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Original Research Article

A study to assess knowledge and perception on obesity among female aged eighteen years and above living in ladies dorm at UEAB, Kenya

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ABSTRACT

Background: Obesity is an ongoing problem in the developed countries and it's a new and growing problem in the developing countries. This study aimed to assess the knowledge and perception on obesity among female aged 18 years.
Methods: The study is a descriptive cross-sectional research design on 186 students of UEAB in 2017. In order to collect the data was used a self-administered questionnaire, which will be used to measure the knowledge level and perception to gather factual information about the respondents. This questionnaire will involve a set of closed-ended questions. The data were analysed using SPSS 23. The researchers used descriptive statistics including mean, median and mode.
Results: The knowledge on obesity, it was found that most of the participants have heard of obesity and they term it as the excessive fat accumulation to body. Participants also indicated that they knew the causes of obesity and in degrees of whether they agree or disagree, indicated that they strongly agreed and agreed that consumption of junk foods and lack of physical exercise caused obesity and they agreed that family history may also cause obesity. The perception on obesity, participants viewed obesity to be average among undergraduate ladies residing in ladies' dorm. It was also revealed that 7.5 percent of the participants think they are obese and they are unsatisfied with their body weights.
Conclusions: The study exposes the lack of knowledge regarding obesity. However, perceptions of the participants were promising. This is because nearly all of them felt those who are not obese should be encouraged to maintain their weight and the overweight people should lose weight or be treated to achieve medical benefit.

Keywords: Knowledge, Obesity, Perception, Undergraduate students

INTRODUCTION

Obesity is defined by the World Health Organization as abnormal or excessive fat accumulation that may impair health.[1] A person with a Body Mass Index (BMI) of 30 or more is generally considered obese. Body mass index (BMI) is a simple index of weight-for-height that is commonly used to classify overweight and obesity in adults. It is defined as a person's weight in kilograms divided by the square of his height in meters (kg/m^2).[1] Obesity is a major cause of disease and death in the population of Scotland (Europe). It has a part to play in the development of a range of diseases such as type 2 diabetes, hypertension, heart disease, cancers of the colon, ovaries and breast, gall bladder, stroke and dementia. Tackling and preventing obesity is a key public health priority.[2] The pandemic of obesity in developed and developing countries presents a challenge to public

health and requires medical intervention, modifications of individual behavior, and environmental changes.[3] Obesity is an ongoing problem in the developed countries and it's a new and growing problem in the developing countries.[3] Study findings showed that more women than men tend to be impacted by obesity and people being overweight, this was attributed to lack of studies conducted in the rural areas in these developing countries. According to 11% of men and 15% of women of age 18+ were obese (BMI ≥30kg/m^2).[4] Thus, nearly 2 billion adults worldwide were obese. Obesity has shown a marked increase over the past 4 decades. Obesity rates in men have risen from around 3% in 1975 and in women from just over 6% in 1975. Obesity in Africa is on the rise according to comparative studies conducted in Africa on adults 17 years and older with mean body mass index (BMI) ≥28kg/m^2 were included.[5] Five electronic databases were searched. Surveys, case-control and cohort studies from January 2000 to July 2010 were evaluated. Of 720 potentially relevant articles, 10 met the inclusion criteria. Prevalence of obesity was higher in urban than rural subjects with significant increases in obesity rates among women. Although obesity continues to be prevalent in most developed countries, it is an emerging and growing problem for developing countries, such as Kenya.[6] According to the Kenya demographic health survey for 2008-2009, which is the latest and most current data available at this time, over 25% of women between the ages of 15 to 49 fall within the category of overweight or obese.[7]

While most of obesity-related studies in developing countries are conducted in urban areas, very few have been conducted in rural African countries. Study findings on Kenyan rural areas are scant. This research study therefore provides vital information that was necessary for bridging the gap in understanding the perceptions, beliefs and knowledge of obesity among women in rural Kenya. Findings from this may also be used by the Kenyan government's policymakers to design obesity prevention educational programs. In addition, the study's findings may also use for future researchers to develop a hypothesis for larger studies or interventions on obesity and people being overweight.[8]

The prevalence of overweight and obesity in adults continues to increase in many countries across the world. It is estimated that around 65 million adults aged 20 years and over in the United States and 11 million adults in the United Kingdom will be obese (Body Mass Index [BMI] ≥30) by 2030. In Australia, it is projected that the number of obese Australians will rise, with 4.6 million to 6.9 million individuals (18.3% and 27.6% of the population, respectively) projected to be obese by 2025.[9]

METHODS

The research design used in this study is quantitative research design, descriptive and cross sectional. Quantitative research is about quantifying relationships between variables, while in descriptive studies, no attempt is made to change behavior or conditions you measure things as they are. This study was carried out in the University of Eastern Africa Baraton main campus targeting the Ladies from the Ladies Dorm. The university is a private Seventh-day Adventist Institution located about 50kms from Eldoret and 12kms from Kapsabet. The target population consisted of female undergraduate students from freshmen to senior aged 18-30 years of the university of Eastern Africa Baraton main campus residing in the ladies' dorm. (Box ladies' dorm). The total female population was 400 (UEAB records office, 2017). The sampling technique utilized was convenience sampling to select the sample for the study. According to a sample is a finite part of a statistical population whose properties are studied to gain information about the whole, when dealing with people, it is a set of respondents selected from a larger population for the purpose of survey. The following formula will be used for sample size determination:

Yamane formula of determining sample size: $n = \frac{N}{1+Ne^2}$

Where: n = is the desired sample size when the desired population is known. e = marginal error taken to be 0.05 when determining 95% confidence interval. However, the target population is less than 10,000 and therefore we use: N = the estimate population size. We must calculate the sample size since we already have the population number. Selected population size of all UEAB under graduates' students is 350,

$$n = \frac{350}{1 + (350\text{x } 0.05^2)}$$

The sample size will be 186.67. The method of data collection that was used is a self-administered questionnaire, which was used to measure the knowledge level and perception to gather factual information about the respondents. This questionnaire involved a set of closed-ended questions that will be in three sections including demographic data, knowledge, and perceptions of obesity. The questionnaire was developed based on research objectives and current literature on Knowledge, and perception on obesity. Data was obtained using closed ended questions. The questionnaires were distributed among female undergraduate students aged 18-30 in UEAB until the desired sample size was reached. Students were approached in one of the evenings especially a weekend on a Sunday after meals in the ladies' dorm lounge (Box). Prior to administering questionnaires, the purpose of the study was explained to the subjects. A cover letter seeking respondents consent to participate in the study was written explaining the identity of the researcher, purpose of the research study, contact information of researchers. It was emphasized that the study was an attempt to establish knowledge and perception on obesity among female university students aged 18-30 years. The respondents were informed that the participation is voluntary and they could drop out of

the study at any point in time without needing to explain. We tended to seek permission from the Ethics committee of the University of Eastern Africa, Baraton. Permission to access the students was obtained from the UEAB deputy Vice chancellor students' affairs and Dean of women. Consent was obtained from the student participating in the research in order to have informed consent that contains purpose of the research confidentiality and a guarantee of anonymity. The questionnaires were examined for completeness and accuracy and then all questionnaires were coded and entered into a computer. The data was analyzed using statistical package for social sciences (SPSS, Version 23). This involved placing data into rows and columns in a table format within statistical software. The outcomes of the quantitative data from the coded closed ended items were analyzed using descriptive statistics including means, medians and mode. This was used to describe the distribution of the scores to give the expected summary statistics of the variables being studied.

RESULTS

Social demographic profile

This present study was conducted in University of Eastern Africa Baraton. The sample size was a randomly selected among the adults in the university, participants were asked to indicate their age bracket and it was revealed that 68.3 percent of the participants were in the age bracket of between 18-21 years while 31.7 percent were in the age bracket of 22-25 years (Table 1).

Table 1: Participants age.

		Frequency	%	Valid %	Cumulative %
Valid	18-21 yrs.	127	68.3	68.3	68.3
	22-25 yrs.	59	31.7	31.7	100.0
	Total	186	100.0	100.0	

Table 2: Participants religion.

		Frequency	%	Valid %	Cumulative %
Valid	Christian	186	100	100	100

It was also revealed that among the population sampled, that is, all the participants were Christians (Table 2).

The participants were to indicate whether they are single (in a relationship), single (not in a relationship, married and if there is any other status. It was revealed that 67.7 percent of the participants were single (in a relationship), 31.2 percent were single (not in a relationship) and 1.1 percent were married. Participants were to indicate the year of study they are in, and it was revealed that 39.2 percent of the participants were sophomores, 27.4 percent of the participants were freshmen, 17.2 percent of the participants were seniors and 16.1 percent of the participants were juniors. Participants were to indicate the school they belong to, and it was revealed that 22.6 percent belonged to the School of Education, another 22.6 percent belonged to School of Business, another 22.6 percent belonged to the School of Nursing, 14 percent belonged to the School of Science and Technology, 10.8 percent belonged to the school of health sciences and 7.5 percent belonged to school of Humanities and Social Sciences.

Knowledge on obesity

The participants are being examined the knowledge they have about obesity.

Heard of obesity

What is obesity

The participants who had heard about obesity were then asked what obesity was. 93.5 percent said obesity was, "the excessive fat accumulation in the body" and 2.7 percent said obesity was. "A sign of good health and wealth" while 3.8 percent answered the question not to be applicable to them because they have not heard about obesity.

Table 3: Have you heard of obesity.

		Frequency	%	Valid %	Cumulative %
Valid	Yes	179	96.2	96.2	96.2
	No	7	3.8	3.8	100.0
	Total	186	100.0	100.0	

Heard of BMI

What is BMI?

The participants were further asked what BMI is. It was revealed that 75.2 percent said BMI is 'Weight(Kg) / Height(m^2)' and 16.7 percent said BMI is 'Height(Kg) / Weight(m^2)', while 8.1 percent are the participants who had not heard of BMI.

Table 4: Have you heard of the body mass index (BMI).

		Frequency	%	Valid %	Cumulative %
Valid	Yes	171	91.9	91.9	91.9
	No	15	8.1	8.1	100.0
	Total	186	100	100.0	

Do you know of BMI range for obesity?

The participants were further asked if they knew the BMI range for obesity. it was revealed that 49.5 percent know

the BMI ranges for obesity while 50.5 percent do not know the BMI ranges.

What are the BMI ranges?

The participants who knew the BMI ranges were further asked what the ranges were. It was revealed that 17.7 percent of the participant said BMI ranged between (25 - 29.9Kg/M^2) and 31.7 percent said BMI ranged between (30Kg/M^2 and above) while 50.5 percent are the respondents who did not know of the BMI ranges.

Where did you get information regarding obesity?

The participants were now asked where they got information regarding obesity. It was revealed that most participants got the information regarding obesity over the internet with 30.1 percent agreeing to that, 23.1 percent got obesity information on the textbooks, 17.2 percent got obesity information over the magazine, 12.9 percent got obesity information in classes such as Nutrition classes, health principles class, while 5.4 percent got obesity information from friends.

Causes of obesity

The participants were asked whether they knew the causes of obesity, and it was revealed that 95.7 percent know the causes of obesity but 4.3 percent don't know.

Degree in which one agrees or disagrees on the causes of obesity

This part participants show the degrees in which they agree or disagree with the following causes of obesity according to their knowledge.

Consumption of Junk foods: Participants revealed that 59.1 percent strongly agree that consumption of junk food caused obesity, 30.1 percent agreed and 3.8 percent disagreed while 7 percent don't know whether consumption of junk foods cause obesity.

- Lack of physical exercise: 44.6 percent of the respondents strongly agree and 43.5 percent agreed that lack of physical exercise caused obesity while 7 percent disagreed and 4.8 percent did not know whether lack of physical exercise caused obesity.
- Family history: It was revealed that 47.8 percent agree and 16.7 percent strongly agree that family history cause obesity while 16.1 percent disagree and 1.6 strongly agree while 17.7 percent do not know whether family history causes obesity.
- Use of steroid medication: The use of steroid method as a cause of obesity brought in several reactions because 65.1 percent did not know whether they caused obesity while 10.2 percent disagreed and 14 percent agreed, 10.8percent strongly agreed use of steroid medication caused obesity.

Possible complication of obesity

Firstly, participants were asked if they knew of any complications of obesity. It was revealed that 89.8 percent knew of possible complications obesity while 10.2 percent did not know of any possible complication of obesity.

The degree to which the following complications are in relation to obesity

This part the participants are to show the degree in which they agree or disagree to the following complications in relation to obesity.

- Hypertension: 59.1 percent of the participants strongly agree and 29.6 agreed that hypertension is a complication related to obesity while 10.8 percent did not know and 0.5 percent disagreed.
- Stroke: 41.4 percent strongly agreed and 33.9 percent agreed that stroke was a complication related to obesity while 21 percent did not know and 3.8 percent disagreed.
- Type 2 Diabetes: 33.9 percent strongly agree and 48.4 percent agree that type 2 diabetes is a complication related to obesity while 17.7 percent don't know.
- Asthma: 32.8 percent did not know, 26.3 percent disagreed and 5.4 percent strongly disagreed that Asthma is a complication related to obesity while 24.3 percent agreed and 11.3 percent strongly agreed.
- Osteoarthritis: 50.5 percent of the participants did not know, 7.5 percent disagreed and 3.8 percent strongly disagreed that osteoarthritis is a complication related to obesity while 20.4 percent agreed and 17.7 percent strongly agreed.
- Gall bladder disease: 51.6 percent of the participants did not know and 10.2 percent disagreed that the gall bladder disease was a complication related to obesity while 21 percent strongly agreed and 17.2 percent agreed.
- Death: 35.5 percent of the participants strongly agreed and 23.7 agreed that death was a complication related to obesity while 12.9 percent disagreed, 3.8 percent strongly disagreed and 24.2 percent did not know.

Perception on obesity

The view about obesity

Participants were asked what was their view among undergraduate ladies who resided in ladies' dorm (Box), and it was revealed that 71 percent of participants viewed obesity among undergraduate ladies to be average, 15.1 percent viewed it as good, 11.8 percent viewed it as poor and 2.2 percent viewed it as very poor.

Do you think you are obese?

Participants were asked whether with their current weight do they think they are obese and it was revealed that 92.5 percent did not think they are obese but 7.5 percent were obsessed.

How satisfied are you with your body?

Participants were asked how satisfied are they with their body weight and if they thought they were obese and it was revealed that 3.2 percent of the obese they were unsatisfied, 1.6 percent were very unsatisfied, 1.6 were neutral and 1.1 percent were satisfied.

Is being obese dangerous?

The participants were asked whether being obese was dangerous and it was revealed that 99.5 percent of the participants thought being obese is dangerous while only 0.5 percent never thought being obese is dangerous.

How people think about your body size

When participants were asked how people think of their body sizes it was revealed that 97.3 percent of the respondents say people thought their body sizes are good and 2.7 percent thought their body sizes are bad.

Do you see the need of maintain current body weight?

83.3 percent of the participants see the need to maintain their body sizes while 16.7 percent don't see the need to maintain their current body weights.

What do you wish to do with your body weight if you don't need to maintain current body weight?

A 17.7 percent of the participants wished to decrease their body weight while 9.7 percent wished to increase their body weight. 72.6 percent of the participants did not participate in this question because they were satisfied with their body weights.

DISCUSSION

The knowledge on obesity, it was found that most of the participants have heard of obesity and they term it as the excessive fat accumulation to body and they have also heard of Body mass index (BMI) which most of them said it is someone's weight divided by the height, i.e. Weight (Kg)/Height (M^2). It was also revealed that most of the respondents did not know the BMI range for obesity. Most of the participants got the information regarding obesity from internet sources and from classes in which they attended for example, the nutrition class and the Health principles class offered in the university.[10-12] In those studies most women are aware of the cardio metabolic risks of obesity but are not aware of the association with breast or endometrial cancer or of the potential adverse neonatal outcomes. Of note, when these results were compared with submitted results from North-western university assessing knowledge of the effects of obesity on reproductive outcomes among women seeking care in an infertility clinic, the same pattern of knowledge was found (awareness of the cardio metabolic risks but lack of knowledge of the reproductive consequences), however the overall percentage of women who were aware of the risk of each adverse outcome (cardio metabolic and reproductive) was higher in the infertility population.[13] This may be due to the fact that these women are actively seeking pregnancy and thus more aware of their health and its effects on reproduction. It is also possible that the higher knowledge of the effects of obesity on all health outcomes in this population results from a disparity socioeconomic status or education level; however more research is needed to draw this conclusion. Participants also indicated that they knew the causes of obesity and in degrees of whether they agree or disagree, indicated that they strongly agreed and agreed that consumption of junk foods and lack of physical exercise caused obesity and they agreed that family history may also cause obesity.

However, they did not know whether the use of steroid medication could cause obesity. When it came to complications in relation to obesity, the participants agreed that hypertension, stroke, type 2 diabetes and death are among the complication related to obesity but, they did not know whether asthma, osteoarthritis and gall bladder disease were complication related to obesity, although some disagreed that gall bladder disease was a complication related to obesity.

Lastly, in the perception on obesity, participants viewed obesity to be average among undergraduate ladies residing in ladies' dorm (Box). It was also revealed that 7.5 percent of the participants think they are obese and they are unsatisfied with their body weights. The participants also think being obese is dangerous even when other people see their body size to be good. Those participants who did not see the need to maintain their current body weight, they wished to decrease their weight. A strong positive perception of overweight originating from personal interest, societal expectation, and expectation of marital partners is also an important influence on women. While the desire to gain some weight is against the tide of popular culture, the expression of this desire provides useful evidence for public health intervention. Another common perception of interest was that being overweight is socially expected when individuals or families experience improved livelihoods. This finding has also been reported elsewhere.[14]

CONCLUSION

The present study exposes the lack of knowledge regarding obesity. However, perceptions of the participants were promising. This is because nearly all of

them felt those who are not obese should be encouraged to maintain their weight and the overweight people should lose weight or be treated to achieve medical benefit. The obesity-related knowledge gas high lightened in this study should be therefore being aimed at strengthening obesity prevention among the young adults.

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