Obesity Knowledge, Perception and Dietary Behaviour among Nigerian Undergraduate Population

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Abstract

Background: A steadily increasing trend of obesity among young adults is becoming evident, and this could lead to an increased burden of chronic non-communicable diseases in adulthood. This study assessed the knowledge of undergraduates on obesity and its related conditions, their perception and dietary behaviour.

Method: A total of 394 undergraduates of Obafemi Awolowo University were recruited using a multistage sampling technique. A self-administered questionnaire which had four sections was used to collect data. Knowledge of obesity, perception and dietary behaviour was assessed with carefully chosen questions. Scores were computed with +1 for a correct response and 0 for an incorrect response. These scores were graded as good/positive or poor/negative using the mean or median score as the cut-offs. Chi-square test was done to assess the relationship between categorical variables. The statistical significance level was set at $p < 0.05$.

Results: Majority (64.0%) had poor knowledge of obesity and were mostly males (54.0%), and 58.4% had a positive perception of obesity and were mostly females (62.1%). Also, 57.6% had poor dietary behaviour and were mostly males (58.8%). A statistically significant relationship ($X^2 = 10.546$; $p = 0.001$) was found between obesity knowledge and perception. There was no statistically significant relationship between obesity knowledge and dietary behaviour.

Conclusion: Most of the undergraduates had poor knowledge of obesity and poor dietary behaviour. Therefore, the creation of healthy eating awareness and integration of nutrition education into all fields of study is vital to stemming the tide of the future obesity epidemic in our campus.

Background

Obesity is a condition of abnormal accumulation of fat in the adipose tissue, to the extent that health may be impaired.^[1,2] It is measured with body mass index greater than or equals to 30 kg/m^2 . Obesity and Overweight are the fifth leading risk for global deaths.^[1,3] More than 1.9 billion adults are overweight and 600 million are obese.^[4] The potential medical consequences of obesity have been documented extensively, particularly in relation but not limited to its co-morbidities such as cardiovascular diseases, type II diabetes mellitus, dyslipidemia, certain types of cancers, especially the hormonally related (breast, ovarian, endometrial, and prostate) liver and large-bowel cancers and gallbladder disease. The non-fatal, but debilitating health problems associated with obesity also include respiratory difficulties, chronic musculoskeletal problems, skin problems and infertility.^[4] Although, obesity and overweight were once considered problems of high-income countries, a rapid increase in obesity rates have also been documented in the developing world.^[5] Until recently, the report shows that a steadily increasing trend of obesity among young adults is becoming evident.^[6,7]

The factors associated with obesity include age, gender, ethnicity, culture, food habits, lifestyle factors, and lack of physical activity.^[8,9] The increased supply of processed food, rapid urbanization and changing lifestyles has led to a shift in dietary patterns leading to the global burden of obesity.^[6] Studies also revealed that university students failed to meet the recommended intakes of fruits and vegetables^[10,11], frequently engage in snacking habits^[12] and had a higher frequency of fast food consumption.^[13] These are dietary behaviour that can lead to unintended weight gain. Adequate knowledge and awareness of the consequences of obesity through public enlightenment programme has been reported to be capable of lessening the prevalence of chronic non-communicable diseases (NCDs). Although there were many studies targeting the undergraduates' pattern of nutrition, their knowledge and perception of obesity as the major risk factor for NCDs have not been fully explored.^[2] Therefore, it is of utmost importance to assess how much undergraduates know about obesity and its related conditions, their perception of it and the influence of their knowledge on their dietary behaviour, if any.

Methods

Study settings

This descriptive cross-sectional survey was conducted at Obafemi Awolowo University, Ile-Ife, Nigeria from April 2017 to June 2017. It is a federal government owned and operated Nigerian university situated on a vast expanse of land totaling 11,681 hectares in Ile-Ife, Osun State, Southwest, Nigeria. The university was founded in 1961, and offers undergraduate and postgraduate degree programmes in multiple fields of study ranging from humanities, the arts, natural sciences, engineering, technology and medical sciences, with a student population of about thirty-five thousand. The University comprises of central campus, the student residential area, the staff quarters and a Teaching and Research Farm. The campus is built on about 5,000 acres (20 km^2) and comprises of academic, administrative units and service centres. The student residential area is made up of 10 undergraduate hostels and a postgraduate hall of residence. The academic area is not too far from the residential area. Many restaurants and fast food joints are located both in the academic area, as well as, in the residential area. Selected undergraduates of Obafemi Awolowo University in the chosen departments and who are willing, participated in the study.

Sampling

The sample size was calculated using Leslie Fischer's formula for a single population proportion [$n = Z^2 p (1-p) / d^2$]. The prevalence of university students with good knowledge of obesity was 49.8% from a previous study^[14], with a 95% CI and precision of 5%. After accounting for a non-response rate of 10%, the total sample size was rounded up to 423. Multi-stage sampling technique was used in selecting participants. In the first stage, the College of Health Sciences, Faculty of Pharmacy, and Faculty of Agriculture were excluded based on the assumption that they might have been exposed to relevant teachings on obesity. Out of the remaining eight faculties that met the inclusion criteria, five faculties were selected using the simple random technique (balloting method). These were faculties of Law, Administration, Education, Social sciences and Arts. In the second stage, three departments were selected in each of the five faculties by simple random technique (balloting method) with the exception of faculty of Law which has only one department. The third stage involves proportionate

allocation of the sample based on the estimated number of students available in each department and the selection of participants by simple random sampling technique (balloting method).

Data collection

A structured self-administered questionnaire which had four sections was used to collect data from the respondents. The questionnaire contained 11 questions to assess the respondent’s knowledge of obesity, 16 questions to assess the perception of obesity and food frequency questionnaire to assess the dietary behaviour of participants. The questions on obesity knowledge and perception were adapted from previously published research work.^[15-17] The questionnaire was pretested among 40 undergraduates in other faculties not included in the study to check for ambiguity, and all the necessary corrections were effected.

Variables and measures

Obesity knowledge questions assessed the respondent’s awareness, sources of information, basic knowledge and assessment method of obesity. The 11 questions were scored 1 for correct response and incorrect response 0 with the score range between 0-20 points. A score greater than or equals to the mean (10 points) was graded good knowledge and vice versa. The perception questions were measured with a 4-point Likert scale. For every positive question, strongly agree (SA) carries the highest mark and a reverse score for every negative question. The total obtainable score ranged between 16-64 points. A score below the median score was classified as negative and above as positive. Food frequency questionnaire was used to assess the dietary intake of 7 food groups (fruit, vegetable, fried foods, sweets, fatty snacks, soft drinks, barbecue/ *Suya*) that are common in the study location and are likely to lead to excessive weight gain if consumed too often. The frequencies of consumption of these foods per week (once/week, 1-2 times/week, 3-4 times/week, 5-6 times/week and every day) were constructed based on previous studies.^[18,19] Intake of healthy foods, including fruit and vegetables, was dichotomized to less than 5 times/week (unacceptable) and more than 5 times/week (acceptable). While intake of unhealthy food, including sugary drinks, fatty snacks, fried foods and barbecue were dichotomized to 2 times/week or less (acceptable) and more than 2 times/week (unacceptable).^[20] The total obtainable score ranged between 0-7 points. A score below the median score (4 points) was classified as poor dietary behaviour and vice versa.

Data analysis

Statistical analysis was done by means of SPSS version 20. At Univariate level, descriptive statistics was done to analyze descriptive data and the results are presented as frequencies and percentages for categorical variables and as means and standard deviations for continuous variables. Knowledge, perception and dietary behaviour scores were computed with +1 for a correct response and 0 for an incorrect response. These scores were graded as good or poor knowledge, positive and negative perception, good and poor dietary behaviour using the mean and median scores as the cut-offs. Bivariate chi-square test was done to assess the relationships between knowledge of obesity, perception and dietary behaviour. The statistical significance level was set at $p < 0.05$. Ethical clearance was obtained from the Research and Ethical Committee of the Institute of Public Health, Obafemi Awolowo University, Ile-Ife. Written informed consent was obtained from the participants. Confidentiality was maintained by using serial numbers instead of names and keeping the data in a pass-worded computer.

Results

Table 1 shows the Socio-demographic characteristics of the study participants. Out of 423 questionnaires that were administered, 394 were accurately filled and subjected to analysis after sorting and cleaning. This gave a response rate of 93.1%. The mean age of the respondents was 20.25 ± 2.7 years and were mostly females (53.0%). Majority of the respondents were single (96.7%), were of Yoruba tribe (88.1%) and were Christians (85.8%). Most of the participants do not have more than 4 siblings (72.1%) and maintained the first 3 positions (73.6%) among siblings. Respondents’ parents were learned (father 70.8%, mother 62.7%) and were mostly self-employed (father 47.5%, mother 52.5%). Majority of the students received 20,000 naira and below as monthly stipends and were mostly 200 level (49.7%) students.

Table 1: Socio-demographic Characteristics of Respondents

Table 2 shows the respondents’ knowledge of obesity. Among 394 respondents interviewed, 373 (94.7%) have heard about obesity. The two common sources of information were media (55.0%) and books (42.1%). Majority of the respondents do not know that the cause of obesity is multi-factorial (71.8%), is associated with serious health conditions (92.5%) and can affect both sexes (50.5%). In terms of obesity assessment, only 34.3% have heard about body mass index (BMI). Among those who have heard of BMI, 84.4% knew what it stands for, 40.6% knew the healthy range and majority (75.8%) have not checked their BMI in the last three months. The aggregate score showed that majority (64.0%) of the respondents have poor knowledge of obesity and were mostly males (54.0%).

Table 2: Knowledge of obesity of the respondents

Table 3 shows the respondents' perception of obesity. Out of 373 respondents that have heard about obesity, majority agreed that it can be addressed medically (85.5%) and should not be viewed as a sign of good living (90.1%). Majority also agreed that dietary modification (87.1%), reduction in salt intake (84.0%) and being physically active (82.6%) can help to prevent obesity. However, some disagreed with the statements that obesity is a disease (27.3%) and can lead to stigmatization (28.1%). About 24% also agreed that obesity makes one looks mature. The aggregate score showed that majority (58.4%) of the respondents have a positive perception of obesity and were mostly females (62.1%) (Table III).

Table 3: Perception of obesity by the respondents

Table 4 shows the dietary behaviour of the respondents. The proportion of students who consumed fruits every day was 8.0% and less than 5% consumed vegetable every day. These foods were mostly consumed by females. The proportion of respondents who consumed fried foods (51.2%), snacks (52.5%) and candies (52.5%) every day were higher in females. The proportion of respondents who consumed sugary drinks every day were higher in males (61.5%). The aggregate score showed that majority (57.6%) of the respondents have poor dietary behaviour and were mostly the males (58.8%).

Table 4: Dietary behaviour of the respondents

Table 5 showed that there was a statistically significant relationship between obesity knowledge and perception of obesity by the respondents. A higher proportion of students with good knowledge also had a positive perception of obesity ($\chi^2 = 10.546$; $p = 0.001$). There is no statistically significant relationship between obesity knowledge and dietary behaviour of respondents ($\chi^2 = 0.690$; $p = 0.450$). However, a higher proportion of respondents with poor dietary behaviour also had poor knowledge.

Table 5: Relationship between obesity knowledge, perception and dietary behaviour of respondents

Discussion

Studies have shown that obesity is increasing among young adults [6, 7, 21, 22] and the link with chronic non-communicable diseases is significant [23, 24]. This present study showed that the knowledge of obesity and its related factors remained poor among university students, especially non-science disciplines. This poor knowledge influenced their perception as half (49.7%) of the participants have a negative view of obesity and its related factors. This relationship is statistically significant ($p < 0.05$). Also, the poor knowledge of obesity and its related factors might have contributed to the poor dietary behaviour showed by the majority (56.7%) of the respondents.

In the present study, when respondents were asked about their awareness of obesity, 373 (94.7%) claimed to have heard about it. The proportion of females reported to have heard about obesity in this study was higher and this is similar to a study in Kenya [15]. The reason for this could be that females generally are more conscious of their body image [25, 26]. When asked about their source of information, most (55%) of the respondents acknowledged that social media was their major source of obesity information. This contrasted the findings of Thielemann [27] in the United States where most participants got their information from the school. While social media could serve as a major source of information, the recency and credibility of information obtained must be critically evaluated [28, 29]. It is shocking to know that majority of the respondents do not know that obesity is associated with serious health conditions, multi-factorial and can affect both sexes. On obesity measurements, only 34.3% have heard about body mass index (BMI), less than half (40.6%) knows the healthy range and only 24.2% have checked their BMI in the last 3 months. Ramasamy et al [15] also reported similar results in Kenya. On the aggregate, majority (64%) of the respondents have poor knowledge of obesity. This was similar to the results reported among students at Ohio by Emily et al [30]. However, Deotale [16] reported 100% good knowledge of obesity among medical students in India. This is not surprising as medical students are exposed to lectures on obesity and its associated factors.

On obesity perception, some still viewed obesity as evidence of good living (10%), a measure of socioeconomic status (17.2%), a sign of maturity (23.3%), makes clothes fit better (11.5%) and as a way of earning respect (13.2%). These negative perceptions have been well reported on by previous researchers among adults [15, 17]. Cumulatively, more of the respondents in this study have a positive perception of obesity. However, a good number still nurture a distorted view of obesity despite being in an academic environment. Pro-active measures, therefore, need to be taken to correct these views by creating awareness on obesity and its associated health risk. Improving the knowledge of the students by way of education would help to prevent the rise in obesity and its attendant's health consequences among adults in the future [31, 32].

World Health Organization (WHO) experts recommended the intake of a minimum of 400 g of fruits and vegetables daily for the prevention of chronic non-communicable disease [33]. This study shows that 8.0% and 4.1% consumed fruits and vegetables respectively on a daily basis. This low prevalence of fruit and vegetable consumptions have been reported by previous researchers among young adults in Nigeria [34-36]. However, a higher prevalence of fruit and vegetable consumptions have been well reported on among young adults in developed countries [19, 37]. This does not come as a surprise as report already showed that for the past two decades, there has been a rapid and marked socioeconomic advancement in developed countries leading to a significant

improvement in the lifestyles and dietary pattern of young adults.^[19,38] In this study, more females tend to consume more fruits daily than males. This is in contrast to a higher proportion of males reported by Anwar.^[19] Also, more females consumed fried foods daily. Similar results were reported by another researcher.^[19] The proportion of respondents that consumed unhealthy snacks in this study is low compared to 32% reported by Poobolan et al.^[37] The prevalence of poor dietary behaviour in this study was higher, and this must have been largely influenced by the poor knowledge of obesity reported in this study. There was a significant relationship between knowledge of obesity and perception. This shows that good knowledge of obesity can positively influence people's perception of it and subsequently help to guide their food choices. This study provides insight into the future state of health of the young adults who are in their transition phase of becoming mature adults. Nutrition intervention at this phase will help to prevent future obesity challenges which would reduce quality of life in adulthood.^[39] One major limitation of this study was the use of a sample of students from Obafemi Awolowo University, Ile-Ife, Nigeria which may affect generalizability of results. Also, there is a likelihood of recall bias as responses were self-reported.

Conclusion

Knowledge of obesity and its related conditions among undergraduates is poor. This poor knowledge contributed to the negative perception and poor dietary behaviour among respondents. Therefore, the creation of healthy eating awareness and integration of nutrition education into all fields of study is vital to stemming the tide of the future obesity epidemic.

Abbreviations

BMI: Body mass index; CI: Confidence interval; NCDS: Non-communicable diseases; SA: Strongly agree; SPSS: Statistical product and service solutions; WHO: World Health Organisation

Declarations

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Authors' Contribution:

OMD makes substantial contributions to the conception and design of the study while MIO and OO make vital contributions in the implementation. All authors were involved in data collection, analysis and interpretation. All authors read and approved the final manuscript.

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Availability of data and material

The datasets used during the current study are available from the corresponding author on reasonable request.

Ethics approval and consent to participate

Ethical clearance was obtained from the Institute of Public Health Research and Ethics Committee, Obafemi Awolowo University, Ile-Ife, Nigeria. Written consent was obtained from individual participants before filling the questionnaire.

Consent for publication

Not applicable

Competing interests

The authors declared that they have no competing of interests.

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Tables

Table 1: Socio-demographic Characteristics of Respondents

Variable	Frequency (n =394)	Percentage (%)
Age (yrs.)		
<20	182	46.2
>20	212	53.8
Mean ±SD	20.25 ± 2.7	
Sex		
Female	209	53.0
Male	185	47.0
Ethnicity		
Yoruba	347	88.1
Others	47	11.9
Religion		
Christianity	338	85.8
Islam	56	14.2
Marital Status		
Single	381	96.7
Married	13	3.3
Number of Siblings		
4 & below	284	72.1
5 & above	110	27.9
Position in the Family		
1 st -3 rd	290	73.6
4 th & above	104	26.4
Father's Level of Education		
No formal	22	5.6
Primary	24	6.1
Secondary	65	16.5
Tertiary	279	70.8
Mother's Level of Education		
No formal	24	6.1
Primary	24	6.1
Secondary	95	24.1
Tertiary	247	62.7
Father's Occupation		
Self employed	187	47.5
Trader	29	7.4
Retired	45	11.4
Civil Servant	131	33.7
Mother's Occupation		
Self employed	207	52.5
Trader	23	5.8
Retired	15	3.8
Civil Servant	147	37.9
Current Level		
100	62	15.7
200	196	49.7
300	79	20.1
400	57	14.5
Monthly Stipends (n = 386)		
	354	91.7
20,000 and Below	32	8.3
Above 20,000		

Table 2: Knowledge of obesity of the respondents

Obesity variable		Yes	No
Heard of obesity (<i>n</i> =394)		373 (94.7%)	21 (5.3%)
Male	(<i>n</i> =185)	170 (91.9%)	15 (8.1%)
Female	(<i>n</i> =209)	203 (97.1%)	6 (2.9%)
Source of information (<i>n</i> =373)		Frequency	Percentage
Books		157	42.1%
Media		205	55.0%
Lectures		99	26.5%
Friends		109	29.2%
Health workers		98	26.3%
Internet		104	27.9%
General knowledge (<i>n</i> =373)		Correct response	Incorrect response
Obesity refers to being excessively fat or overweight		354 (94.9%)	19 (5.1%)
Obesity is linked to multiple factors		105 (28.2%)	268 (71.8%)
Obesity is associated with serious health conditions		28 (7.5%)	345 (92.5%)
Obesity is a chronic disease		255 (68.4%)	118 (31.6%)
Obesity can affect all sexes		185 (49.5%)	188 (50.5%)
Obesity is linked to sedentary lifestyles		308 (82.6%)	65 (17.4%)
Obesity assessment			
Heard of BMI		128 (34.3%)	245 (65.7%)
Meaning of BMI (<i>n</i> =128)		108 (84.4%)	20 (15.6%)
Normal BMI range		52 (40.6%)	76 (59.4%)
Checked BMI in the last 3months		31 (24.2%)	97 (75.8%)
Grouping of obesity knowledge		Frequency	Percentage
Good knowledge		142	36.0%
Poor knowledge		252	64.0%
Obesity knowledge by sex		Good knowledge	Poor knowledge
Male		49 (34.5%)	136 (54.0%)
Female		93 (65.5%)	116 (46.0%)

Table 3: Perception of obesity by the respondents

N=373

Perception of obesity	SA	A	D	SD
Obesity is a disease	142 (38.1%)	129 (34.6%)	69 (18.5%)	33 (8.8%)
It can lead to stigmatization	100 (26.8%)	168 (45.1%)	49 (13.1%)	56 (15.0%)
Obesity can be treated medically	116 (31.1%)	203 (54.4%)	39 (10.5%)	15 (4.0%)
An obese individual should see a doctor	168 (45.0%)	167 (44.8%)	21 (5.6%)	17 (4.6%)
Dietary modification can prevent it	153 (41.0%)	172 (46.1%)	23 (6.2%)	25 (6.7%)
Reducing daily salt intake is good	108 (29.0%)	205 (55.0%)	42 (11.2%)	18 (4.8%)
Eating junks between meals can lead to obesity	110 (29.5%)	184 (49.3%)	62 (16.6%)	17 (4.6%)
Physical inactivity increases the chance of being obese	139 (37.3%)	169 (45.3%)	42 (11.3%)	23 (6.1%)
Obesity is an evidence of good living	15 (4.0%)	22 (5.9%)	110 (29.5%)	226 (60.6%)
Enhances appearance	26 (7.0%)	45 (12.1%)	116 (31.1%)	186 (49.8%)
Confers respect	17 (4.6%)	32 (8.6%)	127 (34.0%)	197 (52.8%)
Measure socioeconomic status	19 (5.1%)	45 (12.1%)	142 (38.1%)	167 (44.7%)
It makes one look mature	18 (4.8%)	69 (18.5%)	109 (29.2%)	177 (47.5%)
It makes one attractive	11 (2.9%)	18 (4.8%)	141 (37.8%)	203 (54.5%)
It makes clothes to fit better	16 (4.3%)	27 (7.2%)	123 (33.0%)	207 (55.5%)
A fat student is wealthier than a slim student.	22 (5.6%)	37 (9.4%)	113 (28.7%)	222 (56.3%)
Grouping of Perception	Frequency		Percentage	
Positive perception	218		58.4	
Negative perception	155		41.6	
Perception of obesity by sex	Positive Perception n (%)		Negative perception n (%)	
Male	92 (42.2%)		78 (50.3%)	
Female	126 (57.8%)		77 (49.7%)	

SA- Strongly Agree, A- Agree, D-Disagree, SD- Strongly Disagree

Table 4: Dietary behaviour of the respondents

N=373

Variables	Male n (%)	Female n (%)	Total
Fruit			
<Once/week	71 (42.0%)	98 (58.0%)	169 (45.3%)
1-2 times/week	55 (49.5%)	56 (50.5%)	111 (29.8%)
3-4 times/week	27 (52.9%)	24 (47.1%)	51 (13.7%)
5-6times/week	7 (58.3%)	5 (41.7%)	12 (3.2%)
Everyday	10 (33.3%)	20 (66.7%)	30 (8.0%)
Vegetable			
<Once/week	69 (44.2%)	87 (55.8%)	156 (41.8%)
1-2 times/week	44 (41.7%)	67 (58.3%)	115 (30.8%)
3-4 times/week	39 (57.4%)	29 (42.6%)	68 (18.2%)
5-6times/week	7 (36.8%)	12 (63.2%)	19 (5.1%)
Everyday	7 (46.7%)	8 (53.3%)	15 (4.1%)
Fried foods			
<Once/week	43 (41.7%)	60 (58.3%)	103 (27.3%)
1-2 times/week	41 (42.7%)	55 (57.3%)	96 (25.7%)
3-4 times/week	50 (52.3%)	46 (47.7%)	96 (25.7%)
5-6times/week	16 (43.2%)	21 (56.8%)	37 (10.3%)
Everyday	20 (48.8%)	21 (51.2%)	41 (11.0%)
Snacks			
<Once/week	39 (49.4%)	40 (50.6%)	79 (20.2%)
1-2 times/week	32 (40.0%)	48 (60.0%)	80 (21.4%)
3-4 times/week	35 (44.9%)	43 (55.1%)	78 (20.9%)
5-6times/week	26 (44.8%)	32 (55.2%)	58 (15.6%)
Everyday	38 (48.7%)	40 (51.3%)	78 (20.9%)
Sweets (candies)			
<Once/week	75 (49.0%)	78 (51.0%)	153 (41.0%)
1-2 times/week	39 (41.9%)	54 (58.1%)	93 (24.9%)
3-4 times/week	19 (50.0%)	19 (50.0%)	38 (10.2%)
5-6times/week	8 (28.6%)	20 (71.4%)	28 (7.5%)
Everyday	29 (47.5%)	32 (52.5%)	61 (16.4%)
Soft drink			
<Once/week	43 (36.4%)	75 (63.6%)	118 (31.6%)
1-2 times/week	52 (45.6%)	62 (54.4%)	114 (30.6%)
3-4 times/week	32 (48.5%)	34 (51.5%)	66 (17.7%)
5-6times/week	11 (47.8%)	12 (52.2.0%)	23 (6.2%)
Everyday	32 (61.5%)	20 (38.5%)	52 (13.9%)
Barbecue (suya)			
<Once/week	83 (44.1%)	105 (55.9%)	188 (50.4%)
1-2 times/week	31 (43.1%)	41 (56.9%)	72 (19.3%)
3-4 times/week	18 (54.5%)	15 (45.5%)	33 (8.8%)
5-6times/week	7 (41.2%)	10 (58.8%)	17 (4.6%)
Everyday	31 (49.2%)	32 (50.8%)	63 (16.9%)
Grouping of DB			
Good DB	70 (41.2%)	88 (43.3%)	158 (42.4%)
Poor DB	100 (58.8%)	115 (56.7%)	215 (57.6%)

DB; Dietary Behaviour

Table 5: Relationship between obesity knowledge, perception and dietary behaviour of respondents

Variables		Perception		X ²	P-value
		Negative	Positive		
Obesity Knowledge	Poor	111 (48.1%)	120 (51.9%)	10.546	0.001
	Good	44 (31.0%)	98 (69.0%)		
Dietary Behaviour					
		Poor	Good		
Obesity	Poor	137 (59.3%)	94 (40.7%)	0.690	0.450
Knowledge	Good	78 (54.9%)	64 (45.1%)		