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A descriptive study to assess the knowledge and attitude regarding obesity among selected students of Shimla Nursing College, Shurala, Shimla, Himachal Pradesh, 2019-2021

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Abstract

Obesity is a serious health problem, and its prevalence has increased in Himachal Pradesh by 39% according to a study by the Indian Council of Medical Research-India. Obesity can occur at any age and generally increase with age. Obese is when the body mass index is over 30 kg/m². The range of obesity is 25-29.9 kg/m². The aim of the study was to assess knowledge and attitude regarding obesity among selected students of Shimla Nursing College. Quantitative research approach was used with descriptive research design. The sample size was 140 nursing students and non-probability convenient sampling technique was used to select the study sample and research tool was used to collect data which included demographic variables, self-structured questionnaire and 5 - point Likert scale. The result of the study was that majority of nursing students 106(76%) had adequate knowledge, 33(23%) had moderately adequate knowledge and 1% (1) had inadequate knowledge regarding obesity. The mean knowledge score of nursing students was 23.98, Standard deviation was 4.4 and median was 25. Majority of the students 85(61%) had favourable attitude, 51(36%) had moderately favourable attitude and 4(3%) had unfavourable attitude regarding obesity. The mean attitude score was 67.54, Standard deviation was 9.48 and median was 69.5. The conclusion of the study was that nursing students have adequate knowledge and favourable attitude towards obesity and there was a positive correlation between knowledge and attitude ($r=0.776$) ($p<0.001^{**}$) and there was no significant association between knowledge and attitude with selected demographic variables.

Keywords: Obesity, BMI, nursing students, knowledge, attitude

Introduction

Health is a state of complete physical, mental, social well-being and not merely the absence of disease or infirmity. According to WHO, Obesity is defines as abnormal or excessive fat accumulation that presents a risk to health. Fat is the main source of stored energy, and it also secretes number of hormones and cytokines. Excess central fat deposition is associated with increased risk of morbidity and mortality and Overweight is associated with increased risk of comorbidities such as type 2 diabetes mellitus, cardiovascular diseases, respiratory disorders, infertility, certain forms of cancers, psychological and social problems and the risk of these comorbidities increases Body Mass Index. The normal range of BMI is 18 to 25 kg/m². The prevalence of obesity in India varies due to age, gender, geographical environment, socio-economic status etc. According to a study in India in the year of 2015, prevalence rate of obesity was from 31.3% to 36.3% respectively. In India, abdominal obesity is one of the major risk factors for cardiovascular disease. Incidence of obesity in India has reached epidemic proportions in the 21st century with morbid obesity affecting 5% of the country's population. India following a trend of other developing countries that are steadily becoming more obese. In India, more than 135 million individuals were affected by Obesity. Himachal Pradesh has a total population of 7,781,244 (7.7 million) including 3,946,646 males and 3,834,598 females according to the Census of India 2021. The incidence of obesity in Himachal Pradesh is 30 percent are overweight and obese. According to the fifth National Family Health Survey has found that more than half population suffers from abdominal obesity, 30.4% women in the state, 30.6% men are overweight.

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Himachal Pradesh has a total population of 7,781,244 (7.7 million) including 3,946,646 males and 3,834,598 females according to the Census of India 2021. The incidence of obesity in Himachal Pradesh is 30 percent are overweight and obese. According to the fifth National Family Health Survey has found that more than half population suffers from abdominal obesity, 30.4% women in the state, 30.6% men are overweight. Himachal Pradesh has a total population of 7,781,244 (7.7 million) including 3,946,646 males and 3,834,598 females according to the Census of India 2021. The incidence of obesity in Himachal Pradesh is 30 percent being overweight and obese. According to the fifth National Family Health Survey has found that more than half population suffers from abdominal obesity, 30.4% women in the state, 30.6% men are overweight.



The Body Mass Index is a physical measurement used to assess an individual's total amount of body weight. The BMI was invented by Belgian Polymath Adolphe Quetelet in the 1800s and known as the Quetelet index. The BMI is calculated by dividing weight in kilograms by height in metres squared. It is expressed as kg/m^2 .

Table 1: Body mass index (BMI) threshold values

BMI (kg/m^2)	Weight Classification	Obesity Classification	Relative Risk of Disease
< 18.5	Underweight		
18.5 – 24.9	Normal		
25.0 – 29.9	Overweight		Increased
30.0 – 34.9	Obese	Obesity Class I	High
35.0 – 39.9	Obese	Obesity Class II	Very high
≥ 40.0	Extremely obese	Obesity Class III	Extremely high

People who are obese or severely overweight are at risk in many ways. Obesity is increasingly being recognized as an important risk factor in various chronic illnesses ranging from premature deaths to chronic conditions which affect the quality of life. These include coronary heart diseases, hypertension, stroke, certain types of cancer, type 2 diabetes,

gallbladder disease, dyslipidaemia, osteoarthritis, respiratory disease, sleep apnea, psychological problems like low self-esteem etc. Mostly obesity is caused by eating too much and moving too little. Consuming high amounts of energy, particularly fat and sugar but do not burn off the energy through exercise and physical activity, much of the surplus energy will be stored by the body as fat. Obesity does not happen overnight. It develops gradually over time as a result of poor diet and lifestyle choices like eating large amounts of processed or fast food, drinking too much alcohol, eating out a lot, drinking too many sugary drinks, comfort eating, lack of physical activity is another important cause of obesity. In some cases, underlying medical conditions may contribute to weight gain. The appearance of excessive body fat is the main symptom of obesity. Some common symptoms of obesity that can be seen in college-going students are shortness of breath during physical activity, skin folds around the abdomen and back of the shoulders, stretch marks on the hips, thighs, and abdomen, dark skin folds and creases around the neck, groin, armpit, gynecomastia. Students gain weight in college by sedentary lifestyle, a lack of exercise, eating unhealthy cafeteria food, by not maintaining proper posture. Prevention of weight gain are exercise regularly, follow a healthy-eating plan, know and avoid the food traps that cause obesity, monitor weight regularly. Treatment of obesity for adults has been shown to be largely ineffective. "Prevention is better than cure". Early prevention of obesity through proper exercise and diet is better rather than correction of existing obesity. This may be the one of the most effective methods to cure these problems in adolescents. Bariatric surgery is commonly done for obesity and commonly referred to as weight loss surgery; it is one of the few weight loss treatments that have a history of proven results. The term bariatric surgery refers to any surgical procedure on the stomach or intestines to induce weight loss. Bariatric surgery is a term that encompasses several procedures. The most common procedure is gastric sleeve surgery. Gastric bypass is the second most often performed bariatric surgery and Lap Band surgery is the third most popular procedure. Duodenal Switch is another very effective, although less frequently performed procedure. It is important that at least the students should know about obesity as they encounter such situations often. Such disastrous situations can occur in normal daily life. Various studies have been carried out to assess the level of knowledge and attitude towards obesity among students, which reflects its importance as obesity is increasing day by day. So, the knowledge of obesity is a major determinant as it helps to keep everyone fit. Hence the knowledge of students regarding obesity is essential to improve the lifestyle of the students. The researcher concluded that by going through all the review of literature regarding obesity, the students had some knowledge. Further no study was found on knowledge and attitude regarding obesity among students of Shimla Nursing College. Hence the gap in knowledge is growing, risks that necessitate the need to systematically investigate the knowledge of obesity among nursing students. So, the researcher wants to conduct a research study based on the findings.

Research methodology

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. Research methodology has many dimensions and research methods do

constitute a part of Research Methodology. The scope of Research methodology is wider than that of research methods. "Thus, when we talk of research methodology, we not only talk of the research methods but also considered the logic behind the methods we use in the context of our particular method or technique & why we are not using others. So that research results are capable of being evaluated either by the researcher himself or by others". This chapter deals with the methodology adopted for the study. It includes the research approach, research design, setting, sample and sampling technique, development and description of tool, data collection and plan of data analysis. The Quantitative research approach was used for this study. The research design used for the study was descriptive research design. The study was conducted at Shimla Nursing College, Shurala, Shimla, Himachal Pradesh, 2021. Total sample size was 140 nursing students of B. Sc Nursing. The tool for the data collection was consists of 3 Sections. Section-1: Demographic variables is used to collect data about certain characteristics of sample population. Section-2: Self-Structured questionnaires were developed to assess the knowledge of students regarding obesity. Section-3: Likert 5-point scale was used to assess the level of attitude of students regarding obesity. The tool for the study was validated by 11 experts from which 7 were from nursing field and 4 were doctors. The reliability of tool was determined by using Split half method and tool was found to be acceptable. The r value calculated by using $r_{tt} = 2r_h / 1 + r_h$.

The (r) value of knowledge was 0.83 and (r) value of attitude was 0.81, hence the tool was considered reliable for proceeding with the main study. Researcher collected data for the final study. The written permission was taken from the Principal of Shimla Nursing College, Shimla for conduct the final study. The written permission was also taken from research and ethical committee of Shimla Nursing College. Researcher collected the data in the hall. Written consent was taken from the students. Data collection was carried out by using developed and validity self-structured knowledge questionnaires and 5- point Likert scale. Data collection was conducted during the free time without interrupted their study. Self-introduction and introduction regarding research study were given to the study samples. Attendance Performa was filled by the study samples under the supervision of the researcher. The aim of the study was explained to the study samples and assured the confidentiality of responses. The self-structured knowledge questionnaires and 5-point Likert scale was administered to the study samples. The researcher collected data on 10 August 2021. 30 minutes was given to study samples for chosen the option according to their knowledge. After the collection of whole data from the study samples, researcher was thankful to the study subject and concerned authority for their full cooperation.

Result

Section A: Description of demographic variables among nursing students

Table 1: Frequency and percentage distribution of B. Sc Nursing Students based on demographic variables such as age, class, area of residence, type of family, gender, socio - economic status, education status of father and education status of mother, family income, student pocket money per month, dietary pattern, previous knowledge, source of information regarding obesity. N=140

Sr.no	Demographic variables	Number	Percentage (%)
1.	Age		
	17-18 Years	15	11%
	19-20 Years	51	36%
	21-22Years	69	49%
	Above 22	5	4%
2.	Class		
	B. Sc 1 st year	27	19%
	B. Sc 2 nd year	40	29%
	B. Sc 3 rd year	38	27%
	B. Sc 4 th year	35	25%
3.	Area of Residence		
	Urban	53	38%
	Semi-urban	38	27%
	Rural	49	35%
	Others	0	0%
4.	Religion		
	Hindu	129	92%
	Christian	5	4%
	Muslim	4	3%
	Others	2	1%
5.	Type of family		
	Joint family	49	35%
	Nuclear family	84	60%
	Extended family	3	2%
	Expanded family	4	3%
6.	Educational status of father		
	No formal education	6	5%
	Primary Education	28	20%
	Higher Education	55	39%
	Graduate and above	51	36%
7.	Educational status of mother		
	No formal education	8	6%
	Primary Education	28	20%
	Higher Education	68	49%
	Graduate and above	36	26%

8.	Family monthly income		
	Less than 10000	15	11%
	Rupees 10001-15000	24	17%
	Rupees 15001-20000	32	23%
	More than Rupees 20000	69	49%
9.	Student pocket money per month		
	No pocket money	22	15%
	Rupees 500	42	30%
	Rupees 1000	50	36%
	More than rupees 1000	26	19%
10.	Dietary pattern		
	Vegetarian	90	64%
	Non-vegetarian	42	30%
	Eggetarian	8	6%
	Others	0	0%
11.	Family history		
	Yes	37	26%
	No	103	74%
12.	Previous knowledge		
	Yes	23	84%
	No	117	16%
13.	Source of information		
	Family members	10	7%
	Mass media (Newspaper, Internet)	76	54%
	Peer group	2	19%
	Others	27	19%
	No source	2	1%

Table 1: Shows the frequency and percentage distribution of demographic variables with respect to age, class, area of residence, type of family, gender, socio - economic status, education status of father and education status of mother, family income, student pocket money per month, dietary pattern, previous knowledge, source of information regarding obesity.

1. Frequency and percentage distribution of B.Sc. nursing students as per age

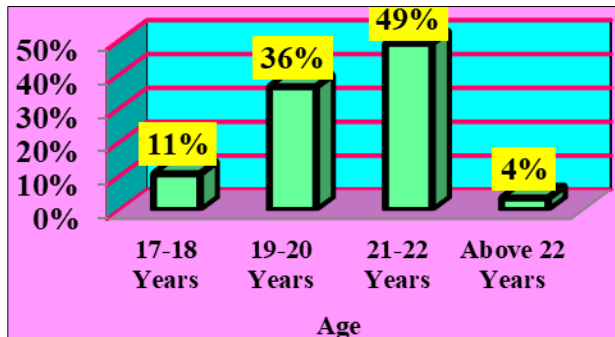


Fig 1: Depicts bar diagram regarding percentage distribution of B.Sc. nursing students as per age

3. Frequency and percentage distribution of nursing students as per area of residence

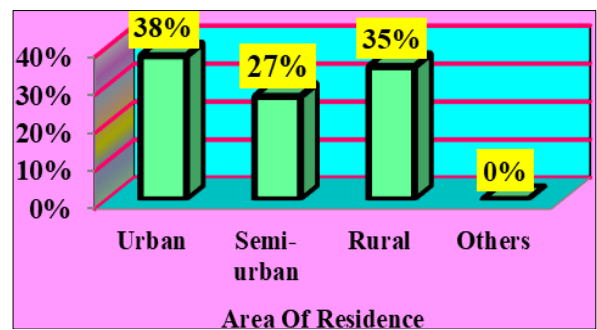


Fig 3: Depicts bar diagram regarding percentage distribution of nursing students as per area of residence

2. Frequency and percentage distribution of B.Sc. nursing students as per class

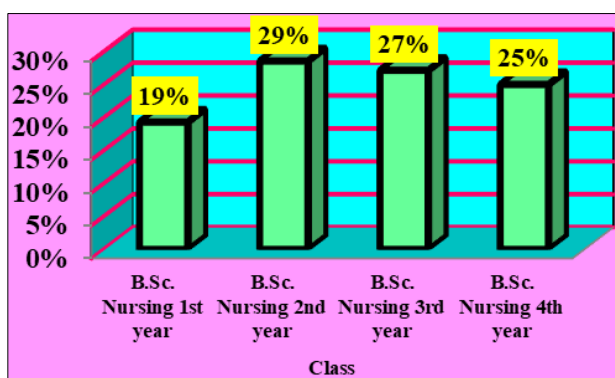


Fig 2: Depicts bar diagram regarding percentage distribution of B.Sc. nursing students as per class

4. Frequency and percentage distribution of nursing students as per religion

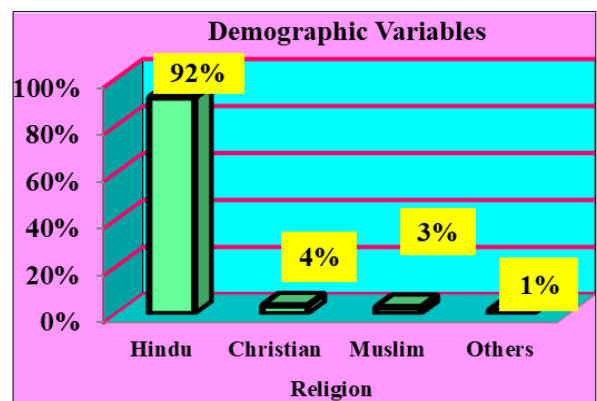


Fig 4: Depicts bar diagram regarding percentage distribution of nursing students as per religion

5. Frequency and percentage distribution of B.Sc. nursing students as per type of family

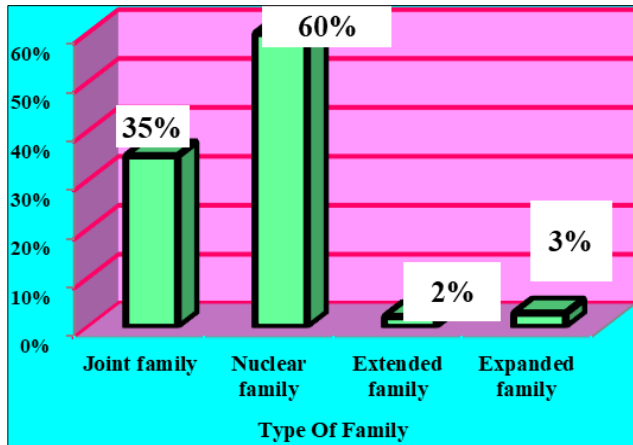


Fig 5: Depicts bar diagram regarding percentage distribution of B.Sc. nursing students as per type of family

6. Frequency and percentage distribution of B.Sc. nursing students as per educational status of father

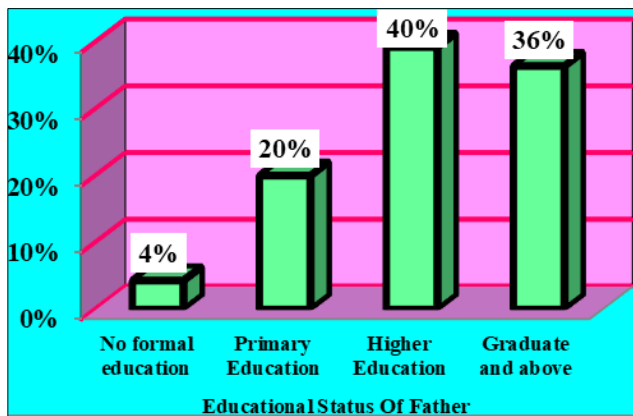


Fig 6: Depicts bar diagram regarding percentage distribution of B.Sc. nursing students as per educational status of father

7. Frequency and percentage distribution of B.Sc. nursing students as per educational status of mother

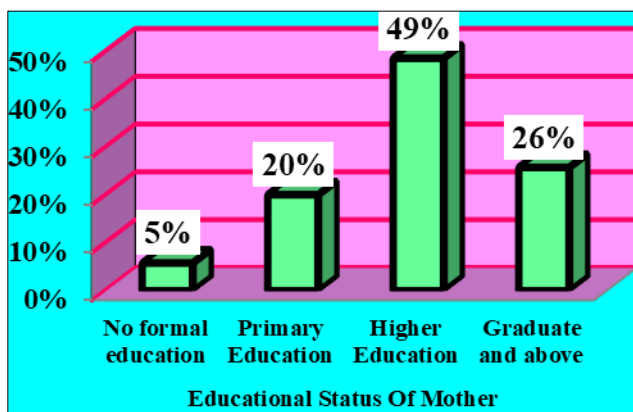


Fig 7: Depicts bar diagram regarding percentage distribution of B.Sc. nursing students as per educational status of mother

8. Frequency and percentage distribution of B.Sc. nursing students as per family monthly income

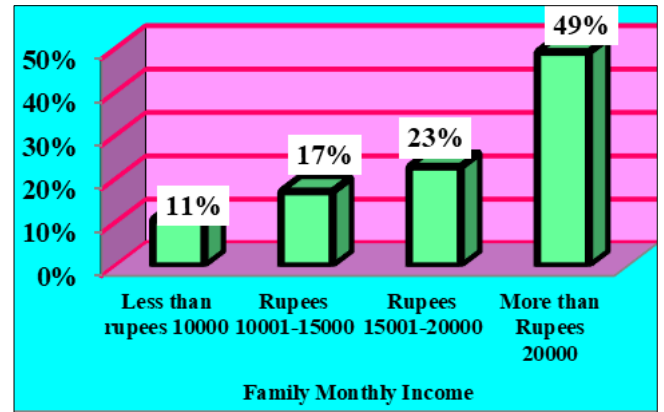


Fig 8: Depicts bar diagram regarding percentage distribution of B.Sc. nursing students as per family monthly income.

9. Frequency and percentage distribution of B.Sc. nursing students as per student pocket money per month

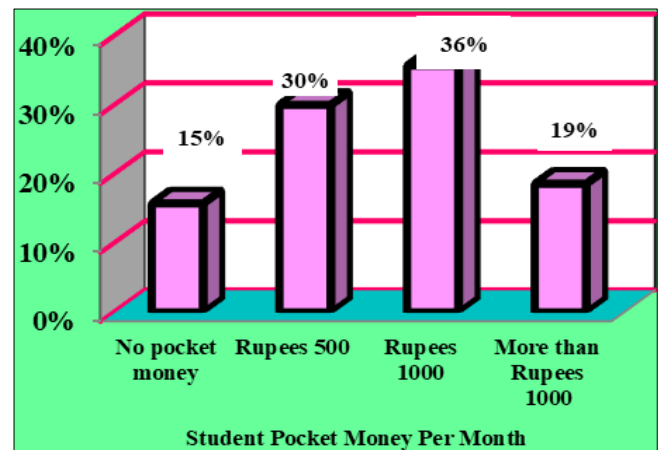


Fig 9: Depicts bar diagram regarding percentage distribution of B.Sc. nursing students as per student pocket money per month.

10. Frequency and percentage distribution of B.Sc. nursing students as per dietary pattern

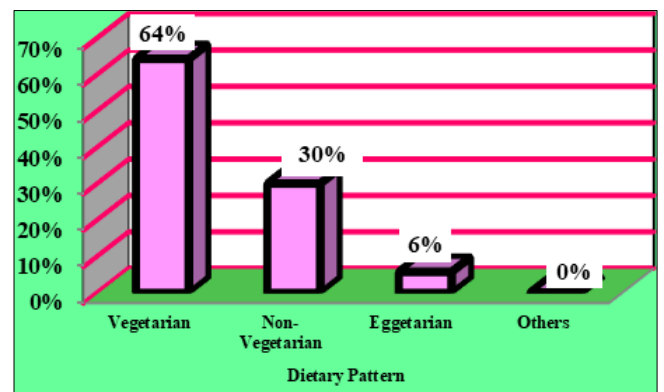


Fig 10: Depicts bar diagram regarding percentage distribution of B.Sc. nursing students as per dietary pattern

11. Frequency and percentage distribution of B.Sc. nursing students as per family history

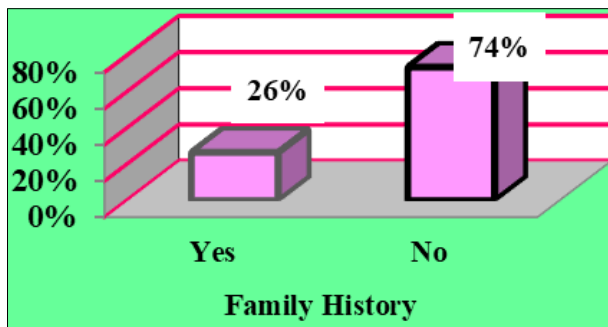


Fig 11: Depicts bar diagram regarding percentage distribution of B.Sc. nursing students as per family history

12. Frequency and percentage distribution of B.Sc. nursing students as per previous knowledge

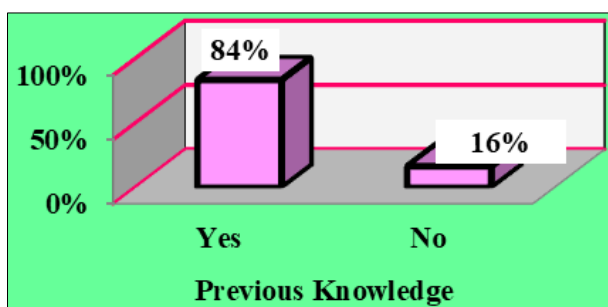


Fig 12: Depicts bar diagram regarding percentage distribution of B.Sc. nursing students as per previous knowledge

13. Frequency and percentage distribution of B.Sc. nursing students as per source of information

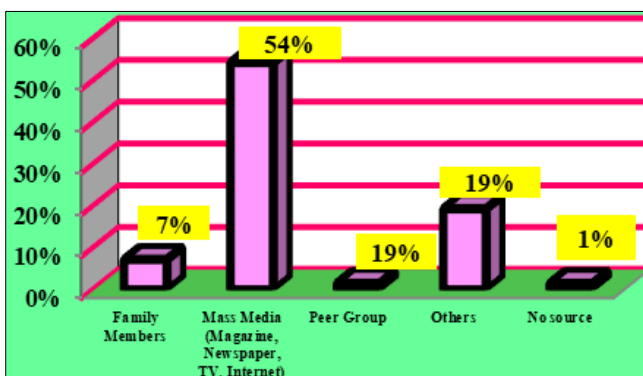


Fig 13: Depicts bar diagram regarding percentage distribution of B.Sc. nursing students as per source of information

This chapter deals with the findings from the statistical analysis

Fat is the main source of stored energy, and it also secretes number of hormones and cytokines. Excess central fat deposition is associated with increased risk of morbidity and mortality and Overweight is associated with increased risk of comorbidities such as type 2 diabetes mellitus, cardiovascular diseases, respiratory disorders, infertility, certain forms of cancers, psychological and social problems and the risk of these comorbidities increases Body Mass Index. The normal range of BMI is 18 to 25 kg/m². The cost of treating obesity and associated comorbidity is causing significant burden on the health system. Conservative treatment has a high failure rate so Bariatric surgery is

performed primarily for weight reduction. Obesity is a serious health problem and its prevalence has increased dramatically over the past 20 years. Today it is estimated that over 250 million people in low- and middle-income countries suffer from obesity, but globally more than one billion adults are overweight and of these 300 million are obese. Even in India it is a major concern as the Indian economy is growing and middle-class families are at risk. Treatment of obesity for adults has been shown to be largely ineffective. "Prevention is better than cure". Early prevention of obesity through proper exercise and diet is better rather than correction of existing obesity. This may be the one of most effective methods to cure these problems in adolescents. It is important that at least the students should know about the obesity as they encounter such situation often. Such disastrous situation can occur in normal daily life. Various studies have been carried out to assess the level of knowledge and attitude towards obesity among students, which reflects it important as obesity is increasing day by day. So, the knowledge of obesity is major determinant as it helps to keep everyone fit. Hence the knowledge of students regarding obesity is essential to improve the lifestyle of the students. The objectives of the study were: To assess the knowledge regarding obesity among B.Sc. nursing students of Shimla Nursing College. The result of the study was that majority of nursing students 106(76%) had adequate knowledge, 33(23%) had moderately adequate knowledge and 1% (1) had inadequate knowledge regarding obesity. The mean knowledge score of nursing students was 23.98, Standard deviation was 4.4 and median was 25.

To assess the attitude regarding obesity among B.Sc. nursing students of Shimla Nursing College. The result of the study was that majority of nursing students 106(76%) had adequate knowledge, 33(23%) had moderately adequate knowledge and 1% (1) had inadequate knowledge regarding obesity. The mean knowledge score of nursing students was 23.98, Standard deviation was 4.4 and median was 25. The mean attitude score was 67.54, Standard deviation was 9.48 and median was 69.5. To determine the relationship between knowledge and attitude among B.Sc. nursing students of Shimla Nursing College. The nursing students have adequate knowledge and favourable attitude towards obesity and there was a positive correlation between knowledge and attitude ($r=0.776$) ($p<0.001^{**}$). To find out the association between knowledge and attitude among B.Sc. nursing students with selected demographic variables. There was no significant association between knowledge and attitude with selected demographic variables. The researcher concluded that by going through all the review of literature regarding obesity, the students had some knowledge. Further no study was found on knowledge and attitude regarding obesity among students of Shimla Nursing College. Hence the gap in knowledge is growing risks that necessitate the need to systematically investigate the knowledge of obesity among nursing students. So, the researcher wants to conduct research study based on the findings. Some of literatures related to research were also reviewed as followed: The present study findings is supported by Genana Doaa (2017) [14] conducted a descriptive study to assess the knowledge regarding obesity among university students at Egypt. The aim of this study was to assess the knowledge and eating habits regarding obesity among students of university of Pharos. The sample size was 398 students and simple random sampling technique was used. The result of the study was that 55.8% of the students were having adequate knowledge, 28.9% were having moderately adequate

knowledge, 15.3% having inadequate knowledge regarding obesity. The conclusion of the study was that students have good knowledge regarding obesity. The present study findings were supported by Magda Mohamed Ali *et al* (2017) conducted a cross sectional study to assess the knowledge and attitude of obesity among college students in Sohag Governorate University. The aim of this study was to assess the knowledge and attitude among students studying at Sohag University. The sample size was 961 university students and simple random technique was used. The result of the study was that majority of college students 49.7% have favourable attitude, 32.7% have moderately favourable attitude and 17.6% have unfavourable attitude. The conclusion of the study was that students had moderate knowledge and favourable attitude regarding obesity. After reviewing the literature data was collected and analysed. A self-structured questionnaire was given to B. Sc Nursing students. The findings showed that majority of nursing students 106(76%) had adequate knowledge, 33(23%) had moderately adequate knowledge and 1% (1) had inadequate knowledge regarding obesity. The mean knowledge score of nursing students was 23.98, Standard deviation was 4.4 and median was 25. Majority of the students 85(61%) had favourable attitude, 51(36%) had moderately favourable attitude and 4 (3%) had unfavourable attitude regarding obesity. The mean attitude score was 67.54, Standard deviation was 9.48 and median was 69.5. The conclusion of the study was that nursing students have adequate knowledge and favourable attitude towards obesity and there was a positive correlation between knowledge and attitude ($r=0.776$) ($p<0.001^{**}$) and there was no significant association between knowledge and attitude with selected demographic variables.

Conclusion

The following conclusion is drawn from the findings of the study

The researcher concluded that by going through all the review of literature regarding obesity, the students had some knowledge. Further no study was found on knowledge and attitude regarding obesity among students of Shimla Nursing College.

Recommendations

Based on the result of the study following recommendations were made:

A pre – experimental study to assess the effectiveness of planned teaching programme on knowledge and attitude regarding obesity among girls in school. A quasi-experimental study to assess the effectiveness of structured teaching programme on knowledge and attitude regarding obesity among adolescent's students. A descriptive study to assess the attitude and knowledge regarding risks factors of obesity among college students A comparative study to assess the risk factors and prevalence regarding obesity among nursing students.

Acknowledgement

I stand, but not alone for there are many who surround me, to love, guide and see me through. There have been persons who have stood beside me in all my efforts to successfully complete my dissertation and I would like to extend heartfelt gratitude to all of them. My genuine thanks to the Lord Almighty, for the foundation of the knowledge, wisdom and grace whose salutary benison enabled me to achieve this target. Giving me the courage and the determination as well

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