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Knowledge, Attitude and Practice of Weight Reduction among Overweight and Obese Individuals

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Abstract—
Objectives: *This study assessed the level of knowledge, attitude and practice of weight reduction among overweight/obese individuals.*
Methods: *The cross-sectional study recruited 91 overweight/obese individuals (32 males, 59 Female) from a south-western community in Nigeria. A self-administered questionnaire was used to collect data on Socio-demographic characteristics, Knowledge, Attitude and Practice of weight reduction among Overweight/Obese individuals. Descriptive statistics of percentages and inferential statistics was used to analyze the data obtained from the study.*
Results: *The result showed that a larger percentage of the participants (76.64%) had adequate knowledge of Overweight / Obesity and weight reduction program while 69.58% demonstrated right attitudes towards weight control. Only 37.58% of the respondent had high level of active participation in weight reduction activities. This study also showed that females participate more in weight reduction program than males.*
Conclusion*: Adequate knowledge and right attitudes does not translate into high level of participation in weight control and weight reduction activities. More effort should be devoted to improving level of active participation in weight reduction program among overweight and obese individuals.*

Keywords— *Attitude; knowledge; obesity; overweight; practice; weight reduction.*

I. INTRODUCTION

Obesity has long been recognized as a public health problem, typically described as an "obesity epidemic" due to dramatic increases in prevalence throughout the globe [1].

A fast increase in Obesity over the last 30 years has been caused primarily by cultural and environmental factors. High-calorie diets, heavy meals, low level of physical activity and sedentary lifestyles and nutritional disturbances are major risk factors in development of obesity [2]. Overweight and Obesity was once considered a high-income-country problem, However, it is now on the rise in low and middle-income countries, particularly in urban settings [3].

The most popular measure of overweight and obesity is Body Mass Index (BMI), calculated by dividing body weight (kg) by squared body height (m^2). According to the WHO classification, BMI standard in adults ranges from 18.5 to 24.9 kg/m^2, overweight is diagnoses at BMI = 25 to 29.9 kg/m^2, and obesity occurs for BMI $\geq$ 30 kg/m^2 [4].

Overweight/Obesity is usually associated with some complications that adversely affect the health of the sufferer. These include; metabolic disorders, cardiovascular disorders, respiratory diseases, cancer, leukemia, myeloma, lymphoma, bone and joint conditions (knee joints and hip joints), pain in joints, gastrointestinal diseases, urinary incontinence, fertility disorders (irregular menstrual cycles, infertility, hirsutism, polycystic ovarian syndrome, miscarriages, diabetes, hypertension, pre-eclampsia, fetal abnormalities, and labor disorders), and many other complications, including psychological and social consequences (low self-esteem, fears, depression, exclusion, discrimination, unemployment, environmental acceptance, and salaries) [5].

Physiotherapy combined with proper diet plays an important role in management of overweight and obesity. A study by Wing [6] demonstrated that treatment of obesity is the most effective for combination of low calorie diets and increased levels of physical activity. Weight management therefore is not about weight loss only but on all aspects of attaining and maintaining optimum weight (ideal body weight) for a healthy lifestyle [7].

The main goal in treatment of obesity is to ensure body weight reduction to limit health risks and to maintain proper body weight and prevent renewed gaining weight. Treatment of obesity is therefore aimed at decreasing body weight up to 15% of initial weight over a period of 6 months and, in people with BMI over 35, reduction by 20% [8]. A negative energy balance is obtained by decreasing energy intake from food and/or increasing of energy expenditure through muscular work and physical activity [9].

A Guidelines of Physical Activity for Americans created by the Office of Disease Prevention and Health Promotion suggests that all adults should avoid inactivity to promote good health mentally and physically while reducing the risk of being overweight or obese. For substantial health benefits, adults should participate in at least 150 minutes a week of moderate-intensity, or 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. Aerobic activity should be performed in episodes of at least 10 minutes, and preferably and should be spread throughout the week [10].

This study was therefore designed to assess the level of knowledge, attitude and practice of weight reduction among overweight/obese individuals in a Nigerian south- western community.

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II. Materials and Methods

This cross- sectional study involved 91 apparently healthy obese individuals with BMI greater than 24.5 kg/m^2. Ethical approval of health Research Ethics Committee, Federal Medical Centre, Owo was obtained prior to the commencement of the study. Participants' informed consent were also sought and obtained. Data was obtained through a self- administered questionnaire. The questionnaire contain three section: The first section contained the personal data, socioeconomic status and anthropometric data of the respondent such as weight, Height and BMI. The second section asked questions on the level of knowledge of respondents on Overweight and Obesity while the third section asked questions on attitude of respondent towards weight reduction program using exercise and diet. Participants' weight and height were taken to determine their inclusion in the study based on the calculated body mass index.

Analysis of Data was done using descriptive statistics of mean and standard deviation and inferential statistics of Mann-Whitney U Test was used for test of significance between male and females' knowledge, attitude and practice of weight reduction

III. Result

Socio-demographic characteristics; A total number of 91 individuals participated in this study. 32 (35.2%) were male and 59 (64.8%) female. The highest percentage in the age distribution was in the range 36-40 (26.4%). 67.0% were married, 28.6% were unmarried and 4.4% were separated. 34.1% of the participants had Higher National Diploma as their highest qualification followed by individuals with Ordinary diploma with 22%. 20.9% had University first degree and 17.6% with Secondary School Certificate while 5.5% of the participants has Second Degree qualification. 64.8% of the total population of the participants were Civil Servants, 15.4% were students and 15.4% were into Businesses while other occupations which include Cleaner and Security officers made up just 4.4% of the participants' population (Table I).

Participant's level of awareness and knowledge about weight reduction programs is presented in table II. 91 individuals who were either overweight or obese participated in this study. 59 (64.8%) of the respondents are aware they are overweight or obese out of which 24 (26.4%) were medically diagnosed by a medical practitioner while 34 (37.4%) of the respondents were aware of their body mass index status. 70 participants (76.64%) had adequate knowledge of weight reduction among overweight and obese individuals while 21 (23.36%) had inadequate knowledge of weight reduction.

TABLE I. The socio-demographic characteristics of respondents. N=91

		n	%
Gender	Male	32	35.2%
	Female	59	64.8%
Age	21-25	13	14.3%
	26-30	11	12.1%
	31-35	24	26.4%
	36-40	14	15.4%
	41-45	10	11.0%
	46-50	19	20.8%
Marital Status	Single	26	28.6%
	Married	61	67.0%
	Separated	4	4.4%
	Divorced	0	0.0%
Education	Secondary school	16	17.6%
	OND	20	22.0%
	HND	31	34.0%
	BSc	19	20.9%
	MSc	5	5.5%
Occupation	Students	14	15.4%
	Civil servants	59	64.8%
	Business	14	15.4%
	Others	4	4.4%

Key:
OND- Ordinary Diploma; HND- Higher National Diploma
BSc- Bachelor of Science; MSc- Master of Science

TABLE II. Knowledge of participants on weight reduction program.

S. No.	Question		Response n = 91		
			Yes	No	Uncertain
1.	Are you Overweight/Obese?		59 (64.8)	21 (23.1)	11 (12.1)
2.	How do you know that you are Overweight /Obese	(a) Doctor told me	24 (26.4)	66 (72.5)	
		(b) Friends told me	4 (4.4)	87 (95.6)	
		(c) I feel so	12 (13.2)	79 (86.8)	
		(d) I know by BMI.	34 (37.4)	56 (61.5)	
3.	Do you know if Overweight/ Obesity is a medical condition?		69 (75.8)	11 (12.1)	11 (12.1)
4.	Overweight/Obesity risk Increases with age?		45 (49.5)	26 (28.6)	20 (22.0)
5.	Women have higher rate of Overweight/Obesity than men?		72 (79.1)	7 (7.7)	12 (13.2)
6.	Physical inactivity leads to Overweight/Obesity?		82 (90.1)	3 (3.3)	6 (6.6)
7.	Can over-eating cause Overweight/ Obesity		83 (91.2)	4 (4.4)	4 (4.4)
8.	Overweight/ Obesity can result Into Hypertension / Diabetics Mellitus?		74 (81.3)	5 (5.5)	12 (13.2)
9.	Overweight/Obesity can be managed by Dieting?		81 (89.0)	2 (2.2)	8 (8.8)
10.	Overweight/Obesity can be managed by consistence physical Activities?		87 (95.6)	1 (1.1)	3 (3.3)
11.	Physical activities do help in weight reduction		85 (93.4)	6 (6.6)	
12.	Physical activity of 30 min/day on at least 3 days a week is recommended		83 (91.3)	8 (8.8)	
13.	Eating in between meals, preference for sweets, refined food, fats increases the risk the of Overweight/Obesity.		79 (86.8)	12 (13.2)	
14.	If our parents are Overweight/Obese our tendency to become obese increases.		69 (75.9)	22 (24.2)	
15.	Drugs such as steroids, Oral Contraceptive Pills, insulin, b-blockers can promote weight gain		56 (61.6)	35 (38.4)	
16.	Overweight/Obesity do have a cure, it can only be managed		66 (72.5)	25 (27.5)	
Respondents with adequate knowledge			**70 (76.64)**		
Respondents with inadequate knowledge			**21 (23.36)**		

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Table III reveals the attitude of participants towards weight reduction. The result revealed that 63 (69.58%) of the respondents had good attitude towards weight reduction program while 28 (30.41%) had poor attitude toward weight reduction programs. Table IV showed the level of respondents' participation in weight reduction program. 34 (37.58) of respondents demonstrated high level of participant in activities that reduces weight while greater number of the respondents 57 (62.42%) demonstrated low level of participation in weight reduction program. The result showed a significant difference in both knowledge and attitude towards weight reduction program between male and female respondents (Table V).

TABLE III. Attitude of participants on weight reduction among overweight and obese individuals.

	Question	**n = 91**	
S. No.		**Yes (%)**	**No (%)**
1	Do you smoke?	4 (4.4)	87 (95.6)
2	Do you Drink Alcohol?	29 (31.9)	62 (68.1)
3	Are you concern about your weight?	63 (69.2)	28 (30.8)
4	Are you on controlled and planned diet?	35 (38.5)	56 (61.5)
5	In the past, have you tired losing weight?	47 (51.6)	44 (48.4)
6	Do you know there are professionals that can assist you with your weight?	74 (81.3)	17 (18.7)
7	If you are refer to them (Professionals), will you be willing to comply with necessary guidelines?	86 (94.5)	5 (5.5)
	Total respondents with right attitude **Total respondents with wrong attitude**	**63 (69.58)** **28 (30.41)**	

TABLE IV. Participants' participation on weight reduction program.

S. No.	**Question**		**Response n = 91**	
			Yes (%)	No (%)
1.	Are you on any weight reduction exercise program?		29 (31.9)	62 (68.1)
2.	If yes, are you still on it?		21(23.1)	70 (76.9)
3.	If Yes, what kind of programme?	(a) Diet	8 (8.8)	83 (91.2)
		(b) Exercise	16 (17.6)	75 (82.4)
		(c) Diet and Exercise	7.7 (7)	92.3 (84)
		(d)Slim Tea	2 (2.2)	89 (97.8)
4.	How often do you carry out the Exercise?	(a) Less than 30mins, once a week	5 (5.5)	86 (94.5)
		(b)30mins, twice a week	13 (14.3)	78 (85.7)
		(c)30mins, 3 times a week	5 (5.5)	86 (94.5)
		(d) More than 30mins, 3 times in a week	10 (11)	81 (89)
5.	Do you often take snacks and soft drink between meals?		48 (52.7)	43 (47.3)
6.	Do you always take breakfast early?		54 (59.3)	36 (39.6)
7.	Do you frequently skip meals?		45 (49.5)	46 (50.5)
	Do you normally take dinner early enough (i.e. before 7pm)?		27 (29.7)	64 (70.3)
Total respondents with high level of participation in weight reduction **Total respondents with high level of participation in weight reduction**			**34(37.58)** **57(62.42)**	

TABLE V. Man Whiteney U Test of significance.

	Male	**Female**	**Z score**	**P value**
Knowledge	32 (35.2%)	59 (64.8%)	-0.833	0.410
Attitude	32 (35.2%)	59 (64.8%)	-2.950	0.030**
Practise	32 (35.2%)	59 (64.8%)	-0.290	0.040**

Key: ** indicates significant difference

IV. DISCUSSION

This study examined the knowledge attitude and practice of weight reduction among individuals who are obese or overweight. The result showed that greater proportion of the respondent are women. This is in agreement with previous study that reported higher prevalence of obesity and overweight among women population [11]. The result showed that majority of the participants are aware that they are either overweight or obese, similarly greater number of the participants had adequate knowledge about overweight/ obesity, its control and weight reduction program. However, a Mann-Whitney U Test revealed no significant difference in the level of knowledge of males and females participants (p=0.410). This result however contradict the findings of Jennifer et al, which showed that, there was inadequate knowledge of overweight/obesity, its control and weight reduction program among Overweight /Obese individuals [12]. Greater number of the participants in this study (69.58%) demonstrated right attitudes towards overweight, weight control and weight reduction program however, a Mann-Whitney U Test revealed a statistical significant difference in the attitude toward weight reduction between male and females respondents (p = 0.03) with female showing more significant right attitude towards weight reduction activities than male. This support the findings of Bish et al, which concluded that women are more interested in weight control activities than men [13].

The result also showed that majority of the overweight/ obese individuals in this study had very low level of participation in weight control and reduction program. However, there was also a significant difference in the level of participation between males and females respondents (p = 0.04) with female participating more in weight reduction activities than male. Moreover, greater proportion of the respondents (n=29) who were on weight reduction program are female 19 (65.5%).This result is similar to other previous studies which showed that women are more involved in weight reduction program than men [12-14].

It is expected that the level of knowledge should affect the level of participation in weight reduction program however, the result from the study revealed that although greater percentage of respondent had adequate knowledge and demonstrated right attitude towards weight reduction program, they however demonstrated low level of participation in weight control and weight reduction activities. The limitations and hindrances that reduced the level of participation in weight control and reduction program as reported by participants in this study include; tiredness during physical exercise, inability to create time for physical exercise, weight reduction program interference with their personal day to day activities, inability to exercise during work days while some individuals actually finds it difficult to practicing weight reduction especially the aspect of dieting.

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V. CONCLUSION

The result of this study disproved the notion that adequate knowledge and attitude toward weight reduction program affect the level of participation of weight reduction. The overweight and obese individuals though have adequate knowledge and good attitude toward weight reduction they however had significantly low level of participation in weight reduction program. More effort should be devoted to improving the knowledge of overweight and obese individual on the overall health benefits of weight control thereby improving their level of active participation in weight reduction program.

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