CHAPTER -1

INTRODUCTION

1.1 Background of the study

Nutrition is defined as the science of food and its relationship to health. It is concerned primarily with the role played by nutrients in body growth, development and maintenance. The nutrient or "food factor" used for specific dietary constituents are proteins, vitamins and minerals. Dietetics is the practical application of the principles of nutrition; it includes the planning of meals for the well and the sick. Good nutrition means "reformed a nutritional status that enables us to grow well and enjoy good health" (Park, 2007, p. 480). "There are two dimensions in nutrition - the environmental and the physiological. The environmental dimensions concern the spatial, physical and economic conditions, which favour the availability and distribution of food" (Uyanga, 1981, p. 331). The subject of nutrition is very extensive. Since our concern relates to community aspects of nutrition, the subject will be dealt under the five sections: dietary constituents, nutritional requirements, assessment of nutritional status, nutritional problem in public health and nutritional programme (Sethuraman & Duwury, 2007).

Undernourishment or malnutrition contributes to an estimated 53% of all deaths of children under the age of 5 years. Malnutrition has been defined as "a pathological state resulting from a relative or absolute deficiency or excess of one or more essential nutrients" (ang, Sangthong, Chongsuvivatwong, McNeil, & Lu, 1979, p. 403). It comprises four forms: under-nutrition, over-nutrition, imbalance
and the specific deficiency. Under-nutrition is the condition that results when insufficient food is eaten over an extended period of time. In extreme cases, it is called starvation. Over nutrition is the pathological state resulting from the consumption of excessive quantity of food over an extended period of time. The high incidence of obesity, atheroma and diabetes in western societies is attributed to over-nutrition. Imbalance is the pathological state resulting from a disproportion among essential nutrients with or without the absolute deficiency of any nutrient. Specific deficiency is the pathological state resulting from a relative or absolute lack of an individual nutrient (Park, 2007, p. 519).

The national nutrition programme under the Department of Health Services has laid the following vision "all Nepali people living with adequate nutrition, food safety and food security for adequate physical, mental and social growth and development and survival (GoN, MoHP, DoHS, 2010) " with the mission to improve the overall nutritional status of children, women of child bearing age, pregnant women, all ages through the control of general malnutrition and prevention and control of micronutrient deficiency disorder having broader and intra-sectoral collaboration and coordination, partnership among different stakeholders and high level of awareness, and cooperation of population in general.

Malnutrition remains a serious obstacle to child survival, growth and development in Nepal. The most common form of malnutrition is protein-energy malnutrition (PEM). The other forms of malnutrition are iodine, iron and vitamin A deficiency. Each type of malnutrition wrecks its own particular disorder on the human body and to make matter worse, they often appear in combination. Even moderately acute and severely acute malnourished children are more likely to die from common childhood illness than those adequately nourished. In addition,
malnutrition constitutes a serious threat especially to young children and is associated with one third of child mortality. One of the important causes of PEM in Nepal is low birth weight of below 2.5 kg, a sign of poor maternal nutrition leading to an intergenerational cycle of malnutrition.

Malnutrition is a worldwide health problem especially in developing or underdeveloped countries. According to WHO 2003-2009, 16% of under-five year children of India was found suffered severely from underweight. Similarly, Srilanka 15%, Pakistan 14 percent, Bhutan 3 percent and 11 percent Nepalese under-five children were found suffered from severe underweight.

The children between 3-5 years have special nutritional needs for their extensive growth and development. Thus, the Middle-upper Arm Circumference (MUAC) is an important measurement which is often used for the assessment of nutritional status among pre-school children (Biswas, Bose, & Mukhopadhyay, 2010, p. 63).

The overall purpose of this study was to identify the nutrition status of 3-5 years children of Makawanpur and Chitawan districts of Nepal. Their present health status is directly or indirectly connected with practices of their mothers during antenatal and postnatal cares.

Antenatal, delivery and postnatal care services are amongst the recommended interventions aimed at preventing maternal and new-born deaths worldwide (Titaley, Hunter, Heywood, & Dibley, 2010, p. 1). It is accepted that all women should seek antenatal care early in pregnancy. Many do, but there are still some women who do not present for care until very late in the pregnancy or even in labour itself (RaniSandhya, Ghosh, & Sharan, 2007, p. 57).

Women from culturally marginal groups who do not have the educational opportunities which encourage preventive health care, who do not have adequate access
to health care services because of lack of transport and the distance they live from the health care facility, with few financial resources to meet the expectations or requirements of the health care services or providers for payment, with restrictive home situations where other members of the family prohibit attendance at health care services, to name only a few reasons, are less likely to seek appropriate and timely care (WHO Regional Office for Europe, 2002, p. 24). It highlights the care of antenatal mothers as an important element in maternal health care as appropriate care which will lead to successful pregnancy outcome and healthy babies. All pregnant ladies are recommended to go for their first antenatal check-up in the first trimester to identify and manage any medical complication as well as to screen them for any risk factors that may affect the progress and outcome of their pregnancy (Rosliza & Muhamad, 2011, p. 13).

Postnatal care (PNC) is the most neglected area in the health care delivery system despite being very important time for the provision of interventions that are vital to the health of both the mother and the new born infant. Consequently, serious complications which account for two thirds of all maternal and neonatal deaths occur during the postnatal period (Chimtembo, Maluwa, Chimwaza, Chirwa, & Pindani, 2013, p. 343).

ECD school readiness is another aspect of this study area. Readiness for school and readiness to learn are different from each other. Readiness for school means being prepared to succeed in school education. The readiness for school may vary on different socio economic aspects of the concerned children. Thus, readiness refers to individual characteristics of children and schools as well as to family and community character, value, potentialities, structures, and association (Myers & Landers, 1989, p. 2). Social
environment, family background and characteristic of child influence the readiness for learning.

1.2 Statement of problem

Good nutrition has prime importance in the promotion of health, prevention of disease and productive healthy manpower in the country. Malnutrition has been major obstacles for development and the promotion of nutritional status. The main reason for malnutrition is imbalance distribution and lack of health services and household foods insecurity. Besides these factors, low level of education and poor environmental sanitation are the major obstacles for development.

Every year, many children die in the world due to malnutrition and this number is larger in under developed and developing countries, especially in the South Asian Countries. Nutritional status of the children depends on various factors such as health knowledge and practice of mother, economic status, immunization, infectious diseases etc. Among them, economic status is directly related in the determination of nutritional status of the people.

Nepal is a developing country; people of Nepal are suffering from different kinds of problems including health. Among these problems, nutritional deficiencies are seen as major challenges. Every young person of Nepal require 210 kg of food per annum but only 180 kg is available. Every young Nepalese people require 2256 calories per day but only 1815 calories are fulfilled. Similarly, protein 51.45 gram and fat 24.27 gram is fulfilled, whereas the required amount of protein and fat are 60/60 gram per day (Subedi, 2007).

The nutritional status varies from socio-economic background of any family. The Chepang community is backward on it. They have very less basic food access and
knowledge of food management. Because of these problems child rearing is not managed scientifically. The role of mother to child rearing depends upon mother’s attitudes and practices. Lack of mother’s knowledge on health check-up during pregnancy, delivery and child rearing the health condition of any child is directly affected. Among Chepang communities, mothers have less practice of regular check-up so that the children are under weight, stunting, wasting and malnutrition. Similarly, their children have not been practiced well for school readiness. Thus, the present study focuses on the Chepang residential areas in Chitawan and Makawanpur districts. The study aims to explore the nutritional status of 3 to 5 years children, mothers’ attitudes and practices on child rearing, and school readiness of the study areas.

1.3 Significance of the study

Every nation’s children are the most valuable asset, their health and education must be sound. The children are either from Chepang communities or non-Chepang communities, they are equally important from the nation’s perspective. Chepang community is an ethnic group of Nepal. They are listed as minority ethnic group, the number and facilities they use are far less than other communities are. They have no enough food and land. Almost Chepang are depended upon shifting cultivation. They are depending in jungle food for live. In this condition what food they have used for own 3-5 years children and discussion of child-parent role of food chain and identification of their food habit were major areas of this study. Food is the basic need for every human beings. The role of food sufficiency and pattern of food supply as well as the practice of management of available food in their life depends upon their mothers’ attitudes and practices. If the mother of any family is educated, her family health status be completely sound. However, the Chepang are deprived of formal education. Therefore, those mothers from the Chepang community have less practice of antenatal
care, delivery care and postnatal care. Hence, (i) the study helps to explore their attitudes and practices of food chain supply and child bearing and caring, (ii) The outcome of the result from the study helps to other researchers for further studies, NGOs and INGOs for further planning of research and support programmes, and (iii) It also helps for the government to reform the existing policies.

1.4 Objectives of the study

The main objective of this study is to find out the nutritional status of three to five years children of Chitawan and Makawanpur districts of Nepal. The specific objectives of the study are as follows:

1.4.1 To analyse status of nourishment among 3-5 years children.
1.4.2 To analyse the medical health behaviour of parents.
1.4.3 To examine the linkage of socio-economic status and extend of nourishment among 3-5 years children rural areas of Chitawan and Makawanpur.
1.4.4 To explore the level of school readiness among 3-5 years children in the study areas.

1.5 Research questions

Strydom and Delport (2005) state that the vague thoughts are used to formulate a question regarding the subject of the study. In this study, it would be good to add research questions. The questions are:

1.5.1 What is the level/degree of malnutrition among children aged 3-5 years?
1.5.2 Is there relationship between the socio-economic factors and malnutrition among 3-5 years Chepang children?
1.5.3 What is the relationship between mother's practices and malnutrition?
1.5.4 What is the level of school readiness among 3-5 years old children?

1.6 Research hypotheses

Gravetter and Forzano (2003) mention that before a research idea can be evaluated, it needs to be transformed into hypotheses. These hypotheses are statements about the relationship between variables. Due to the nature of various research studies, it is sometimes necessary for the researcher to formulate research question as well as hypothesis. The hypotheses of the study are as follow:

1.6.1 H0: There is no relation of nutrition awareness of parents with reference to weight for height and circumference of arm of 3-5 years children.

Ha: There is relation of nutrition awareness of parents with reference to weight for height and circumference of arm of 3-5 years children.

1.6.1.1 H0: There is no relation of nutrition awareness of parents with reference to weight for height among 3-5 years children.

Ha: There is relation of nutrition awareness of parents with reference to weight for height among 3-5 years children.

1.6.1.2 H0: There is no relation of nutrition awareness of parents with reference to circumference of arm among 3-5 years children.

Ha: There is relation of nutrition awareness of parents with reference to circumference of arm among 3-5 years children.

1.6.2 H0: There is no relation between mother’s education and medical health behaviour of parents.

Ha: There is relation between mother’s education and medical health behaviour of parents.

1.6.3 H0: There is no significant association between socio-economic (sex, caste, occupation, daily income, food sufficiency and land) status of parents and
nutritional (circumference of arm and weight for height) status among 3-5 years children.

Ha: There is significant association between socio-economic (sex, caste, occupation, daily income, food sufficiency and land) status of parents and nutritional (circumference of arm and weight for height) status among 3-5 years children.

1.6.3.1 H0: There is no significant association between sex and circumference of arm among 3-5 years children.

Ha: There is significant association between sex and circumference of arm among 3-5 years children.

1.6.3.2 H0: There is no significant association between sex and weight for height among 3-5 years children.

Ha: There is significant association between sex and weight for height among 3-5 years children.

1.6.3.3 H0: There is no significant association between caste and circumference of arm among 3-5 years children.

Ha: There is significant association between caste and circumference of arm among 3-5 years children.

1.6.3.4 H0: There is no significant association between caste and weight for height among 3-5 years children.

Ha: There is significant association between caste and weight for height among 3-5 years children.

1.6.3.5 H0: There is no significant association between parents' occupation and circumference of arm among 3-5 years children.
Ha: There is significant association between parents' occupation and circumference of arm among 3-5 years children.

1.6.3.6 H0: There is no significant association between parents' occupation and weight for height among 3-5 years children.
Ha: There is significant association between parents' occupation and weight for height among 3-5 years children.

1.6.3.7 H0: There is no significant association between daily income of parents and circumference of arm among 3-5 years children.
Ha: There is significant association between daily income of parents and circumference of arm among 3-5 years children.

1.6.3.8 H0: There is no significant association between daily income of parents and weight for height among 3-5 years children.
Ha: There is significant association between daily income of parents and weight for height among 3-5 years children.

1.6.3.9 H0: There is no significant association between food sufficiency and circumference of arm among 3-5 years children.
Ha: There is significant association between food sufficiency and circumference of arm among 3-5 years children.

1.6.3.10 H0: There is no significant association between food sufficiency and weight for height among 3-5 years children.
Ha: There is significant association between food sufficiency and weight for height among 3-5 years children.

1.6.3.11 H0: There is no significant association between land status of parents and circumference of arm among 3-5 years children.
Ha: There is significant association between land status of parents and circumference of arm among 3-5 years children.

1.6.3.12 H0: There is no significant association between land status of parents and weight for height among 3-5 years children.

Ha: There is significant association between land status of parents and weight for height among 3-5 years children.

1.6.4 H0: There is no difference of school readiness of ECD of Chepang and non-Chepang children in the study area.

Ha: There is difference of school readiness of ECD of Chepang and non-Chepang children in the study area.

1.7 Philosophical backing

The study was based on The Pragmatic Worldview because researcher wanted to be problem centred and used the mix data tools to gather the in-depth knowledge on subject matter (Karki, 2015).

1.8 Theoretical framework

This study is based on the theoretical approach of Baker's Microeconomic (Baker, 1981) model of household production. It deals on the production of goods and time to production of communities that either is sold or consume at home. Every research is based on theory that supports the nature of the study. Baker's Microeconomic model of household production has supported the present study. He has proven that household determinants are helpful to the nutritional status. Sound health of any child is related with his / her household determinants (Baker, 1981). He has proven that household determinants are helpful to the nutritional status. He further states that nutrition function relates the child's nutrition status that is measured in term of height for age or weight for age. It shows the child's intake that is breastfed and time
duration of breast-feeding. It shows the child's preventing and curative medical care. It reflects the quality and quantity of time of the mother whose time given to the childcare. "The value of child care time in turn is likely to be functions of the caregiver's age, experience, education, own health status and environmental factors are also enter the production function" (Chandra, 2009). Hence, the production of goods is directly related to the child's health.
1.9 Conceptual framework

Table 1 Conceptual framework of the determinants of Child nutritional status with different variables (K.P. C. V., 2009)

**Socio-Economic variables**
- Place of residence
- Religion
- Community
- Mother’s education status
- Maternal employment status
- Household deprivation status

**Intermediate factors**

**Environment variables**
- Type of house
- House structure
- Type of latrine
- Sources of water

**Maternal variables**
- Mother’s age at birth
- Mother’s nutritional status
- Mother’s knowledge on nutrition

**Proximal factors (Individual variables)**
- Weight at birth
- Birth order
- Weight-for-age
- Height-for-age
- Weight-for-height

**Child Nutritional Status**

**Age and Sex**
According to the conceptual model, socioeconomic factors may affect directly or indirectly on all other groups of risk factors with the exemption of sex and age. These include environmental factors such as type of house, house structure, type of latrine, sources of water, maternal factors: mother’s age at birth, mother’s nutritional status, mother’s knowledge on nutrition, role of food habits and beliefs, and proximate factors: weight at birth, birth order, time of initiation of breast-feeding and duration of exclusive breast feeding, weight-for-age, height-for-age and weight-for-height. These variables, in turn, may affect the nutritional status of preschool children.

The causes of nutritional deprivation are diverse, multi-sectoral, interrelated and entail biological, social, cultural and economic factors, and their influences operate at various levels such as child, family, household, community and nation. In this context, the present study constructed a household deprivation score based on the socio-economic status of household. In modern market oriented economy the possession of basic economic, social and physical necessities of life could be considered as the basis of a dividing line of different levels of deprivation. The advantage of such a classificatory system is that it is based on actual physical or social possessions rather than income data and can be used to measure the changes in deprivation levels over time (Srinivasan & Mohanty, 2008). This simple measure of deprivation at the household level shows health and nutrition conditions and income levels are highly related. Against this background, this study is designed in an attempt to examine variations among communities in childhood deprivation, and to investigate how the household deprivation index of communities and that of households affect child nutritional status regardless of their individual characteristics, and how they interact in this process.
1.10 Limitation of study

The present study faces the following limitations:

In the developed and developing countries there have been conducted nutritional status researches in different age groups. They are infant, adolescence and elder people nutrition status study. In Nepal, there is only study of infant and child nutrition status research conducted by Department of health and United Mission to Nepal and other NGOs. But nobody has conducted Ph. D research on 3-5 years children of Chepang community in Chitawan and Makawanpur districts. I am doing research in Chepang community of 3-5 years children's nutritional status in Chitawan and Makawanpur districts.

1.10.1 There are mainly two approaches to measure the incidence of malnutrition among vulnerable group of the Chitawan and Makawanpur districts. They are Calorie intake approach and Anthropometric approach. The present study did not focus on the importance of Calorie intake approach to measure the incidence of malnutrition.

1.10.2 The value assigned for the different variables used for the development of household deprivation score (HDS) designed for the study to reflect the socio-economic status of household has been fixed arbitrary.

1.10.3 The study could not represent all the family members especially male as respondents because mothers are directly related with children's nutritional status.

1.11 Delimitation of the study:

The study could not represent all the districts of Chepang and Non-Chepang communities for nutrition status. It represents only Chitawan and Makawanpur districts.
among 3-5 years children only. It also represents only mothers of those 3-5 years children as respondents.

1.12 Operational definition of key word

Nutrition: It may be defined as the science of food and its relationship to health. It is concerned primarily with the role played by nutrients in body growth, development and maintenance. The nutrient or "food factor" used for specific dietary constituents are proteins, vitamins and minerals. Dietetics is the practical application of the principles of nutrition; it includes the planning of meals for the well and the sick. Good nutrition means "reformed a nutritional status that enables us to grow well and enjoy good health" (Park, 2007, p. 480). "There are two dimensions in nutrition - the environmental and the physiological. The environmental dimensions concern the spatial, physical and economic conditions, which favour the availability and distribution of food" (Uyanga, 1981, p. 331). The subject of nutrition is very extensive. Since our concern relates to community aspects of nutrition, the subject will be dealt under the five sections: dietary constituents, nutritional requirements, assessment of nutritional status, nutritional problem in public health and nutritional programme (Sethuraman & Duvvury, 2007).

Undernourishment: Undernourishment or malnutrition has been defined as "a pathological state resulting from a relative or absolute deficiency or excess of one or more essential nutrients" (Yang, Sangthong, Chongsuvivatwong, McNeil, & Lu, 1979, p. 403). It comprises four forms under-nutrition, over-nutrition, imbalance and the specific deficiency. Under-nutrition is the condition that results when insufficient food is eaten over an extended period of time. In extreme cases, it is called starvation. Over nutrition is the pathological state resulting from the consumption of excessive quantity of food over an extended period of time. The high incidence of obesity, atheroma and
diabetes in western societies is attributed to over-nutrition. Imbalance is the pathological state resulting from a disproportion among essential nutrients with or without the absolute deficiency of any nutrient. Specific deficiency is the pathological state resulting from a relative or absolute lack of an individual nutrient (Park, 2007, p. 519).

Antenatal: The seeking of care before delivery or during pregnancy is called antenatal care. It is amongst the recommended interventions aimed at preventing maternal and new-born deaths worldwide (Titaley, Hunter, Heywood, & Dibley, 2010, p. 1). It is accepted that all women should seek antenatal care early in pregnancy. Many do, but there are still some women who do not present for care until very late in the pregnancy or even in labour itself (RaniSandhya, Ghosh, & Sharan, 2007, p. 57). Women from culturally marginal groups who do not have the educational opportunities which encourage preventive health care, who do not have adequate access to health care services because of lack of transport and the distance they live from the health care facility, with few financial resources to meet the expectations or requirements of the health care services or providers for payment, with restrictive home situations where other members of the family prohibit attendance at health care services, to name only a few reasons, are less likely to seek appropriate and timely care (WHO Regional Office for Europe, 2002, p. 24).

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### 1.13 Chapter plan

The outline of the study is given below. It has been planned into five major chapters from introduction to discussion.

Chapter One: Introduction

This chapter begins with introducing research title and background of the study. Then it deals on statement of problem, significance of the study, objectives, research questions, hypotheses, philosophical backing, theoretical framework, conceptual framework, limitations of study, delimitation of the study, key terms definitions as well as chapter plan of the study.

Chapter Two: Literature Review

This chapter begins with outline of the chapter. Then it moves to survey literature on theoretical literature, abroad studies, studies in Nepal, school readiness and research gap.

Chapter Three: Methodology

This chapter deals on background of study area, methodological issues, research design, sampling universe, sampling design, sample size, types of data sources, data
collection strategy, tools of collecting primary and secondary data, formation of questionnaire and checklist, reliability and validity test of research instruments, language translation-back translation, discussion with expert, pilot study, reliability validation test and data analysis.

Chapter Four: Findings and Discussion

This chapter deals on results of the study and discussion. Mostly, result analysis and discussion is based on hypotheses testing.

Chapter Five: Conclusions and Recommendations

This chapter covers on summary of study, key findings of the present study, demographic status of respondents, findings related with objectives, conclusion of study and recommendation for further researches.