FACTORS AFFECTING OBESITY AMONG TEENAGER STUDENTS OF GOVERNMENT SCHOOL, DHARAN

By

ALASHA KUMARI SUBBA

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RESEARCH APPROVAL SHEET

Research report on "Factors Affecting Obesity Among Teenager Students of Government School, Dharan", my bonafide work, is being Submitted for approval to Nursing Campus Birgunj, to fulfill the requirement of Post Basic Bachelor in Hospital Nursing.

Student ……

Alasha Kumari Subba

PBBN 2nd year

Research Report Approved By:

Campus Chief ..……..

Associate Professor: Muna Rana

T.U. IOM

Nursing Campus Birgunj

Research Advisor …….

Instructor: Ganga Pant

Nursing Campus Birgunj

BN programme Co-ordinator .....

Instructor: Sita Oli

Nursing Campus Birgunj

Date:.....

ABSTRACT

Research Title: "Factors Affecting Obesity Among Teenagers of Government School Of Dharan."

Background: Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health, leading to reduced life expectancy. Obesity has become a serious public health because of its strong association with adulthood obesity and its related consequences. (Ramachandra & Snehalatha, 2010).

Objectives: To identify the factors affecting obesity among teenager students and to assess the eating habits, physical activities related factors and its association between obesity status.

Methodology: Descriptive cross-sectional study was conducted in Shree Sahid Smriti Madhyamik Vidhyalaya, Dharan-8.Sample size of 50 and purposively selected the school, then selected the respondents from class 9 and 10 by simple random sampling method. Anthropometric measurement of height and weight and semi structured self administered questionnaire was used.

Results: The study revealed the prevalence of obesity among the respondents was overweight 50% and 6% were obese. Majority of the respondents were of age 15.Seventy four percent of the respondents were of first and second child in the family. Less than half (36%) of the respondents father had completed primary and secondary level while 48% were illiterate mothers and almost equal of the respondents' father were engaged in service (36%) and business (34%) while half (50%) of mother were engaged in business. There was significant association between consumption of fast foods, activities done during leisure time and obesity status of value $P<0.01$.There was no significant association between consumption of carbohydrates, fat foods, vitamins, drinks, vigorous physical activities, moderate physical activities and obesity status.

Conclusion: The large potential for obesity are alarming among teenagers. Obese and overweight students need to be monitored closely. The common method of avoiding obesity such as awareness on promoting healthy food and physical activities should be focused.

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CHAPTER I

INTRODUCTION

1.1 Background

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health, leading to reduced life expectancy and or increased problems. Obesity has become a serious public health because of its strong association with adulthood obesity .And the related adverse health consequences (Ramachandra & Snehalatha, 2010).

Current worldwide estimates suggest that one billion people are overweight or obese, and the World Health organization (WHO) predicts that number will increase 1.5 fold by 2015.The worldwide obesity rate increased from 2.3% to 19.6%between 1990 and 2000 (Vaidya, Shakya, & Krettek, 2010).

Globally population obesity and overweight (WHO, 2006) have increased to epidemic proportions and present significant public health challenges in the 21st Century. In Europe, for example the prevalence rate has tripled in the last two decades(WHO,2007).Within UK, English obesity prevalence rates in adults have increased by three to four fold since the 1980s (Canoy & Buchan, 2007).

NCD Risk factor survey estimated average male waist circumference in Nepal at 74.9cm (95% confidence interval (73.7-76.1cm)in females, it was 70.3cm(68.9-71.8cm) (NCD survey,2007). Dharan study reported a prevalence of both general and central obesity in 1,000males. Obesity rates were higher in women who participated in 2003 and 2007 risk factors studies compared to men, possible reason include a relatively sedentary lifestyle, which is estimated to be 90% prevalent among urban women in Kathmandu (Vaidya, Shakya, & Krettek, 2010).

In Australia, studies have suggested that 20%of boys and 21.5%of girls aged 7-15years were overweight or obese, while in 1985 the figures were 10.7 and 11.8% respectively. A number of studies have shown that there is an association between being an overweight child and subsequent adulthood obesity. A number of risk factors such as socio-demographic, physical activity and dietary patterns have frequently identified as contributors to its development (Wang, 2004).

Data from two national cross-sectional surveys, the 1995 Australian National Health Survey (NHS) and the 1995 National Nutrition Survey (NNS) were analyzed to explore the influences of household income, intake of energy and fat and percentage of energy from fat on obesity. The study focused on 1985children and adolescents aged 7-15years. These data to examine the relationship of self-reported weight and height to measured weight and height in older adolescents (Scully, Dixon, & Victoria, 2005).

The World Health Organization (WHO) estimated that by 2005, at least 1.6 billion and 400 million people aged above 15 years were overweight and obese respectively .It further projected that by 2015, these statistics will increase to 2.5 billion for overweight and 700 million for obesity unless drastic measures are increasing at an alarming rate. It is estimated that 25% to 60% of urban women in Africa are overweight. In Nigeria study carried out in 2008, reported a prevalence of 3.2% for overweight and 0.5% for obesity among adolescents in Osun State (Utoo, Mwuese, Okpara, & Chinyere, 2013).

WHO estimates that the diagnosis of the diagnosis of 44% of diabetes, 23% of ischemic heart disease and 7-14% of certain cancers, a significant number of children are becoming obese, which can lead to longer term problems including shortened life, breathing difficulties, Cardiovascular diseases and insulin resistance. The International Association for the study of Obesity estimates that 20% of children aged 5-17 are overweight (Lynch, 2012).

Nepal’s increasing trend toward urbanization presents large health challenges whose consequences are at an early stage. As diets in fiber and complex carbohydrates shift toward diets that include more sugars and fats. Changing dietary habits can shift a society’s disease pattern from infectious, communicable diseases dominance towards a

status of double-disease burden with increasing prevalence of obesity and non communicable diseases (NCDs) (Vaidya, Shakya, & Krettek, 2010).

In developing country, it estimates that over 115 million, people suffer from obesity and related problems. A few population based studies have focused on obesity in Nepal, including both national and regional surveys. The first nationally representative study of both genders was conducted in 2007.It estimated the prevalence of obesity at about 1.7% based on the WHO-STEPS manual, the WHO funded for risk factor survey in 2003 as a pilot study (Vaidya, Shakya, & Krettek, 2010).

Overweight and obesity has reached epidemic proportion in many Asian countries. Face a grave of Burden of obesity related disorders such as diabetes, hypertension and cardiovascular diseases, which develop at a younger age than in western populations. These disorders are also manifested in Childhood. Factors being associated affecting Obesity includes socio-demographic, physical activities and eating habits. Obesity has long been a major Focus of health research, reflecting its as a risk factor for physical functioning, morbidity and mortality. (Gordon, Murray, & Popkin, 2001).

Therefore, the study sets out to address the factors affecting obesity among teenagers, which will be very helpful to create awareness among teenagers on Obesity associated factors causing obesity on them and ways of overcoming such problems.

1.2 Rational of the Study

Obesity is an increase in bodyweight as the result of excessive accumulation of body fat and obesity results when the calorie value of food intake exceeds energy output. Obesity is associated with large number of debilitating and life threatening disorders, such as cardiovascular, metabolic and non communicable diseases. The causes of obesity include a variety of factors like diet, genetic predisposition; lack of physical activities and other behavioral factors. (Sivaprakasam, 2013).

Obesity possesses one of the serious Public Health challenges of 21st century for all over the world. Nowadays obesity is not only a problem of developed countries, but also developing countries. The epidemic is a significant contributor to the increase

prevalence of chronic diseases. Children are becoming increasing vulnerable to overweight and obesity is increasing worldwide at an alarming rate. Moreover, as the problem appears to be increasing rapidly in teenagers (Thanh, 2008).

World Health Organizations latest projections that globally in 2005, approxmitaly 1.6 billion adults (age15+) were overweight. At least 400 million adults were obese and furthermore projects that weight by 2015, approx 2.3 billion teenagers will be overweight and more than 700 million teenagers will be obese.

Obesity has reached epidemic proportions globally and is a major contributor to the global burden of chronic disease and disability. Often coexisting in developing countries with under nutrition, obesity is a complex condition affecting virtually all ages and socioeconomic groups. An increase of Obesity continues to rise in United States and other industrialized nations, increased amounts will examine possible causes of obesity in order to gain more well sounded understanding of what factors influence the development of health risk so that future preventative measure and treatment may be effective (Katherine, 2006).

Increased consumption of more energy dense, nutrient poor foods with high levels of sugar and saturated fats, combined with reduced physical activity, have led to obesity rates that have risen to three folds in North America, the United Kingdom, Eastern Europe, the Middle East, The Pacific Islands, Australia and China. (Thanh, March 12, 2008).The growing affluence in Nepal has come with a heavy price the burden of obesity. Paradoxical as it may seem, Nepal needs to grapple with extreme poverty and malnourishment on one hand and he growing epidemic of obesity amongst affluent, on the other (Moran, 2003).

Recent as due to sedentary lifestyles and socioeconomic status more than half of boys were overweight and obese in BPKIHS, Dharan (Adhikary, 2014).

Recently as due to sedentary lifestyles and socioeconomic status more than half of boys were Dharan study reported the prevalence of both general and central obesity in 1000 males. Obesity rates were higher in females in 2003 and 2007 risk factors studies compared to men, possible reason include a relatively sedentary lifestyle ,which is

estimated to be 90% prevalence among urban women Kathmandu (Vaidya,Shakya &Krettek, 2010).

Few studies are conducted in Nepal and in Dharan most of the teenagers are suffering from overweight and obesity and are vulnerable to chronic disease as obesity and overweight pose a major risk for serious chronic diseases including type 2 diabetes, cardiovascular disease, hypertension and certain forms of cancer in future so I was interested to find out the factors affecting obesity among the teenage

1.3 Objectives of the Study

1.3.1 General Objective:

To identify the factors affecting obesity among teenagers

1.3.2 Specific Objective:

To assess the physical activities related factors of teenagers.

To assess the eating habits related factors of teenagers.

To determine the relationship between eating habit, physical activities and obesity status

1.4 Variables of the Study:

1.4.1 Independent variables:

(a) Socio-Demographic Factors

Sex

Parental education

Parental occupation

Birth order

(b) Physical Factors

Vigorous Physical activities such as sports and exercises

Moderate physical activities such as housework, gardening, walking, etc

Passive entertainment activities such as watching TV, reading books, computer games, chatting, video games, internet, etc.

(c) Eating habit

Fast food

Fat food

Carbohydrate food

Vitamin, drinks and habit of eating meals

1.4.2 Dependent variables

Overweight and Obesity

1.5 Significance of the study

The study will be helpful to identify the risk factors affecting obesity among teenagers.

The finding of this study will also help to introduce for early prevention of the development of obesity and the establishment of lifelong healthy behavior.

The finding of this study will also help to provide a baseline data for those who are interested in carrying out further research with this regard.

1.6 Conceptual Framework

Conceptual framework is the foundation on which the entire research is based. Above mention factors such as socio-demographic physical activities and eating habits are relate factors of affecting obesity among teenagers of age (12-19) years.

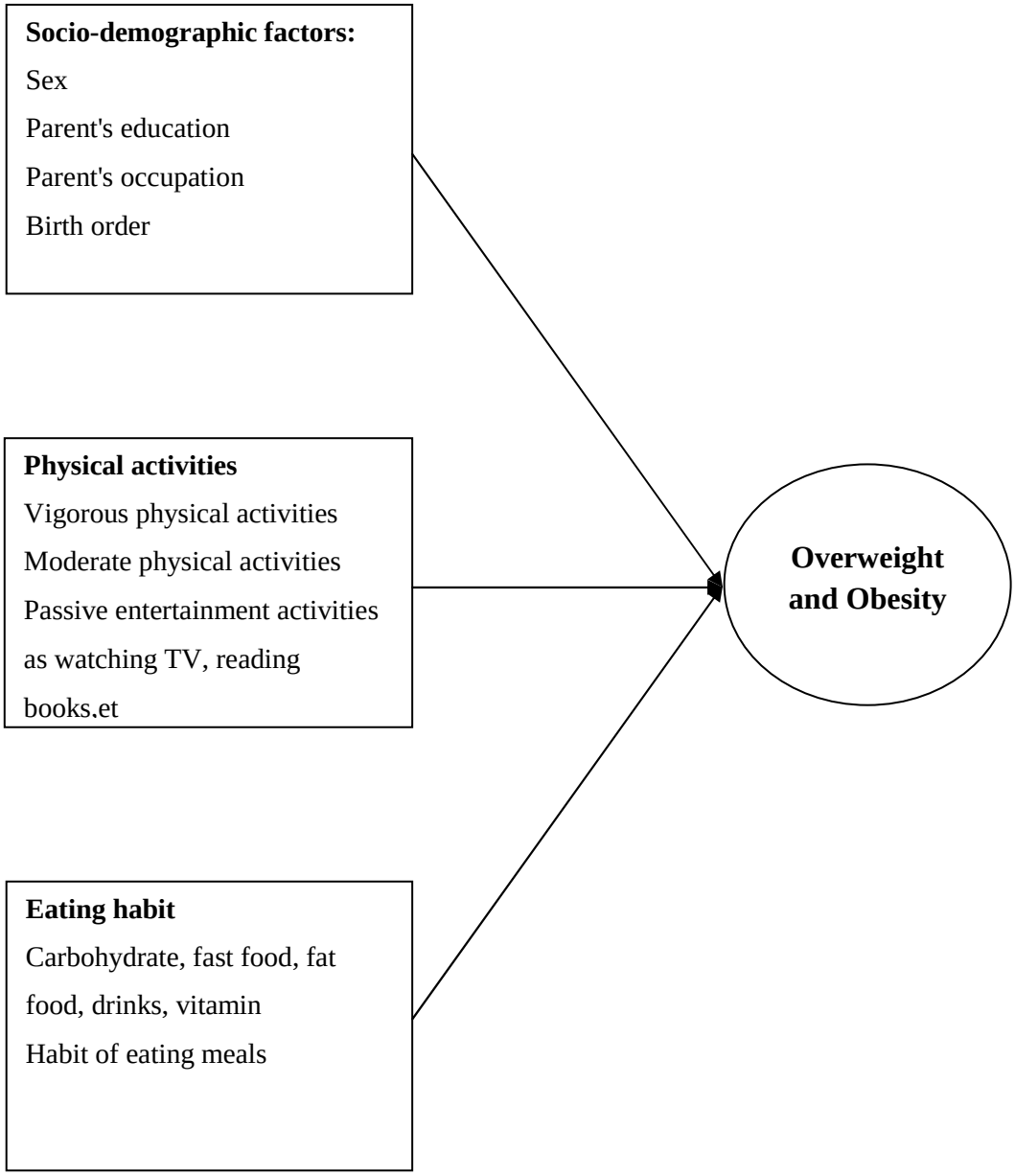

Figure 1: Conceptual Framework of factors affecting obesity among teenagers.

1.7 Research Question

What are the factors affecting obesity among teenager students of(13-19)Years?

1.8 Operational Definitions

The variables in this study are defined in this way:

Obesity: It is the condition of abnormal/excessive accumulation of fat in adipose tissue to the extent that health may be impaired. BMI is calculated by dividing the weight. The WHO classifies a BMI of 25kg/m2-29.9kg/m2 as overweight while that of 30Kg/m2 and above is classified as obese. A BMI of 40 kg/m2 and above is classified as morbid obesity. (Mwuese & Chinyere, Sep-Oct.2013)

Overweight: According to WHO, BMI 25Kg/m2 -29.9kg/m2. (Mwuese & Chinyere, Sep-Oct.2013)

Teenagers: The age group between (13- 19) years of human life cycle is teenagers.

Birth order: Chronological order of sibling's birth in a family**.**

Physical activities: Passive, mild and moderate physical activities.

Vigorous intensive physical activities: These include sports or exercise such as football, running, basketball, swimming, etc at least 3 days per week and 20 minutes per days.

Moderate physical activities: Activities that raise the heartbeat and leave the person feeling warm and slightly out of breathe. These activities include walking, bicycling, housework, gardening done at least 5days per week, 30mins per day.

Passive activities: Sedentary entertainment activities that result in energy expenditure similar resting level such as watching TV, reading books, etc.

Eating habit: It includes as eating normal Nepali food, eating fast food, fat food, carbohydrate foods and drinks.

1.9 Delimitations of the Study

Only 7 weeks time period allocated for this study so limited time. Due to Purposive selection of school, it will be unable to disseminate in other area of Dharan and will be unable to get the information of other area.

CHAPTER-II

REVIEW OF LITERATURE

2.1 Introduction

Literature review is concerned with review of related literature that could be both electronic and manual areas such as journals, articles; abstract from the internet, etc. The purpose of literature review is to develop a thorough understanding and insight in to the previous research that relates to the present study.

2.2 Review of the literature

Obesity and overweight abnormal conditions in which weight gain has reached the point where it poses significant risk to health. This excessive fat build up results from an imbalance between calories consumed on one hand and calories expended on the other hand. Obese individuals are therefore predisposed to adverse health conditions such as cardiovascular diseases, type 2 diabetes mellitus, osteoarthritis and cancers. (Mwuese & Chinyere, Sep-Oct.2013)458 out of 500 students of 19-23years old were included to assess the prevalence and factors influencing the development of obesity and overweight among medical students where the study showed high prevalence of obesity and overweight among medical students as sedentary life style and frequency of eating fatty food has high among overweight and obese individuals(Silvaraj & Sivaprakasam, 2013).

In American children and adolescents on family income and education as related with 30 year time trends in dietary and meal behavior which showed persistence of long-recognized socioeconomic differentials apart from the immediate social and health consequences of higher body weight in affected children and adolescents, childhood obesity is a strong correlate of adult weight, which in turn may contribute to increased risk of several chronic disease and set the stage for lifelong differentials in achievement and income(Paulo, 2009).

The prevalence of overweight, obesity in Regional studies in Nepal(1983-2008) yield a comparison of the prevalence of overweight and obesity in females. Moreover obesity increased in women in other South Asian countries, including Nepal and Bangladesh between 1996 and 2006(from 1.6% to 10% and 2.7 to 8.9%, respectively) (Ramachandra & Snehalatha, 2010).

Risk factors for overweight and obesity was conducted of 2385 adolescents aged(11-18)years from middle and high schools in 2004-2005,where prevalence of obesity was greater in boys and younger children as being associated of adolescent being overweight, socioeconomic status, sedentary behavior and decreased with physical activity with parents (Helene, Benjamin, & Elodie, 2009).

In association between drink consumption and obesity, found that of all the drinks consumed (diet and regular soda, fruit juice, fruit flavored, coffee/tea/milk, were all included in the analysis), regular soda was the greatest predictor of increased BMI (Maples, 2009).

The boys with male and female had an increased risk for becoming obese in comparison with three, child families and girls those who were last born in the family with male and female siblings had a higher risk of obesity when compared to the middle born girls (Sabrina, Cynthia & Craig Dec 17, 2009).

Increased TV watching was described to coincide with lower consumption of fruits and vegetables, and extra calories intake from sweets and soft drinks during viewing. A significant inverse relationship was found between the educational level of both parents as well as maternal employment and prevalence of obesity in children (Luius, Iris, & Wolfgang, 2009).

The study provides the evidence that factors other than lifestyle influence the body-mass index, since a high body-mass index remained is related with an elevated risk of heart disease even after diet and exercise had been taken into account. This independent relation of the body –mass index with the risk of heart disease suggests that some factor other than diet and exercise causes both a high body-mass index and elevated risk of heart disease (Stamper, et.al., 2009).

A recent nationally representative media found that youth aged 12-18years spend average of 5hours and 29 minutes per day using various types of media. Television viewing between 5-15years remained a significant predictor of adult BMI, even after adjustment for childhood socio-economic status. The direct relationship between hours of television viewing and overweight disappeared after controlling for ethnicity and socioeconomic status. Thus, although research supports the link between television viewing and obesity, It is likely that the relationship is complex and may be modified by other factors such as the media on food choice (Thanh, 2008).

A cross-sectional study showed that teenagers eating pattern are frequently erratic. Skipping meals was considered as this erratic eating behavior and is associated with numerous health compromising behaviors and less dietary intake are directly correlated with deficiencies in intellectual performance and cognitive development, behavioral and mental problems, obesity and overweight conditions as well as eating disorder (Soyer, Ergin, & Gursoy, 2008).

American Indian school ages (5 to 18) years found that 39% were overweight and a further review of tribes across the United States found that 30% to 46% of American Indians were at risk of overweight (Hardy, Harrell, & Bell, 2004) Obesity in childhood and adolescence has been related to elevated blood cholesterol high blood pressure, respiratory disorders, orthopedic conditions (Taylor, Theism & Mirch, 2006).

Malaysia (BMI ≥95th percentile in both) and other Asian countries had shown a rising prevalence of obesity among children. It showed that the rate of obesity among children aged 7–17 years in big cities in China was more than 20%. It reported a parallel increase of obesity with dietary fat and high energy consumption in Chinese children. The study revealed that overweight children spent less time on moderate/vigorous physical activities. It also revealed parental obesity to be the most pronounced risk factor for childhood obesity among these children. The etiological factors for childhood obesity include genetic, metabolic, and behavioral components. Air balanced energy intake versus energy expenditure due to consumption of energy dense food and increase in sedentary habits has mainly contributed to increase in childhood obesity, both in developed and developing countries. Some evidence suggests that lack of physical activity rather than high- fat intake is a major

determinant of obesity. The rise in obesity has also been correlated well with lack of energy expenditure owing to physical inactivity, which could contribute significantly toward the overweight and obesity (WHO, 2006).

Students of grade 7-12 showed effects of fast food consumption among children also found that fast food could be one of the factors for increased prevalence of obesity in children. It was found that children who ate fast food consumed more total and saturated fat, carbohydrates, sugars and less dietary fiber, milk fruits and vegetables 6212 children and adolescents 30% ate fast food and ate average of more than 187 calories per day than those children who did not eat fast food (Mehio, Adra & Hwalla, 2004).

2.3 Summary of Reviewed Literature

By the reviewed of different literature related to factors affecting obesity among teenagers ,the most important factors contributing to overweight and obesity in are socio-demographic, physical activities and eating habits. The obesity prevalence in worldwide is alarming stage specially in South east Asian countries. On the other hand to obesity is prevalent in developing countries as a rising burden, few studies have done in Nepal on adults but not in teenagers .Therefore this study was conducted for assessing the prevalence of obesity among teenagers in Dharan to assess the socio-demographic factors, physical activities and eating habits and the relationship between these factors and obesity.

CHAPTER-III

RESEARCH METHODOLOGY

3.1 Research Design

Descriptive cross sectional study design was used.

3.2 Research Setting and population

Shree Sahid Smriti Madhyamik Vidhyalaya. Dharan-8. The Population of the study includes all teenagers of class 9 and 10 of Shree Sahid Madhyamik Vidhyalaya.

3.3 Sampling

Sample size was 50. First purposively selected the school from Dharan-8 and then simple random sampling was used to select the students from class 9 and 10 through the lottery method. Total students were 120, data was collected for two day on 2071/5/6 and 2071/5/8. On 2071/5/6 from 11am to 2 pm class 10 students data was taken and all 60 students were present, 25 students were selected from class 10 and first anthropometric measurement was taken that took 1 and half hour then questionnaires were distributed that took almost 2 hours to complete. Then on 2071/5/8 at 10-12md same procedure was taken through simple random sampling and selected 25 students from the lottery system. Anthropometric measurement took for 1 hour and questions were completed within hour. All the teenagers between age (13-19) years of Dharan-8 and those who students who were below the age of 13 and above 19 were included and students who were absent at the time of data collection were excluded in this study.

3.4 Instrumentation

Anthropometric measurement

Anthropometric measurement of height and weight was measured by researchers using weighing scale and measuring tape. After the measurement it was calculated by using calculator.

For measuring Weight weighing machine was used.

A. Respondents were told to remove shoes and slippers

1. Placed the weighing machine in 0 positions before the respondent steps on the scale.
2. Respondents were be told to stand still with both feet in the center of the plate form.

For measuring height measuring tape was used.

1. Respondents was told to remove shoes, slippers and cap(if worn)
2. Respondents were told to remove or undo hairstyles ad hair accessories that interfere the measurement.
3. Respondents were directed to stand erect with shoulders level, hands at sides, heels together and weight evenly distributed on both feet. The respondent's feet were kept flat on the floor, with heels comfortably together. There were four contact points between the body and the wall i.e. head, upper back, buttock and heels.
4. Read the measurement at eye level.
5. Recorded height.

Questionnaires

Semi structured self administered Questionnaire will be used to collect the information. Questions were made by researcher herself in English language and will be translated in Nepali language. Questions were divided into 3 Parts:-

Part 1- Socio-demographic information included sex, birth order, parent's occupation and parents education.

Part 2- Physical activities related factors included vigorous physical activities, moderate physical activities and passive entertainment activities.

Part 3- Eating habit related factors kinds and frequency of food consumption, such as carbohydrates, fat foods, fast foods, drink, and habit concerned to everyday meals.

Validity: The tool for data collection was thoroughly checked by the research expertise, concerned teacher and colleagues to ensure the validity. Necessary modification was done on the basis of their comments.

Reliability: Reliability of the instrument was maintained by pre-testing the questionnaire and anthropometric measurements was done among 5 respondents(10% of the total sample size) of the Shri Trijuddha Mahabiram Raghubir Higher Secondary school of Birta-4,Birgunj.The instrument was modified and finalized as per needed.

3.5 Data Collection Procedure

Before conducting research, formal ethical approval was taken from Research committee of Nursing Campus Birgunj, TUIOM. School was selected purposively then simple random sampling through lottery was used for selecting 50 students out of 120 students each 25 students on B.S 2071 6^{th} and 8^{th} Bhadra from class 10 and 9 respectively in Shree Sahid Smriti Madhyamik Vidhyalaya, Dharan 8. Total students were 120, data was collected for two days on 2071/5/6 and 2071/5/8. A participant was told about the objectives, benefits, harms of the study and took the written consent. On 2071/5/6 from 11am to 2 pm class 10 students data was taken and all 60 students were present, 25 students were selected from class 10 ,first anthropometric measurement was taken first weight was taken then height of each respondents with the help of coordinators and calculated Body Mass Index by self that took 1 and half hour then questionnaires were distributed that took almost 2 hours to complete. Then on 2071/5/8 at 10am-12md same procedure was taken through simple random sampling and selected 25 students who were present from the lottery system. Anthropometric

measurement of height and weight was taken for 1 hour and semi structured self administered questionnaire was completed within an hour.. The researcher maintained the principle of respect for human dignity, principle of no harm and principle of justice. Identification of the respondents was not disclosed while study was conducted or when the study was reported or published. This study was used only for the research purpose not for any other purposes.

3.6 Data Analysis Procedure

After data collection, the collected data was checked for accuracy and completeness and then organized, coded, and entered in SPSS version 20. Descriptive statistics frequencies, percentage, and Pearson Chi sq test was used for measuring factor affecting obesity and its association with eating habits, physical activities and obesity status.

CHAPTER-IV

FINDINGS OF THE STUDY

This chapter deals with analysis and interpretation of data from questionnaires. Data were entered on SPSS version 20 program and were analyzed using descriptive (frequency, percentage) and inferential (cross table) statistics, Chi square test and tabulation in academic form:

1. Socio-economic demographic characteristics of respondents.

2. Characteristics of the eating habits of respondents

3. Characteristics of the physical activities of the respondents

4. Relationship between eating habits, physical activities and obesity status.

TABLE 1

Sociodemographic Information

n=50

Variables	Frequency	Percentage
Age		
13	1	2.0
14	3	6.0
15	16	32.0
16	11	22.0
17	11	22.0
18	8	16.0
Sex		
Male	13	26.0
Female	37	74.0
Birth Order		
1	16	32.0
2	16	32.0
3	11	22.0
4	3	6.0
5	3	6.0
6	1	2.0

Above table depicts the socio demographic profile of study respondents, where average was 15 with 32%, youngest students was of age 13 with 2% and oldest age of 18 years with 8%. Three fourth of the respondents were female of 74% and male of 26%. One third (32%) respondents were of first and second child in their family, 22% were of birth order four and five, and just 2% were 6th child in their family.

TABLE 2

According To Respondents Father's Education , Father's Occupation, Mother's Education and Mother's Occupation.

n=50

Variables	Frequency	Percentage
Father's Education		
Illiterate	12	24.0
Primary Level	18	36.0
Secondary Level	18	36.0
Higher Secondary Level & above	2	4.0
Father's occupation		
Service	18	36.0
Business	17	34.0
Farmer	8	16.0
Labor	7	14.0
Mother's Education		
Illiterate	24	48.0
Primary Level	13	26.0
Secondary Level	10	20.0
Higher secondary Level & above	2	4.0
Mother's Occupation		
Business	25	50.0
Farmer	12	24.0
Service	8	16.0
Labor	3	6.0
Household	2	4.0

Above table shows that three fourth (76%) of the fathers were literate while just 12 % were illiterate. In regard with occupation of husband, almost equal percent of the fathers were engaged in service (36 %) and business (34%). Regarding education of mother, 32% were literate and 48% were illiterate. One by half (50%) of mothers were engaged in business and just 2% were engaged in house hold works.

TABLE 3

According To Respondents Eating Habits of Carbohydrates and Fat Foods

n=50

Variables	Frequency	Percentage
Consumption of Carbohydrate as rice, potato, biscuits, etc		
Some time	13	26.0
Often	10	20.0
Daily	27	54.0
Consumption of Fat foods as butter, cheese and cake		
Never	2	4.0
Some time	36	72.0
Often	7	14.0
Daily	5	10.0
Consumption of fat foods as fried pork, chicken meat, and roast		
Never	4	8.0
Some time	35	70.0
Often	9	18.0
Daily	2	4.0
Consumption of fat foods as snacks, chips, pastry or doughnuts		
Some time	31	62.0
Often	12	24.0
Daily	7	14.0

Above table indicates above half (54%) of students consumed carbohydrate daily, almost three fourth (72%) of the students consumed fat foods sometimes and more than half (62%) consumed fat foods such as snacks, chips, pastry or doughnuts sometime.

TABLE 4

According to Respondents Characteristics of Eating Habits

n=50

Variables	Frequency	Percentage
Consumption of Vegetables		
Never	1	2.0
Sometime	17	34.0
Often	12	24.0
Daily	20	40.0
Consumption of Fruits		
Sometime	28	56.0
Often	20	40.0
Daily	2	4.0
Consumption of Drinks		
Never	3	6.0
Sometime	28	56.0
Often	11	22.0
Daily	8	16.0
Food Consumption (rice, dal and curry)		
2times	48	96.0
3times	2	4.0
Fast food Consumption		
Never	6	12.0
2 times	41	82.0
>3 times	3	6.0

Table 4, depicts that majority (40%) of the students consumed vegetables daily. Majority (56%) of the respondents sometimes consumed fruits, 40% of students often consumed and 4% of students consumed fruits daily. Majority (56%) of the respondents sometime consumed drinks. majority (96%) of the respondents consumed food twice a day and 4% of respondents consumed 3times. Eighty two percent of students consumed fast food 2 times in a day, and 6% of students consumed > 3 times**.**

TABLE 5

According To Respondents Vigorous, Moderate And Passive Entertainment Activities

n=50

Variables	Frequency	Percentage
No. of Vigorous Physical Activities		
Non	11	22.0
1 time	18	36.0
2 times	13	26.0
3 times	3	6.0
4 times	5	10.0
No. of Moderate Physical activities		
Up to 5 times	34	68.0
> 5 times	16	32.0
Passive Entertainment Activities done Per Day (in hour)		
1	10	20.0
2	17	34.0
3	15	30.0
4	4	8.0
5 & above	4	8.0

Above table 6 shows about one third (36%) of the respondents played vigorous physical activity 1 time, while 6% of the respondents played none of the games. More than half (68%) of the respondents did moderate activities and 32% of respondents did more than 5 times. One third (34%) of respondents got engaged in passive entertainment activities for 2hours in a day and just of 2% of respondents got engaged for 7 hours in a day.

TABLE 6

According To Respondents Physical Activities Status

n=50

Physical Activities Status	Frequency	Percentage
Food taken during Passive Entertainment Activities**		
None	2	4.0
Sweet / Cake	3	6.0
Breakfast	25	50.0
Fast food	19	38.0
Soft Drink	1	2.0
Food taken during watching TV**		
None	1	2.0
Sweet/Cake	8	16.0
Breakfast	23	46.0
Fast food	15	30.0
Soft Drink	3	6.0
Activities done during Leisure time		
Vigorous	4	8.0
Moderate	16	32.0
Passive Entertainment	30	60.0

**multiple response

Above table depicts half(50%) of the respondents ate breakfast ,38% ate fast foods, 6% ate sweets / cake and just 2% ate soft drink and 2% never ate food during passive entertainment activities. Less than half(46%) of respondents ate breakfast, 30% ate fat foods, 16% ate sweet/ cake, 6% ate soft drinks and 2% ate none during watching TV. More than half (60%) of respondents spent maximum leisure time in passive entertainment activities, 32% spent in moderate physical activities and minimum of 8% spent in vigorous physical activities.

TABLE 7

Nutritional Status of the Respondents Classified by BMI for Age using WHO standard

n=50

Obesity status	Frequency	Percentage
Normal	22	44.0
Overweight	25	50.0
Obese	3	6

Above table shows nutritional status of the students classified by BMI for age using WHO standard in which half (50%) were overweight,44% were normal and 6% were Obese.

Table 8

Association between Consumption of Fast food, Activities done during Leisure Time and Obesity Status

n=50

Characteristics	Normal Weight	Overweight	Obese	P Value
Consumption of fast food				
Never consumed of fast food	4(66.7%)	1(16.7%)	1(16.7%)	.059*
Consumption of fast food 2 times a day	16(39.0%)	24(58.5%)	2(2.4%)	
Consumption of fast food >3 times a day	3(100%)	0(.0%)	0(.0%)	
Activities done during leisure time				
Vigorous physical activities	3(75%)	0(.0%)	1(25.2%)	.043*
Moderate physical activities	5(31.4%)	11(68.8%)	0(.0%)	
Passive entertainment activities	15(50.0%)	14(46.7%)	2(3.3%)	

Test statistics: Pearson Chi Square Test

***P value significant at less than<0.01**

There is significant association between fast food consumption and Obesity status as value P was 0.059.It means that those respondents who had taken fast food twice a day were having overweight than those who never took fast food

There is also significant association between physical activities and obesity status as value P was 0.043.It means that those respondents who were engaged in physical activities were less obese than those who engaged in passive entertainment activities.

CHAPTER V

DISCUSSION, CONCLUSION AND RECOMMENDATION

This chapter discusses the findings of the study, presents the conclusion drawn on the basis of the findings, and makes recommendations for planning and further study.

5.1 Discussion

5.1.1 Socio-Demographic Information

The socio-demographic findings of this study revealed that majority of the respondents (32%) were of age 15 were overweight and the rate were higher in females (74%) than males (26%).This finding contradicts to the report done by National Health Surveys 2005, that showed 5% of (15-19) years old were overweight but not obese and the rate was higher among males than females.

Majority of the respondents (32%) were of first and second child in the family this findings contradicts to the study conducted in Brazil among 2012 students where more than one third of children and adolescents were overweight and obese.

This study illustrates that 36% of the respondents' father completed Primary and Secondary level while 48% were illiterate mothers. This finding contradicts to the study conducted in United States on May 20, 2012 by Alwan&Longford that among 1212 adolescents 27.5% of fathers and 22.5% mothers had completed their higher studies.

Regarding the occupation, almost equal percent of the respondents father were engaged in service (36%) and business (34%) and half (50%) of the respondents mother were engaged in business. This findings contradicts to the study that showed most fathers and mothers (>60%) were government employees, and only 1.6% were unemployed (Fattani, 2012)

5.1.2 Eating Habits Related Information

More than half (54%) of respondents consumed carbohydrate daily. The study conducted in United States revealed 40% of respondents consumed carbohydrates such as rice, potatoes, biscuits, noodles (Gross, Ford &Liu, 2014; Nasreddine, et al; 2014).

Majority (96%) of the respondents consumed food twice a day and similar findings in which majority (80%) had consumed regular foods, like dal, rice, chapatti, twice (Kotecha, 2013).

Almost three fourth (72%) of the respondents consumed fat foods, which was consistent to the findings of the study as three fourth (74%) consumed fat foods such as butter, cheese, pastry, etc (Nasreddine, et al; 2014). This study findings illustrates below half (40%) of the respondents consumed vegetables daily. A study conducted in United States, revealed 33.2% of adolescents consumed vegetables (CDC, 2011).

More than half (56%) of the respondents consumed fruits sometimes and 4% of respondents consumed fruits daily which is contradictory to findings reported by Centers for Disease Control and Prevention in 2011,in United States which showed 16.8% consumed fruits daily. A study of obesity prevention and control Programme conducted of Fruit and Vegetable intake in Alaska, in 2010 revealed most of the teens took fruits and vegetables daily.

In my study more than half (56%) of the respondents consumed drinks. The study conducted in Canada of Beverage Consumption of children and teens by Garriguet (2008) that revealed most (85%) of all the beverages consumed by teens as water, milk, fruit juice, fruit drinks, and regular soft drinks.

5.1.3 Physical Activities Related Information

Physical activities findings reveals that 8% of the respondents were engaged in vigorous physical activities, One third (32%) were engaged in moderate physical activities and more than half (60%) of the respondents were engaged in passive entertainment activities. The study conducted in United States showed that 27% of the respondents were engaged in vigorous physical activities, followed by 29.5% of the

respondents were engaged in moderate activities and 34.6% engaged in passive entertainment activities (Fakhouri, et al; 2012).

This study showed that almost half (50%) of the respondents took breakfast during passive entertainment activities. This study finding supported by the study conducted in Malaysia that revealed half (50 %) of the teenagers ate breakfast during leisure time.(Gunasegaram, 2012).

A recent study published in 2009 by Wong & Leatherdale suggests that sedentary behavior moderates the relationship between physical activity and overweight. A study by Keokuk showed that increased television time is associated with physical inactivity, contributing to increased weight, which coincides to my findings (Maples, 2009)

From this study, it revealed that those teenagers who watched two hours or more are less to show interest in playing sports like basketball, football, running, etc when teenagers are exposed to TV their hours of playing games are reduced. Similar findings found that the most common TV watching hours during week days is 2 hours or more which reflects same prediction as of "obesity crisis has been fueled by reductions in physical activity" (Mishra & Singh, 2012).

5.1.4 Association Between Consumption of Fast Food, Activities Done During Leisure Time and Obesity Status

In this study there is significant association between fast food consumption and obesity status (P value 0.059) .It means that respondents who took fast food twice a day were having overweight than those who never took fast food. This study finding is supported by the study done in US in 2004 concluded that consumption of fast food among adolescents in the US have adverse effect on dietary quality that increased risk for obesity. Likewise similar study conducted in 2008 suggest that fast food consumption had strong positive association with weight gain and insulin resistance, suggesting that fast food increases risk of obesity and type 2 diabetes (Thanh, 2008;Nasreddine, 2014).

There is also significant association between physical activities and obesity status as value P was 0.043. It indicates that those respondents who were engaged in physical activities were less obese to those engaged in passive entertainment activities., according to the 2007 data over 35% of high school students watch TV more than 3 hours and spent approx 2 hours and more on playing videogames, internet, etc which shows significant association between obesity as less physical activities on vigorous and moderate to Passive activities leads to obesity and overweight (Maples, 2009).

5.1.5 Prevalence of Obesity Among Adolescents

Using nutritional status, BMI for age of WHO standard it revealed in this study that half (50%) of the students were overweight, 6% were obese and 44% were of normal weight. Similar findings revealed in the study conducted in 2013 where out of 500 respondents, overweight was 24.3% and the prevalence of obesity was 8.6 %.(Selvaraj & Sivaprakasam, 2013).A study conducted in Belgaum District among 12-19 years teenagers of class 9 and 10 with sample size 300, which revealed overweight and obesity was 12% and 3.3% (Gurung, 2012)China, who was once considered to have one of the leanest populations, is experiencing a rapid increase in the prevalence of overweight and obesity. A total of 14.7% of the Chinese were overweight and another 2.6% were obese in 2002 (Rosin, 2008).

5.2 Conclusion

Obesity and Overweight possesses one of the serious contributor to increase prevalence of chronic diseases. Children are becoming increasing vulnerable to overweight and obesity is increasing worldwide at an alarming rate as the problem appears to be increasing rapidly in teenagers.

The study revealed that the prevalence of obesity was half of the respondents were overweight and few were obese. Majority of the respondents were of age 15 and three fourth of the respondents were female in comparison to male. Less than half of the respondents were first and second child in the family..Less than half of the respondents' father had completed primary and secondary level and illiterate mothers and almost

equal of them were engaged in service and business while half of mothers were engaged in business.

Majority of the respondents consumed food twice a day. The finding showed that respondents who took fast food twice a day had overweight than those who never took fast food. It revealed significant association between consumption of fast foods and obesity status and activities done during leisure time and obesity status and showed no association between consumption of carbohydrates, fat foods, vitamins, drinks, vigorous physical activities, moderate physical activities and obesity status. .

5.3 Limitation

The study was conducted in small sample size of only one school in Dharan. Only 50 samples were taken for the study and data collection was only 2 weeks. This was a cross sectional study, so it just has described the situation of the small sample, may not reflect all population and the study findings cannot be generalized to other settings.

Anthropometric measurement procedure was setup in which co-coordinators were attended a short training about that, so errors might occurred in measurement process, this may affect some extent the result of the study.

5.4 Implications

The findings of the study should be useful for drawing concern towards the growing problems of Overweight and Obesity and take preventable steps on controlling the weight gain by the school and also will help parents to become concern on risk factors associated with the obesity to their children.

Since overweight and obesity is increasing rapidly school awareness programme should be included in new curriculum that may help in planning for further formal and informal education for Overweight and Obesity prevention.

May help health planners to plan health education strategies, interventions and programs to knowledge to prevent risk of obesity and follow the healthy lifestyles.

Findings of the study should provide baseline data to carry out further study.

5.5 Recommendation for Further Study

Further study on obesity and related factor should be conducted continuously so that contributes to observe and prevent obesity in the future. A larger sample size should be selected to reflect the prevalence of obesity and its relationship with related factors.

Although some significant associations between fast food and obesity status were found in this study, but it is recommended that others such as carbohydrates, fat foods, vitamins, drinks should be studied more.

Study supported significant association between activities done during leisure time and obesity status and showed no association between vigorous and moderate physical activities and obesity status, it is recommended that they are important factors to affect Obesity status, hence should be paid more attention.

It is recommended that school based programs be introduced in curriculum for early prevention of the development of obesity and establishment of lifelong healthy behavior. These programs should focus not only on eating habits, physical activities, but also to knowledge on Obesity and related factors.

5.6 Plan for Dissemination

Campus chief,Research committee and library of Nursing Campus Birgunj.

Shree Sahid Smriti Madhyamik Vidhyalaya,Dharan-8.

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APPENDICES

APPENDIX-A

TRIBHUVAN UNIVERSITY

INSTITUTE OF MEDICINE

NURSING CAMPUS

BIRGUNJ, PARSA

2071

CONSENT FORM

Study Title: "Factors Affecting Obesity Among Teenage Students of Government School, Dharan."

Investigator: Alasha Kumari Subba

Respected Respondents,

Namaste, I am Bachelor of Nursing student of Nursing Campus Birgunj, TUIOM, studying the " Factors Affecting Obesity among Teenage students of Dharan". Although the study will not benefit you directly, it will provide information that might enable you to upgrade your knowledge. The study and its procedure have been approved by the research committee of Nursing Campus of Birgunj. The study procedure involve purposive selection of school in ward-8 and simple random sampling method will be used to select each 25 students through lottery system from grade 9 and 10, permission will be taken from school and anthropometric measurement of height and weight will be taken within I hour and question will be distributed after that and will be completed within 30 mins, there will be no foreseeable risk/harm to you and you are free to ask questions about the study. Your participation in this study is voluntary; you will not be forced for participation and you have right to withdraw at any time if you want. Your identity will not be disclosed while study is being conducted or when the study is reported or published. This study will be used only for the research purpose not for any other purposes.

Date: Respondents name:

Signature: Class:

Roll no:

APPENDIX B

TRIBHUVAN UNIVERSITY

INSTITUTE OF MEDICINE

NURSING CAMPUS

BIRGUNJ, PARSA

2071

Semi Structured Self-administered Questionnaire

Research Topic: "Factors affecting obesity among teenager students of Government School, Dharan."

Research Objective: To assess the factors affecting obesity among teenagers

Researcher is a student of Post Basic Bachelor of Nursing second year, Nursing Campus Birgunj TUIOM, During the course of research, request letter will be taken from college and submitted in school and after permission being granted from school, respondents will be taken permission and will tell about the title, objectives, harm, benefits to the respondents then the data will be collected after taking informed consent of the respondents, the collected information will be kept confidential and will be used only for academic purpose and your identity will not be disclosed.

Direction: Tick (√) the appropriate response from the list and you can select more than one response if appropriate.

Date: Name of Respondent:

Roll No:

PART I

(Socio-demographic information)

Age:…….

Weight:…… ....

Height……..

BMI…….

1. Sex

1. Male ☐ 2.Female ☐

2. What is your birth order in your family ?

1st ☐ 2nd ☐ 3rd ☐

3. What is your father's education?

1. Illiterate ☐ 2.Literate ☐

If literate specify

1. Primary school ☐ 3.Higher Secondary ☐

2. Secondary school ☐ 4. Masters ☐

4. What is your father's occupation?

1. Farmer ☐ 3.Business ☐ 5. Others…….

2. Laborer ☐ 4. Service ☐

5. What is your mother's education?

1. Illiterate ☐ 2.Literate ☐

If literate please specify

1. Primary school ☐ 3.Higher Secondary ☐

2. Secondary school ☐ 4. Masters ☐

. 6. What is your mother's occupation?

1. House maker ☐ 4.Business ☐
2. Farmer ☐ 5.Government officer ☐
3. Laborer ☐ 6.Others ……..

PART 2

Physical Activities Related to Obesity

Vigorous physical activity

7. How many times per week do you play sports such as football, badminton, swimming, running,……..?(If the answer is "never" skip to question no.8)

1. Never ☐ 2. <5 times ☐ 3.>equal to 5 ☐ times

8. How long per times do you usually spend playing above sports?

1. <30mins ☐ 2.>equal to 30mins ☐ 3.> 30 mins ☐

Moderate physical activity.

9. How long per time do you usually spend for above activities such as: walking, housework, gardening……. (If the answer is "never" skip to question no.10)

1. Never ☐ 2. < 5 times ☐ 3. > Equal to 5 ☐ times

10. How long per time do you usually spend for above activities?

1. < 30mins ☐ 2. >equal to 30mins ☐ 3..> 30mins ☐

Passive entertainment activities

11. How often do you usually spend for passive entertainment activities such as go on chatting, computer game, go on internet. If the answer is “never” skip to question no.12

1. .Never ☐ 2.Sometime ☐ 3.Often ☐ 4.Everyday ☐

Every day: 7 times per week, Often: 4-6 times per week; Sometime 1-3 time per week; Never: never do it

12. How long per day do you usually spend for these passive entertainment activities?

…….Hours.

13. Do you usually have food during the time of the passive entertainment activities?

1. Yes ☐ 2. No ☐

If yes…….

14. What kind of food do you have at that time?

1. Sweet/Cake ☐
2. Snack ☐
3. Fast food ☐
4. Soft drink ☐

15. How long per day do you spend for watching TV?

……..Hours.

16. Do you have food during the time of watching TV?

1. Yes ☐ 2. No ☐

If Yes……

17. What kind of food do you have during the time of watching TV?

1. Sweet/Cake ☐
2. Snack ☐
☐

3. Fast food
4. Soft drink ☐

18. What do you usually do in your time? (Choose only one answer)
    1. Vigorous physical activity such football, running, basketball, badminton and other sport. ☐
    2. Moderate physical activity such as walking, housework, gardening and cooking ☐
    3. Passive entertainment activities such as reading book go to internet, computer game, watching TV ☐
    4. Other, please specify…….

Part 3

Eating habit Related Factors

19. How often do you eat this kind of food below? (Tick mark)

Food items	Never	Sometime	Often	Everyday
Carbohydrates				
Rice,potatoes,bread,biscuit,noodles				
Chocolate, ice-cream,sweets,candy				
Fat food				
Fried food; fried pork, fried chicken, fried potatoes, dried pork skin, roasted beef.				
Cookingoil, salad,butter,cheese,eggs				
Snacks: chips, pastry or donuts				
Vitamin				
Vegetables				
Fruits				
Drink				
Full cream milk				
Soft drink				
Fruit juice				

20. Do you usually have fast food?

1. Yes ☐ 2. No ☐

(If the answer is no skip to question no.22)

21. How many times per day do you usually eat fast food?

1. 1 time ☐ 2. 2-3 times ☐ 3. >3times ☐

22. How many meals do you usually have everyday?

1. < 3meals ☐ 2.3meals ☐ 3.> 3 meals ☐

Thank-You

APPENDIX-C

त्रिभुवन विश्वविद्यालय

चिकित्सा शास्त्र अध्ययन संस्थान

नर्सिङ्ग क्यामपस, वीरगंज

२०७१

मञ्जुरी फारम

नमस्कार !

मेरो नाम अलसा कुमारी सुब्बा हो । म बि.एन दोस्रो वर्षको छात्रा नर्सिङ्ग क्याम्पस, वीरगंजमा अध्ययनरत छु । यस अध्ययनको क्रममा खोज अध्ययन गर्नुपर्ने हुदाँ, मेरो खोज अध्ययन विषय "Factors Affecting Obesity Among Teenager Students of Dharan" रहेको छ । यस अध्ययनको उद्देश्य भनेको मोटोपनालाई असर पार्ने कारणहरु र मोटोपन हुने कारणहरु थाहा पाउनु हो विशेष गरी १३ देखि १९ वर्षका किशोर अवस्थाका विधार्थीहरु यस मोटोपनको समस्या बढी देखा परेको र अहिले देखा नपरेपनि पछि गएर मोटोपन हुने र विभिन्न किसिमका शारीरिक र मानसिक रोग हुने भएको कारणले यस विषयमा अध्ययन गर्न ईच्छुक भएकी हुँ । त्यसैले गर्दा कक्षा ९ र १० विधार्थीहरुलाई सहभागी गराईने छ । यदि तपाई यस खोज अध्ययनमा सहभागी हुन ईच्छुक हुनुहुन्छ भने, म तपाईको Anthropometric measurement र प्रश्नावली प्रदान गर्ने छु र समय एक घण्ट आधा रहनेछ । तपाईलाई यस अध्ययनबाट कुनै फाईदा वा नोक्सान हुने छैन् तर तपाईको ज्ञान र अभ्यास मोटोपना गराउने बारे र उक्त समस्याहरु हुन बाट बच्नको लागि जुन छ त्यसमा केही मदत पुऱ्याउने छ र साथै तपाईले दिनु भएको उक्त जानकारी गोप्य राखिने छ भन्ने कुरा पनि अवगत गराउन चाहन्छु ।

तपाईले आफ्नो सहभागिता जनाएर, मेरो खोज अध्ययनमा ठूलो सहयोग पुऱ्याईदिनु भएकोमा हार्दिक आभार व्यक्त गर्दछु ।

मिति :

सहभागिको नाम :

ठेगाना :

सहिः

APPENDIX D

त्रिभुवन विश्व विद्यालय

चिकित्सा शास्त्र अध्ययन संस्थान

नर्सिङ्ग क्याम्पस, बीरगंज

तथ्यांक संकलनका प्रश्नावली

निर्देशन : यस सेमी एडमीनिष्टर प्रश्नावलीमा ३ समुह रहेको छ समुह क, ख र ग जस अर्न्तगत समुह क मा व्यक्ति विवरण, समुह ख मा शारीरिक क्रियाकलापहरु र समुह ग मा खानेबानीलाई प्रभाव पार्ने कारणहरु अन्तर्गतका प्रश्नावलीहरु रहेको छन् ।

कृपया उत्तरदाताहरुलाईले निम्न प्रश्नहरुको सही उत्तरको अगाडी ठीक (√) चिन्ह लगाउनु होला ।

कोड नं.

समुह 'क'

व्यक्तिगत विवरणसँग सम्बन्धित प्रश्नावली

उमेर .....

तौल .....

उचाई .....

बि.एम.आई.....

१. लिङ्ग

क) पुरुष ☐ ख) महिला ☐

२. तपाईको जन्म क्रमसंख्या परिवारमा कुन हो ?

क) पहिलो ☐ ख) दोस्रो ☐

ग) तेस्रो ☐ घ) आदि .....

३. तपाईको बुवाले कति पढनु भएको छ ?

क) शिक्षित ☐ ख) अशिक्षित ☐

यदि शिक्षित छ भने .....

क) प्राथमिक तह ☐ ख) माध्यमिक तह ☐

ग) उच्च माध्यमिक तह ☐ घ) स्नातक तह ☐

ङ) स्नाकोत्तर तह ☐

४. तपाईको बुवाको पेशा के हो ?

क) किसान ☐ ख) व्यापार ☐

ग) श्रमिक ☐ घ) नोकरी ☐

ङ) अन्य.....

५. तपाईको आमाले कति पढनु भएको छ ?

क) शिक्षित ☐ ख) अशिक्षित ☐

यदि शिक्षित छ भने,

क) प्राथमिक तह ☐ ख) माध्यमिक तह ☐

ग) उच्च माध्यमिक तह ☐ घ) स्नातक तह ☐

ङ) स्नाकोत्तर तह ☐

६. तपाईको आमाको पेशा के हो?

क) किसान ☐ ख) व्यापार ☐

ग) श्रमिक ☐ घ) नोकरी ☐

ङ) अन्य.....

समुह ख

शारीरिक क्रियाकलापहरु

बलियो खाला शारीरिक क्रियाकलापहरु

७. तपाईले एक हप्तामा फुटबल, व्याडमिन्टन, पौडि, दौड आदि खेलकुदहरु कति पट क खेल्नुहुन्छ ?

यदि उत्तर कहिले पनि खेल्दिन भने प्रश्न नं. ८ लाई छोड्नुहोस् ।

क) खेल्दैन ☐ ख) एक पटक ☐

ग) दुई पटक ☐ घ) तीन पटक ☐

ङ) चार पटक ☐

८. तपाई कति समय माथिक उल्लेखित खेलकुदहरु खेल्नुहुन्छ ?

क) ३० मिनेट कम ☐

ख) ३० मिनेट भन्दा ज्यादा र बराबर ☐

ग) ३० भन्दा बढि ☐

हल्का खालका शारीरिक क्रियाकलापहरु

९. तपाई कति समय उक्त क्रियाकलापहरु गर्नु हुन्छ जस्तै हिड्ने, घरको काम, बगैचामा काम, आदी

यदि उत्तर कहिले पनि खेल्दैन भने प्रश्न नं. १० लाई छोड्नुहोस् ।

क) खेल्दिन् ☐

ख) पाचँ पटक भन्दा बढी र बराबर ☐

ग) पाचँ पटक ☐

१०. तपाईले माथिका क्रियाकलापहरुमा कति समय विताउनुहुन्छ ?

क) ३० मिनेट कम ☐

ख) ३० मिनेट भन्दा बढी र बराबर ☐

निष्क्रिय मन बहालाउने क्रियाकलापहरु

११. तपाई खाली समयमा मन बहलाउने क्रियाकलापहरु जस्तै कुराकानी, कम्प्यूटर खेल, इन्टरनेट यदि केह गर्नुहुदैन भने १२ नं. प्रश्नलाई छोड्नु होला ।

क) कहिले गर्दिन ☐ ख) कहिलेकाही ☐

ग) पटक पटक ☐ घ) दिनदिनै ☐

दिनहु : हप्तामा ७ पटक

कहिलेकाही : हप्तामा ४-६ पटक

कहिलेकाही : हप्तामा १-३ पटक

गर्दिन : कहिले गर्दिन

१२. तपाई कित घण्टा खाली समयमा मनबहलाउने क्रियाकलाहरु गर्नुहुन्छ ?

.....घण्टा

१३. तपाईले मन बहलाउने क्रियाकलापमा खानेकुरा खानुहुन्छ ?

क) खान्छु ☐ ख) खाँदिन ☐

यदि खान्छु भने,

१४. तपाईले त्यो समयमा कस्तो किसिमको खानेकुरा खानुहुन्छ ?

क) मिठाई/केक ☐ ख) खाजा ☐

ग) फास्ट फुड ☐ घ) पेय पदार्थ ☐

१५. तपाई दिनमा कति घण्टा टि.भी. हेर्नुहुन्छ ?

.....घण्टा

१६. तपाईले टि.भी. हेर्दा खानेकुरा खानुहुन्छ ?

क) खान्छु ☐ ख) खाँदिन ☐

यदि खानु हुन्छ भने,

१७. तपाईले टि.भी. हेर्दा कस्तो किसिमको खाना खानु हुन्छ ?

क) मिठाई/केक ☐ ख) खाजा ☐

ग) फास्ट फुड ☐ घ) पेय पदार्थ ☐

१८. तपाई प्रायजसो समयमा के गर्नु हुन्छ ?

क) बलिो खालका शारीरिक क्रियाकलापहरु जस्तै फुटबल, दौड, बास्केट बल, व्याडमिन्टन र अन्य खेलहरु ☐

ख) निष्क्रिय मन बहलाउने क्रियाकलापहरु जस्तै हिडडुल, घरको काम, बगैचाको काम र पकाउने काम ☐

ग) खाली समयमा मन बहलाउने क्रियाकलापहरु जस्तै किताब पढने, इन्टनेट जाने, कम्प्यूटर खेल, टि.भी. हेन ☐

घ) अन्य.....

समुह ग

खानेबानीलाई प्रभाव पार्ने तत्वहरु

१८ तपाईले तलका खानेकुराहरु कति पटक खानुहुन्छ ?

खानाको प्रकार	खाँदिन	कहिलेकाही	प्रायजसो	दिनदिनै
कार्बोहाइड्रेट				
भात, आलु, रोटी, विस्कुट, चाउचाउ				
चिलो खाने कुरा				
तारेको खाना, तारेको (सुगुरको मासु, खुकुराको मासु, तारेको आलु, सुकुटि, रोस्ट				
पकाउने तेल, सलाद, बटर, चिज, आण्डा				
खाजाः चिप्स, पेस्ट्री, डोनट				
भिटामिन				
भेजीटेबल				
फलफुल				
पेय पदार्थ				
दुध, सफ्ट ड्रिंग्स, फ्रुट जुस				

२०. तपाई प्रायजसो फाष्ट फुड खानुहुन्छ ?

क) खान्छु ☐ ख) खाँदिन ☐

यदि खान्छु भने प्रश्न नं. २१ र २२ मा जानुहोस् ।

२१. तपाईले दिनमा कति चोटि फाष्ट फुड खानुहुन्छ ?

क) २ पटक ☐ ख) २-३ पटक ☐

ग) ३ पटक भन्दा बढी ☐

२२. तपाईले दिनमा कति पटक खाना खानुहुन्छ ?

क) २ पटक ☐ ख) ३ पटक ☐

ग) ४ पटक ☐

"धन्यवाद"