of malnutrition and its effect in cleft lip and/or palate patient, What is the prevalence of malnutrition in cleft lip patients visiting Morang cooperative hospital Biratnagar?, What are the demographic and socio-economic statuses of patient family?, What are the factors contributing for malnutrition in cleft lip and/or palate?, What are the effects of malnutrition in cleft lip and/or palate patient?

1.3 Objectives

General Objective of the study was to access the prevalence of malnutrition and its effect having cleft lip and/or palate and Specific Objectives were

a) To find out the demographic structures, socio-economic status of parent.
b) To find out prevalence of malnutrition in cleft lip and/or palate.
c) To identify level of malnutrition status in cleft lip and/or palate
d) To find out the effect of malnutrition in cleft lip and/or palate patient

1.4 Significance of Study

The incidence of cleft lip in the white population is approximately 1 in 1000 live births. The incidence in the Asian population is twice as great, whereas that in the black population is less than half as great. Male children are affected more often than female children. Isolated unilateral clefts occur twice as frequently on the left side as

on the right and are 9 times more common than bilateral clefts. Thus, according to the problem statement there is increasing the incident of cleft lip and/or palate especially in developing countries. So in same time there are difficulties in feeding & drinking as normal and other hand lack of nutrition due to poverty in developing countries. There may be vigorously seen malnutrition in cleft lip & palate.

Due to having cleft lip & or palate there may be chance of other infection like as pneumonia, common cold, coughing etc. So that it is also major cause of malnutrition in cleft lip and/or palate. It would be helpful to policy maker of the government and non-governmental agencies, helpful to guide the planner, specialists, researchers, students and educations for further research, programs of malnutrition.

1.5 Delimitations of the Study

For effective study of any location, a fixed rules, regulation and criteria should be formed, which is known as limitation of the study. By the help of the limitation, real fact data can be emerged. The limitations the researches are as follows:

a) The data and information was not taken from Normal patients
b) The Patient family was not forced to participate in study.
c) This study area was delimited within the Morang co-operative hospital
d) This study was limited within malnutrition and effect only of Cleft Lip and/or Palate Patient aged below five years.

1.6 Definition of the Important Terms

Prevalence:

Total cases visiting to Morang Co-operative Hospital, Biratnagar

Ethnicity:

It was categorized into three groups on the basis of prevailing system and Hierarchy in the community such as:

- *Indo-Aryans:* Brahmin and Chhetri
- *Mongoloids:* Newar, Gurung, Magar

- *Underprivileged:* Tharu, Bote, Damai, Kami, Sarki

Education Status:

Educational status as reported by respondent was categorized in the following way:

- *Illiterate:* Cannot read and write
- *Literate:* Can read and write but without formal schooling
- *Primary level:* one to five years of formal schooling
- *Lower Secondary Level:* six to Eight year of formal schooling
- *Secondary Level:* Nine to ten year of formal schooling
- *Higher Secondary:* Eleven to Twelve years of formal education

Occupation:

Categorized on following types, so we can find in which class of the peoples are having cleft lip and/or palate

1. Farmer
2. Business
3. Labor
4. Job holder
5. Other

Genetic factor:

Having cleft lip in parents & other relatives.

Prenatal vitamins:

Intake of prenatal vitamins during pregnancy

Harmful substance intake:

Intake of harmful substance like alcohol, tobacco, drugs etc

Proper counseling:

Not having proper counsel by health personnel during pregnancy and after birth of cleft lip child.

Health seeking practice:

After child birth with cleft lip not having proper attention on health seeking practice

Traditional:

Health care service provided by dhami, jhakri, baidhya

Modern:

Patient treated with allopathic medicine and Surgery

Sex:

Sex is an easily inevitable characteristics and it has dichotomous nature

Questionnaire:

It is list of questions which is used in the survey in order to collect data in survey location.

Malnutrition:

It is defined as a diseased state resulting from prolonged intake of a diet deficiency primary of protein and energy foods and secondarily of other essential food element such as minerals and other vitamins.

CHAPTER-II

REVIEW OF LITERATURE

A cleft is a birth defect that occurs when the tissues of the lip and/or palate of a fetus do not properly fuse very early in the pregnancy. A cleft lip, sometimes referred to as a harelip, is an elongated opening between the upper lip and the nose. It may involve one or both sides of the lip and may occur with or without a cleft palate. A cleft palate, in which the roof of the mouth abnormally opens into the floor of the nose, may also occur without a cleft lip.

One of every 30 babies is born with some type of birth defect. Approximately one in 700 has a cleft, the fourth most common birth defect in the United States (congenital heart defect is the most prevalent). Twice as many boys as girls are afflicted with a cleft lip, both with and without a cleft palate. However, twice as many girls as boys are afflicted with a cleft palate without a cleft lip. Clefting occurs most often in Asians, Latinos, and Native Americans (one of 500 births) and least often in people of African descent (one of 1000 births).

Babies born with cleft lips or cleft palates may have trouble breathing, as well as swallowing. They cannot adequately suck, so they cannot nurse and must be fed with a special bottle or a bulbar syringe. Later, when their teeth erupt, the upper and lower teeth and jaws are often misaligned, resulting in difficulty chewing. Thus, clefting leaves children vulnerable to dehydration and malnutrition. A cleft palate also affects a child's speech, since the palate is necessary for speech formation. Even when a cleft palate is surgically repaired, it can permanently affect an individual's speech patterns.

The mother's diet during pregnancy may also affect the likelihood of clefting. This critical fusion stage takes place very early in the pregnancy, before many women even find out they are pregnant, so they may not yet have stopped using substances that may be harmful to the fetus or begun taking prenatal vitamins.

Children with clefts are also vulnerable to frequent ear infections. Their Eustachian tubes do not effectively drain fluid from the middle ear to the mouth, so fluid

accumulates, pressure builds, and infection sets in. These children must have drainage tubes inserted into their ears to prevent hearing loss.

Malnutrition is a serious and often life-threatening condition caused by a diet lacking in essential proteins, fats, vitamins and minerals. People suffering from malnutrition have an extremely compromised immune system and are 10 times more likely to die of treatable illnesses like colds or diarrhea.

Malnutrition is the term used to describe the insufficiency, excessive or imbalanced consumption of nutrients. It can occur from a person eating little to no food (starving themselves) or by eating too much of some foods and little of others, such as vegetables and fruits. People with bad eating habits may unintentionally be causing themselves and family members to suffer from malnutrition. It can be as simple as drinking soda, eating sweets and fatty foods all of the time and never eating fresh fruits, vegetables or grains.

The study done on “Are Children with Clefts Underweight for Age at the Time of Primary Surgery?” By Lazarus, Dirk D. A. F.C.S.(S.A.); Hudson, Don A. F.R.C.S., M. Med.; Fleming, Andrew N. M. F.R.C.S revealed that Children with clefts, especially those with a cleft palate, have an impaired sucking mechanism and are therefore prone to nutritional problems. This study was undertaken to determine whether children with clefts of the lip and/or palate are underweight for age at the time of primary surgery. Underweight for age was defined as being less than 80 percent of expected weight for age or below the 3rd percentile as plotted on standard percentile charts. The records of all children with clefts seen at the Red Cross Children's Hospital between 1976 and 1996 were reviewed. Of these 740 records, 100 were excluded for inadequate data, severe systemic syndrome, no operation done, or craniofacial cleft. The records of 640 children were thus included; 195 (30.5 percent) were underweight for age. By comparison, only 13.7 percent of a similar group of none cleft controls were underweight for age. The difference between these two groups was highly significant. Factors that influenced weight at the time of primary surgery were type of cleft and age at the time of surgery. Children with cleft palate, whether associated with a cleft lip or not, were found to be more underweight for age than those with an isolated unilateral cleft lip ($p = 0.008$). Children who had surgery

after the age of 1 year were 1.5 times more likely to be underweight for age than children who had surgery less than 1 year of age. Children with isolated cleft palates who were underweight for age had a tendency toward a higher fistula rate (36 percent) than those of normal weight (24 percent). (*Articles published on Plastic & Reconstructive Surgery: May 1999 - Volume 103 - Issue 6 - pp 1624-1629)*

The study done by D. C. Robinson, J. J. Shepherd on "The Prevalence and Natural History of Cleft Lip and Palate in Uganda" found that 47 children under the age of one year attending Mulago Hospital, Kampala, suggests that the prevalence of cleft lip and palate in Uganda is of a similar order to that in Europe and America but the relative prevalence of cleft palate alone may be less. Infants with cleft lip alone were able to breast feed satisfactorily and usually showed normal growth rates. Clefts of the secondary palate with or without cleft lip were always associated with breast milk failure: as a result, more than a quarter of the 28 cases are thought to have died and half the survivors became malnourished. Without close medical supervision it is likely that few cases of cleft palate survive in a developing country. *(Articles published on Developmental Medicine & Child Neurology Volume 12, Issue 5, pages 636–641, October 1970)*

The study done on "Cleft lip and palate in Nigerian children and adults: A comparative study" done by E.O. Adekeye F.D.S.R.C.S.(Eng.), F.M.C.D.S.(Nq.), F.W.A.C.S., a and K.M. Lavery B.D.S., F.D.S.R.C.S.(Eng.), M.B., Ch.B., F.R.C.S.(Eng.), revealed that cleft lip and palate in 160 Nigerians is presented. In clefts of the lip alone, there was no sex predilection whereas cleft lip and palate cases showed a slight male preponderance. 119 (74·4%) cases presented below the age of 12 years and 41 (25·6%) cases were first seen above 12 years of age. Only a few cleft lip and palate cases survived to adulthood possibly because of malnutrition combined with the lethal effects of associated congenital abnormalities. This study confirms the view that late primary repair of clefts is less likely to produce impaired growth of the maxilla due to contraction of scar tissue commonly seen in early surgery. The importance of early primary repair is emphasized. (*Articles published on Developmental Medicine & Child Neurology Volume 12, Issue 5, pages 636–641, October 1970)*

CHAPTER - III

RESEARCH METHODOLOGY

3.1 Research Design

The study was gathering and analyzes the data which was collected from the field of research area. The result of the findings interpreted in the logical order after the detail analysis of relevant data from the beginning to the conclusion. This was descriptive. It was explore the prevalence of malnutrition and its effect on cleft lip and/or palate.

3.2 Sources of Data

It was collected from two sources i.e. primary data and secondary data.

- **Primary data:** An interview with the parent of cleft lip and/or palate patient was taken.
- **Secondary data:** Some of the data were taken from various sources like records and reports of the health institutions, literature and publications of the various institutions.

3.3 Population of the Study

All the Patient parent and patient of cleft lip and/or palate visiting to Morang cooperative Hospital, Biratnagar, Morang were the population of the study.

3.4 Sampling Size / Procedure

Sixty patients were taken for Anthropometry and 60 Patient parents were taken regularly for other information. Non probability sampling (convenient to researcher) procedure were done for the data. The patient of cleft lip and/or palate and parent were taken for the research during March-01 to July 31; 2011 of Morang cooperative hospital.

3.5 Data collection Tools and Instruments

The tools and techniques were used to collect the data are

- Questionnaire
- Anthropometry
  - Height for weight
  - Age for weight
  - MUAC (Shakir tape)

3.6 Standardization/Validation of the Tools

Tools was much important than other aspect so it should make valid. In order to make the tool valid following steps was done; the questionnaire of previous studies on the related topics was review and was fully guided by objectives, Suggestion and guideline of research guide was taken, the pre-testing of questionnaire was done at similar setting, the interview was conducted in local and simple Nepali language.

3.7 Data Collection Procedure

After preparing the tool, researcher were visit the research area with authorized letter provided by the Department of the HE, Janata Multiple Campus, Itahari Sunsari. Verbal consent will be taken before asking the questions, Objectives of the study was clarified, and Confidentiality was maintained. After getting permission, researcher was filling the interview schedule for the data analyzing purpose. The data was collected through interview and physical and clinical assessment.

3.8 Methods of Data Analysis and Interpretation

The data was computed in the computer for simplifying, analyzing. The entire completed questionnaires were edited for accuracy and completeness. Data analysis were done applying computer through SPSS. The outputs of the data were interpreted as per the prescribed format of the college.

CHAPTER-IV

ANALYSIS AND INTERPRETATION OF DATA

In this chapter, analysis and interpretation of the data were done which were collected from survey. The data were tabulated and kept in sequential order as need of the study. Then the data were analyzed with the help of the computer on the basis of percentage and ratio. Tables and figures have been used to make the presentation more clear and meaningful and interpreted.

4.1 Age of the Patients

The patients were classified in different age group i.e. <12 months & 12-60 months respectively. The patients were taken for the study up to 5 yrs.

Table no. 1: Age of the Patients

Age of Patients	No. of Person	Percent
< 12 months	22	36.7
12-60 months	38	63.3
Total	**60**	**100.0**

Table 1 among the total 60 patients of cleft lip and/or palate 36.7% were below 12 months and rest of the patient above 12 months. The data shows that the higher percent of patients were aged 12-60 months.

4.2 Age for Weight of the Patients

The patients were classified in different age group i.e. <12 months & 12-60 months respectively. The patients were taken for the study up to 5 yrs. Age for weight method is one of the best methods of nutritional status assessment for developing country.

Table no. 2: Age for Weight of the Patients

Age of Patients	No. of Patient	No. of Malnourished	Percent of Malnourish
< 12 months	22	6	27.27
12-60 months	38	23	60.53
Total	**60**	**29**	**87.80**

Table 2 among the total 60 patients of cleft lip and/or palate 36.7% were below 12 months and rest of the patient above 12 months. The data shows that the higher percent of patients were aged 12-60 months.

4.3 Sex of the Patients

The no. of male and female patients shows the incidence of cleft lip and/or palate on sex.

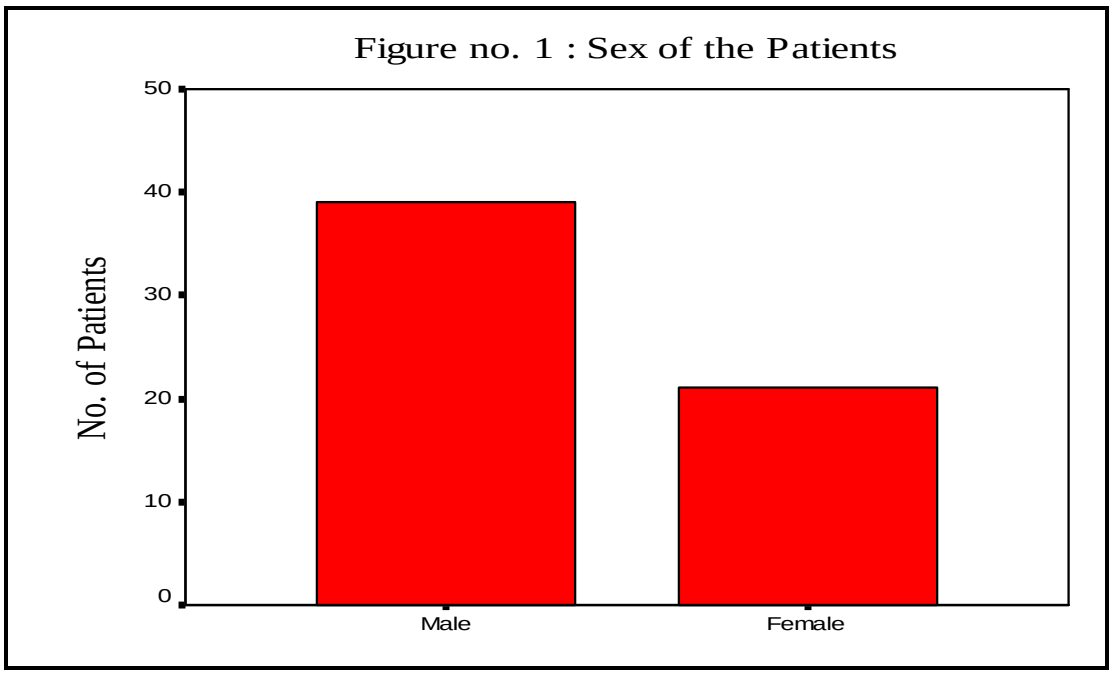

Figure 1 the total no. of male patient were higher than female i.e. 38 male patients and female patients were 22. This table shows that more male patients use to visit service centre for the treatment and less number of female visit in the ratio of male.

4.4 Caste of the Patients

The caste of patients classified in to three groups which were Indo-aryan, Underprivileged and Mangoloids.

Figure no. 2 : Caste of Patients

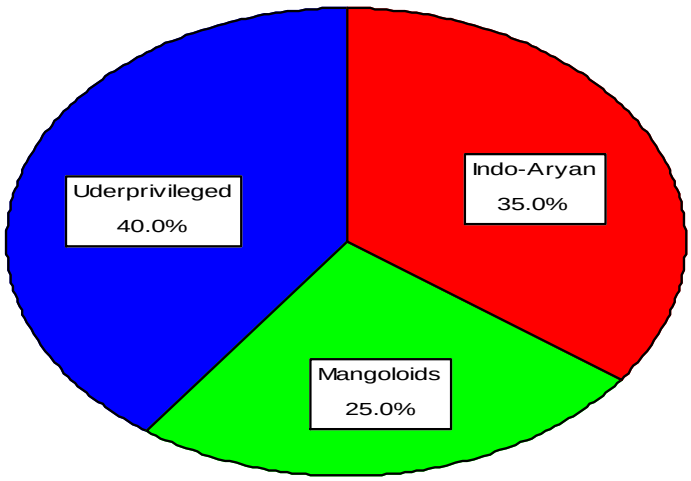

Figure 2 shows that among the total patient higher percent of Under privilege caste, middle is Indo- Aryan and lowest is Mangoloids i.e. 40%, 35% and 25 % respectively. It shows the higher incidence of cleft lip and/or palate in Underprivileged caste.

4.5 District of the Patients

The patient were came from different district of Nepal in this study which were classified in Morang, Sunsari, Jhapa, Dhankuta, Ilam and others like Saptari, Shnkhuwasabha etc.

Table no. 3 : District of Patients

Name of District	No. of Patients	Total No. of mal-nourished	Percent
Morang	26	11	37.93
Sunsari	12	7	24.14
Jhapa	6	0	0
Dhankuta	4	3	10.34
Ilam	3	2	6.89
Terathum	2	1	3.45
Bhojpur	1	1	3.45
Sankhuwasabha	2	1	3.45
Udaypur	1	1	3.45
Siraha	2	1	3.45
Mahotari	1	1	3.45
Total	60	29	100

Table 3 shows most of the patients belong from Morang District and lowest from Bhojpur and others respectively. It shows the higher percentage of patient visit from Morang District and 37.93 percent malnourished of morang district among total malnourished.

4.6 Zone of the Patients

The patient came from different Zones which were from Mechi. Koshi, Sagarmatha and others likes Dhanusha, Sarlahi etc

Table no. 4 : Zone of Patients

Zones	No. of Zones	Percent
Mechi	9	15.0
Koshi	46	76.7
Sagarmatha	3	5.0
Others	2	3.3
Total	**60**	**100.0**

Table 4 shows that most of patients were from Koshi Zonal and lowest were from Sagarmatha i.e. 76.7 % and 5% respectively.

4.7 Educational Status of Respondents

The educational level of respondents sample population is shown in figure no. 2 shows highest no. of respondent taken secondary level education i.e. 25%.

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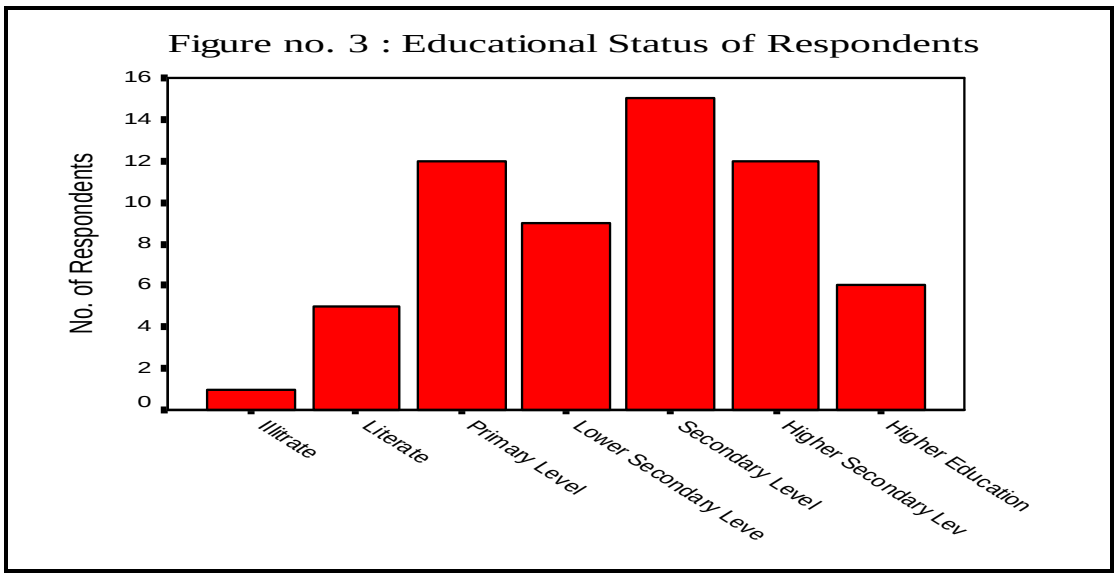

Figure 3 shows that most of the respondents were educated in the level of Secondary 1.66% respondents illiterate 8.33% Respondents literate, 20% respondent's primary level, 15% respondents lower secondary level, 25% respondents secondary level, 20% respondents higher secondary level and 9.11% respondents higher education and children are illiterate.

4.8 Relation of Respondents with Patient

The relation of patients with their care takers, where there are most of care-takers is their mother.

Table no. 5 : Relation of Respondents with Patient

Relation	No. of Relatives	Percent
Mother	45	75.0
Father	13	21.7
Others	2	3.3
Total	**60**	**100.0**

Table 5 shows the most patient care taker was mother which was higher than father i.e. 75% and 21% respectively.

4.9 Type of Problem/Diagnosis

Cleft lip and/or palate may be complete, incomplete, unilateral, bilateral or both. It shows the prevalence of the problems.

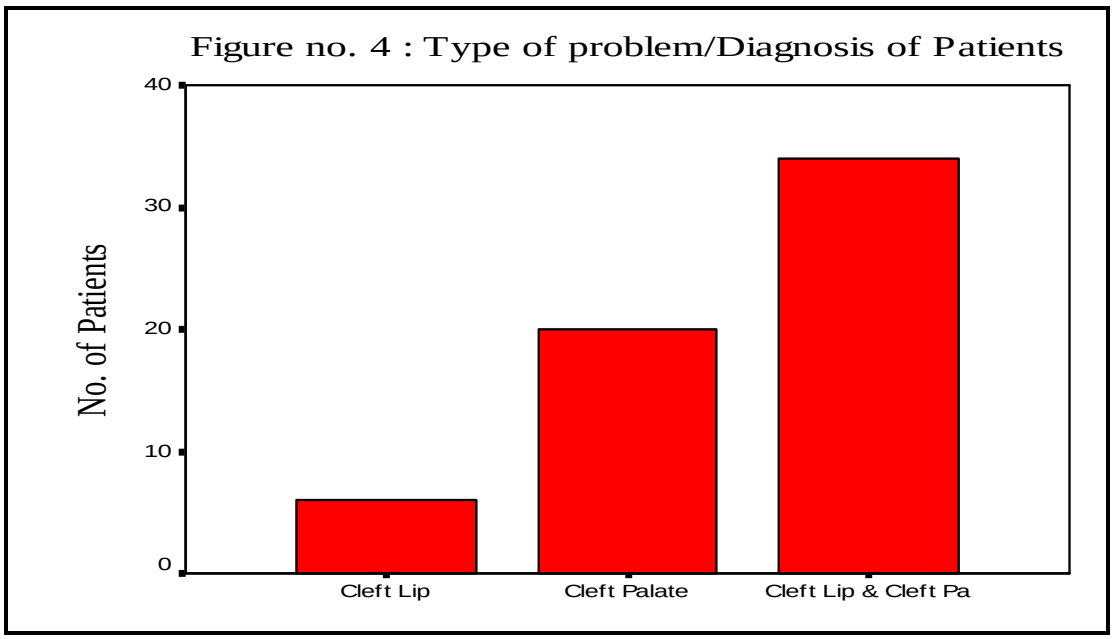

Figure 4 most of the patient having both problem i.e. cleft lip & cleft palate. It means patients who suffer this problem contains more cleft lip & cleft palate

4.10 Weight of Patient

The weight of patients is necessary for the analysis of health status and treatment. Usually the patients with cleft palate and lip have low weight due to feeding problem.

Table no. 6 : Weight of Patients

Weight of Patients	No. of Patients	Percent
Low	29	48.33
Normal	31	51.67
Total	**60**	**100.0**

Table 6shows that among the total patient low weight of patient was 48.33%, which was noticeable.

4.11 Height of Patient

The height of patients is also an important component of healthy children. Here height of patient taken under three criteria i.e. low, normal and above normal.

Table no. 7 : Height of Patients

Height of Patient	No. of Patients	Percent
Low	13	21.7
Normal	6	10.0
> normal	41	68.3
Total	**60**	**100.0**

Table 7 shows that among the total patient of height, there was 21.7% were below normal height & 68.3% were above normal height.

4.12 MUAC of Patient

The MUAC an anthropometry measurement of nutrition status of under 5 years children, in which shakir tape is used for diagnosis of level of malnutrition.

Table no. 8: MUAC of Patients

Nutritional Problem	No. of Patients	Percent
Severe Malnutrition	4	6.7
At Risk	5	8.3
Normal	29	48.3
Less Than 12 months children	22	36.7
Total	**60**	**100.0**

Table 8 shows that by mid upper arm circumference measurement (MUAC) the total severely malnourished patients were 6.7 and at risk were 8.3% respectively.

4.13 Family size status

The size of family is also an important component, which shows their caring and raring.ss

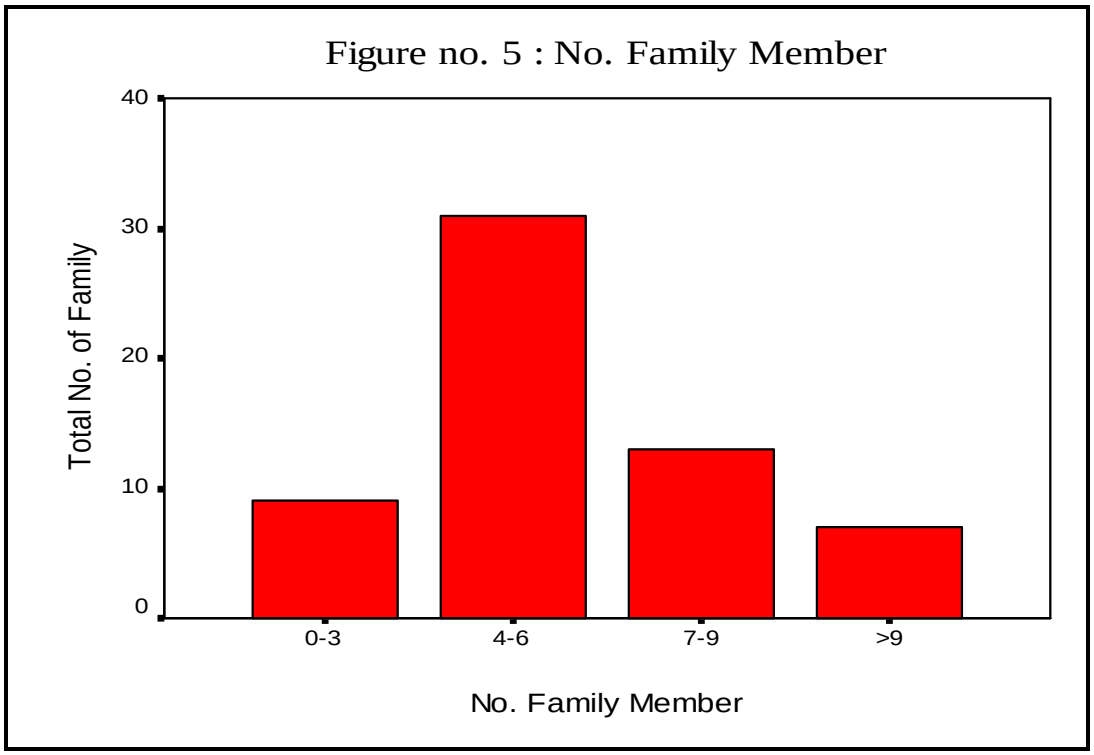

Figure 5 shows that the total no. of family member was higher in family size (4-6) but there was also having > 9 size which was remarkable.

4.14 Main Income Source of Patient Family

The income source of patients family is also an important factor which shows their caring and raring and which includes flowing criteria.

Table no. 9 : Main Income Source of Patient Family

Income Source	No. of income Source	Percent
Farming	31	51.7
Business	8	13.3
Labour	7	11.7
Job	6	10.0
Others	8	13.3
Total	**60**	**100.0**

Table 9 shows that main income of patients family were farming ie.51.7%. Business is 13.3 %. Labor is 11.7%, job is10% and other is 13.3%.

4.15 Economic Status Enough for Annum

The main income source of patient family which is enough for live and other for the whole year, it shows the economic status of family.

Table no. 10 : Economic Status Enough for Annum

Duration	No. Family	Percent
0-6 Months	12	20.0
7-12 months	47	78.3
> 12 months	1	1.7
Total	**60**	**100.0**

Table 10 shows that economic sources for their lives were listed i.e. 1.7% per annum.

4.16 Child Feeding Practices

The child feeding practices is also an important component of patients because they have feeding problem and there may have traditional feeding practices.

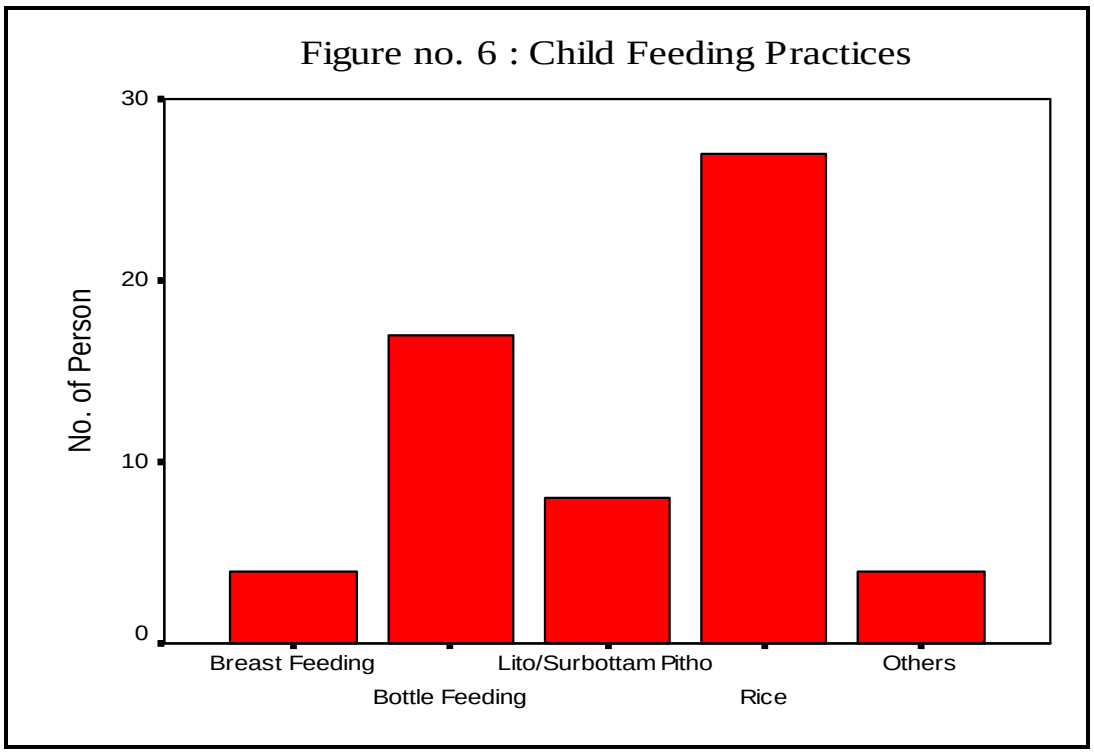

Figure 6 shows that child feeding practice was rice and bottle feeding were most, where as breast feeding practice was least.

4.17 Child Feeding Problems

The patients having cleft-lip and/or palate have feeding problem. The feeding problem is great deal for the nutritional status of child. In cleft Lip and/or Palate child common feeding problems are Nasal Regurgitation, Sucking Problem, Chocking etc.

Table no. 11 : Child Feeding Problems

Problems	**No. of Problem**	**Percent**
Nasal Regurgitation	30	50.0
Sucking Problem	9	15.0
Chocking	3	5.0
Others	7	11.7
No any Problems	11	18.3
Total	**60**	**100.0**

Table 11 shows that most of child feeding problem was nasal regurgitation i.e. 50% , Sucking Problem 15%, Others 11.7 % and lowest was choking and 18.3% were no any problems.

4.18 Mothers Food Habit in Pregnancy

The mother food habit in pregnancy is an important component because main etiological factor is congenital and other which is under study.

Table no. 12 : Mothers Food Habit in Pregnancy

Food Habits	**No. of Pregnant Women**	**Percent**
General Food	21	35.0
General Food + Additional Food	39	65.0
Total	**60**	**100.0**

Table 12 shows that general food habit during pregnant was 35% i.e. same % mother were not take any additional food.

4.19 Congenital Defect in Family

Congenital defect is known as birth defect. It can show the genetic defect in child.

Figure no. 7 : Congenital Defect in Family

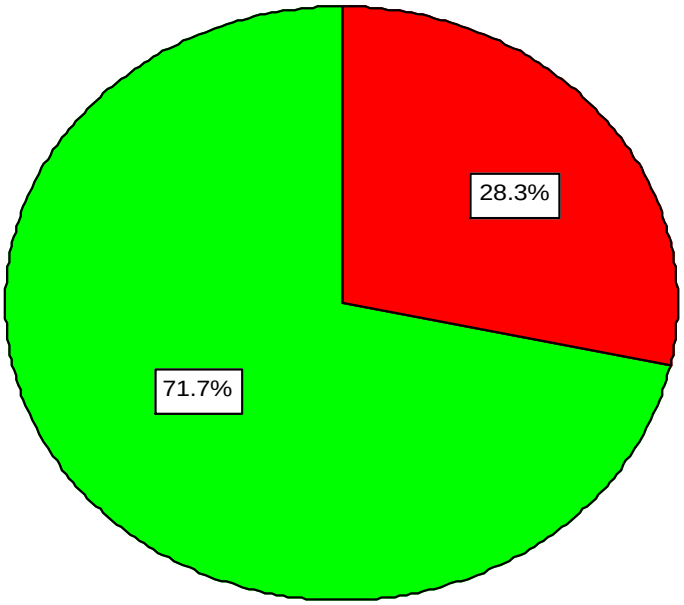

Figure 7 shows that there were no congenital defects in family were 71.7% and having congenital defect in family were 28.3% which was remarkable.

4.20 Harmful Substance used by Mother during Pregnancy

The substance which can harm to the body is known as harmful substance. If mother taken some harmful substance in pregnancy then the child may birth with defect.

Table no. 13 : Harmful Substance used by Mother during Pregnancy

Harmful Substance Taken	No. of Pregnant Women	Percent
Yes	11	18.3
No	49	81.7
Total	**60**	**100.0**

Table 13 shows that harmful substances taken by mother during pregnant were 18.3%.

4.21 Health Seeking Behavior of Patient Family

The health seeking behavior of patient's family determine the health status of patients and their family.

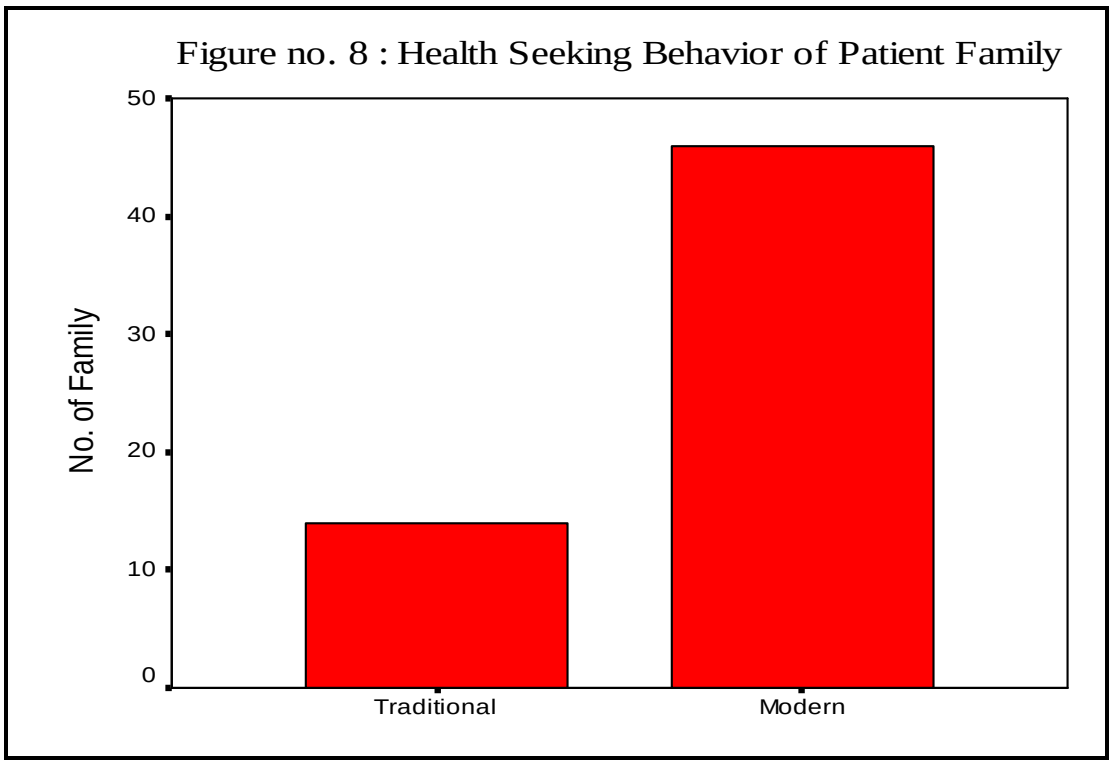

Figure 8 shows that health seeking behavior was modern which is very good but some what extent there were also traditional which was remarkable.

4.22 Problems to Cleft Child

The patients having cleft-lip and palate have most feeding problem as well as other problem i.e. cosmetic defect, speech problem, chocking etc

Table no. 14 : Problems to Cleft Child

Problems to Cleft	Frequency	Percent
Feeding Problem	20	33.3
Chocking	2	3.3
Cosmetic Defect	3	5.0
Speech Problem	22	36.7
Others	3	5.0
No any Problems	10	16.7
Total	**60**	**100.0**

Table 14 shows that the frequency of problem to cleft child was highest in speech problem and lowest in chocking i.e. 36.7% and 3.3% respectively.

4.23 ANC Check-up in Pregnancy

The ANC check-up is an important factor which shows the health status of mother as well as their child, usually there should 4 times ANC check-up before delivery.

Table no. 15 : ANC Check-up in Pregnancy

ANC Check-up	Frequency	Percent
Yes	57	95.0
No	3	5.0
Total	**60**	**100.0**

Table 15 shows that ANC check-up during pregnancy was very good but there was also some people ie.5% not checked.

4.24 ANC Check-up Frequency in Pregnancy

The ANC check-up is an important factor which shows the health status of mother as well as their child, usually there should 4 times ANC check-up before delivery in our system.

Table no. 16 : ANC Check-up Frequency in Pregnancy

Frequency of ANC Check-up	Total no of Pregnant women	Percent
1	3	5.0
2	3	5.0
3	11	18.3
4	16	26.7
>4	24	40.0
Not Check-up	3	5.0
Total	**60**	**100.0**

Table 16 shows that four times of ANC check-up during pregnant was 40% where there were 5% never checked which was remarkable.

4.25 Iron Tablet Taken During Pregnancy

The iron tablet is an extra micro nutrient supplement to the mother which finally helps in the mother and children's development. Deficiency of Iron may leads to different problem to children as well as mother too.

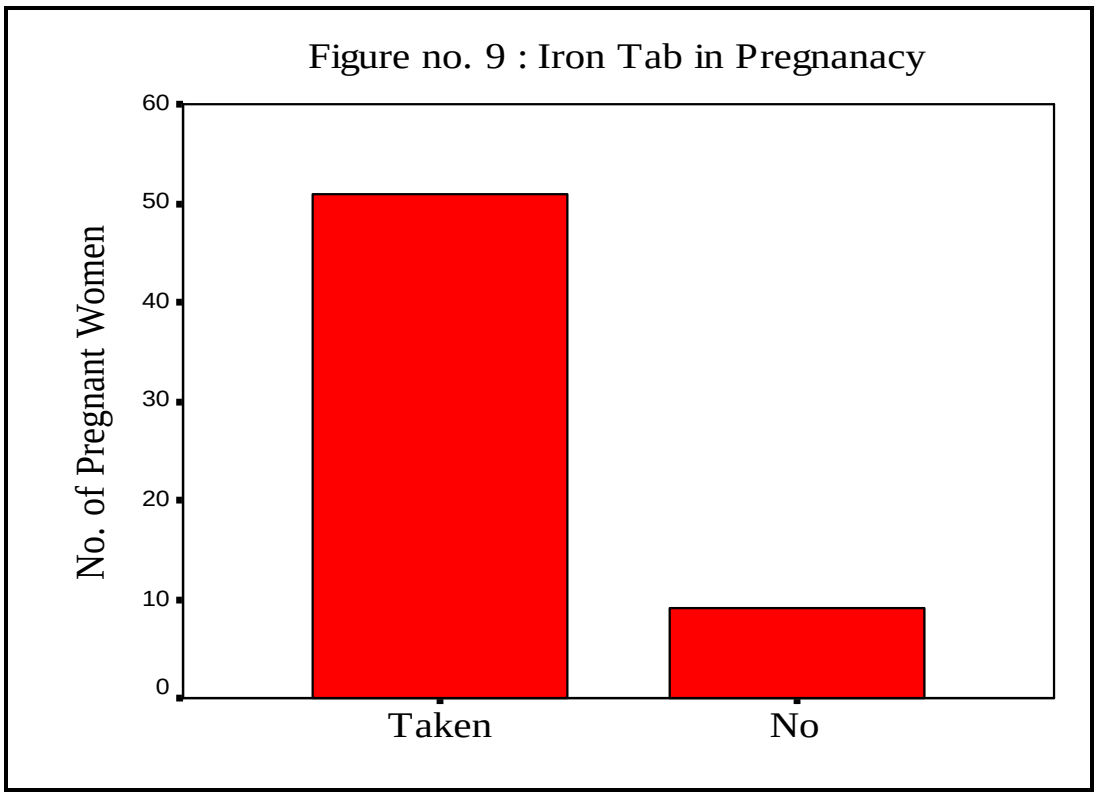

Figure 9 shows that Ion tab taken were high but non taker were also present which was remarkable.

4.26 Calcium Taken During Pregnancy

The calcium tablet is an extra micro nutrient supplement to the mother which finally helps in the mother and children's development. The deficiency of calcium may leads to different problem to children as well as mother too.

Table no. 17 : Calcium Taken During Pregnancy

Calcium	No. of Pregnant Women	Percent
Taken	37	61.7
Not Taken	23	38.3
Total	**60**	**100.0**

Table 17 shows that calcium taken in pregnant period was 61.7% but non taker were also high ie.38.3%.whiah was remarkable.

4.27 Delivery Places

The delivery palaces is an important factor which shows knowledge of their family about health and which also resembles the health status of mother and their children.

Table no. 18 : Delivery Places

Place of Delivery	No. of Delivery	Percent
Home	19	31.7
Hospital	36	60.0
Clinic	3	5.0
Others	2	3.3
Total	**60**	**100.0**

Table 18 shows that delivery places were home, hospital, clinic and other were 31.7%, 60%, 5% and 3.3% respectively. Where there were home delivery was remarkable.

CHAPTER-V

SUMMARY, FINDINGS CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The study “Prevalence of Malnutrition and its effects having Cleft Lip and/or Palate in Morang Cooperative Hospital Biratnagar, morang” was based upon the registered cleft lip and/or palate cases in Morang Cooperative hospital during the period of March-01 to July 31; 2011.

The study General Objective was to access the prevalence of malnutrition and its effect having cleft lip and/or palate and Specific Objectives were to find out the demographic structures, socio-economic status of patients family, to find out prevalence of malnutrition in cleft lip and/or palate, to identify level of malnutrition status in cleft lip and/or palate and to find out the effect of malnutrition in cleft lip and/or palate patient.

Only the registered patient is taken order to make the data correct. After collecting the necessary information, the data was tabulated in a master chart and later it was analyzed and interpreted with the help of tables and figure. Most of the patients belong from Morang District and lowest from Ilam which shows the higher percentage of patient visit from Morang District. Male patient was higher than female i.e. 38 male patients and female patients were 22. More male patients use to visit service centre for the treatment and less number of female visit in the ratio of male.

5.2 Findings

The major findings of this study are as follows:

1. Among the total 60 patients of cleft lip and/or palate 36.7% were below 12 months and rest of the patient above 12 months
2. The total no. of male patient were higher than female i.e. 38 male patients and female patients were 22.

3. The total patient higher percent of under privilege caste, middle is Indo- Aryan and lowest is Mangoloids i.e. 40%, 35% and 25 % respectively.
4. Most of the patients belong from Morang District and lowest from Ilam i.e. 43.3% and 5% respectively
5. Most of patients were from Koshi Zonal and lowest were from Sagarmatha i.e. 76.7 % and 5% respectively.
6. Study shows that, most of the respondents were educated in the level of Secondary.1.66% respondents illiterate8.33% Respondents literate, 20% respondents primary level, 15% respondents lower secondary level, 25% respondents secondary level, 20% respondents higher secondary level and 9.11% respondents higher education.
7. Patient care taker was mother which was higher than father i.e. 75% and 21% respectively.
8. Most of the patient having both problem i.e. cleft lip & cleft palate. It means patients who suffer this problem contains more cleft lip & cleft palate
9. Among the total patient low weight of patient was 41.7%, which was noticeable.
10. Among the total patient of height, there was 21.7% were below normal height & 68.3% were above normal height.
11. By mid upper arm circumference measurement (MUAC) the total severely malnourished patients were 6.7 and at risk were 8.3% respectively.
12. The total no. of family member was higher in family size (4-6) but there was also having > 9 size which was remarkable.
13. Main income of patients family were farming ie.51.7%. Business is 13.3 %. Labor is 11.7%, job is10% and other is 13.3%.
14. Economic sources for their lives was listed i.e. 1.7% per annum.
15. Child feeding practice was rice and bottle feeding were most, where as breast feeding practice was least.
16. The patients having cleft-lip and/or palate have feeding problem. The feeding problem is great deal for the nutritional status of child. In cleft Lip and/or Palate child common feeding problems are as follows,
17. Most of child feeding problem was nasal regurgitation i.e. 50% , Sucking Problem 15%, Others 11.7 % and lowest was choking and 18.3% were no any problems.

18. General food habit during pregnant was 35% i.e. same % mother were not take any additional food.
19. There were no congenital defects in family was 71.7% and having congenital defect in family were 28.3% which was remarkable.
20. Harmful substances taken by mother during pregnant were 18.3%.
21. Health seeking behavior was modern which is very good but some what extent there was also traditional which was remarkable.
22. ANC check-up during pregnancy was very good but there was also some people ie.5% not checked.
23. ANC check-up during pregnant was 40% where there were 5% never checked which was remarkable.
24. Ion tab taken were high but non taker were also present which was remarkable.
25. Calcium taken in pregnant period was 61.7% but non taker were also high ie.38.3%.whiah was remarkable.
26. Delivery places were home, hospital; clinic and other were 31.7%, 60%, 5% and 3.3% respectively. Where there were home delivery was remarkable.

5.3 Conclusions

Clefts of the lip may manifest as microform, incomplete, or complete clefts. Microform clefts are characterized by a vertical groove and vermilion notching with varying degrees of lip shortening. Unilateral incomplete lips manifest varying degrees of lip disruption associated with an intact nasal sill or Simonart band (a band of fibrous tissue from the edge of the red lip to the nostril floor).

Based on findings of the study the following conclusions are drawn: This study gives a clear concept about the Prevalence of Malnutrition and its Effects on having Cleft Lip and/or Palate Patient of Morang Co-operative Hospital, Biratnagar.

Most of the patient having both problems, It means patients who suffer this problem contains more cleft lip & cleft palate. Among the total patient low weight of patient but their height is normal in condition. By mid upper arm circumference measurement (MUAC) the total severely malnourished, it shows that due to the lack of proper nutrition, this problem is happen.

The total no. of family member was higher in family size (4-6) but there was also having > 9 size which was remarkable. Main income of patients family were farming, it means most of the patients lives in village and Economic sources for their lives was low. Child feeding practice was rice and bottle feeding were most, where as breast feeding practice was least.

The patients having cleft-lip and/or palate have feeding problem. The feeding problem is great deal for the nutritional status of child. In cleft Lip and/or Palate child common feeding problems are most of child feeding problem was nasal regurgitation i.e. 50% , Sucking Problem 15%, Others 11.7 % and lowest was choking and 18.3% were no any problems. General food habit during pregnant was 35% i.e. same % mother were not take any additional food.

Health seeking behavior was modern which is very good but some what extent there was also traditional which was remarkable. ANC check-up during pregnancy was very good but there was also some people were not checked. Ion tab taken were high but non taker were also present which was remarkable. Calcium taken in pregnant period was more but non taker was also high according to the ratio which was remarkable.

5.4 Recommendation

5.4.1 Recommendation for further improvements

a) Health education programs should be conducted for mothers group, traditional faith healers community leaders and school teachers.
b) The findings of this study would be helpful for curriculum planner to developer modify curricula for formals well as no-formal sectors.
c) The findings of this study might be censured to lunch new programs in community.
d) The findings of this study might be censured as feedback for running program as well as other communities having same characteristics. .

5.4.2. Recommendations for further study.

a) This type of study should be conducted to find out the real situation of the problem.
b) A relative study should be carried out in different part of the country.
c) The findings of this study might be consulted as a secondary source for further researchers.
d) Similar types of study should be done to explore the relationship between educational attainment and Cleft Lip and/or Palate.

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APPENDIXES

Appendix I : Questionnaire

Tribhuvan University

Research Questionnaire for

Prevalence of Malnutrition and its Effect Having Cleft Lip and/or Palate Patient, Morang Co-operative Hospital, Biratnagar, Morang,Nepal

1. Patient Profile

Name of Patient: ……..……..……Age/Sex……...……M/F

Date …….

Address: ……..…Ward no. ……Tole……..VDC

……..…… …… District …….……Zone

Cast: ……

Name of Respondent: …….……Age/Sex ……M/F

Education of Respondent: ……. Relation to Patient……

Type of Problem (Diagnosis)……..

Weight: …… (Kg) Height: ……. (cm) MUAC: …….cm G / R / Y

2. Academic qualification of the respondent:

Illiterate/Literate If Literate: Non-formal……..……

Primary level…….....…..

Higher Secondary Level ……

Higher Education…….....

3. Number of family member…….……

4. Educational status of family:

Description	Illiterate	Literate	Primary Level	Lower Secondary Level	Secondary Level	Higher Secondary Level	Higher Education
No of male							

No. of Female							

5. Occupation (Total)

Description (Occupation)	Farmer	Business	Labor	Job Holder	Other
Total no. of Family Member					

6. Economic status:

1. Income source ……..….

……..

2. it's enough for annum? Yes/No If no, how enough for one year…….

7. Child feeding practice

1) Breast Milk 2) Bottle feeding 3) Lito/surbottam Pitho 4) Rice

5) Others……...…….

8. Child feeding problem

……...……

……...…….

9. Mother food Habit in Pregnancy

……...……

……...…….

10. Congenital defect in Family Yes / No/ Don't Know

If Yes (Specify)……Relation……....

11. Harmful substances consumed by Mother in pregnancy Yes/No

If Yes (Specify)…….

12. Health seeking behavior

a) Traditional (Dhami, Jhakri, Baidhya)

b) Modern (Local, District, Specialised)

13. Problem to cleft Lip and/or Palate child

a) …… b) ……...…

c) …… d) ……...…

14. ANC check-up in Pregnancy

1) Yes 2) No

15. If yes, how many times

1) 1 2) 2 3) 3 4) 4 5) more than 4

16. Iron tab in pregnancy

1) Taken 2) no

17. Calcium

1) Taken 2) no

18. If no why, ...

19. Delivery place

1) Home 2) Hospital 3) clinic 4) others

Thank you