HEALTH BELIEF MODEL OF SECONDARY SCHOOL STUDENTS ABOUT WEIGHT REDUCING IN BAGHDAD CITY

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Abstract:

Background: Obesity is a major public health problem all over the world. It has become a global epidemic, and it is still increasing in both industrialized and developing countries. The alarming increase in the prevalence of obesity over the last few decades has raised concerns about associated health risks for children, adolescents as well as adults.

Objectives: The study aim to assess health belief model of secondary school students about weight reduction, and identify Difference between students' sociodemographic characteristics and health belief model.

Methods: descriptive study design among 200 students at age (13-18) years selected by probability sampling (simple random sample) from 5 secondary school. The study tool is a questionnaire composed from 2 parts (socio demographic characteristics, health belief model scale). The data collected by interview method.

Result: The finding indicated that (27.5%) of students at age (15) years, (52.5%) are males, (64%) of them have moderate socioeconomic status, (56.5%) have normal weight status. The finding indicated that the mean of perceived threat of obesity is (2.706), perceived benefits of weight reduction is (3.086), perceived barriers to weight reduction is (2.658), cues to action for weight reduction is (2.765), perceived self-efficacy in dietary life is (2.623) perceived self-efficacy in exercise is (2.644), and the mean of health belief model is (2.747). There is significant deference between the mean score of students' health belief model with age and sex at p-value (0.000 & 0.000) respectively

Conclusion: Adolescents had moderate health belief model about weight reducing. It is important to check up the weight status of adolescents in secondary schools. Enhance adolescents' awareness about obesity risk factors, complication, prevention and treatment.

Keywords: Health Belief Model, Students, weight reducing.

Introduction

Adolescence may be a crucial period for developing obesity which has reached epidemic proportions in North America and continues to rise, making it a serious public health concern. [1] Adolescents' nutritional state has a significant impact on their current and future health. [2]

Adolescence is a period of life when individuals transfer from childhood and their biological, cognitive, psycho-logical and social characteristics rapidly change as they become more adult-like. This challenging developmental stage is initiated by pubertal onset and can be divided into three periods: early (ages 12 to 14 years), middle (ages 15 to 16 years) and late adolescence (ages 17 to 19 years and beyond). [3]

Adolescents are a nutritionally vulnerable group, because they need high requirements of nutrition for growth and maturation. The change in the life of adolescents and they need to achieve their identity, the eating pattern and life style influenced by the environment and the peer group. Inadequate nutrition or unhealthy nutrition of adolescents leads to health problems. [4]

Weight is one of the most variables which have attracted the attention of researchers in terms of the adolescence period. Weight measures by using a scale which is the right tool for estimation of one's weight. [5]

Body mass index status categories include underweight, healthy weight, overweight, and obese. Underweight: $< 5^{th}$ percentile of BMI for age, normal weight: 5th to $< 85^{th}$ percentile of BMI for age, overweight: 85th to $< 95^{th}$ percentile of BMI for age, obese: $\geq 95^{th}$ percentile of BMI for age. [6]

Obesity is a major public health problem all over the world. It has become a global epidemic, and it is still increasing in both industrialized and developing countries. The alarming increase in the prevalence of obesity over the last few decades has raised concerns about associated health risks for children, adolescents as well as adults. [7]

High rates of overweight and obesity among school children are prevalent within the Arabian Gulf States. Studies have observed the prevalence of obesity to be14.6% in Kuwait; in Bahrain, it was 21% and 35% in males and females, respectively; in Qatar, it was 28.6% among boys and 18.6% among girls; and in Saudi Arabia, it was 43.6% and 34.8% in males and females, respectively. [8]

Health Belief Model (HBM) is a health-specific social cognitive model that attempts to predict and explain why individuals change or maintain specific health behaviors. This model assumes that individual involvement in health-related behaviors is determined by understanding six following constructs: Perceived severity (an individual's perception of the seriousness and potential consequences of the condition), Perceived susceptibility (an individual's assessment of their risk of getting a disease or condition), Perceived benefit (an individual's beliefs about whether the recommended behavior will reduce the risk or severity of impact), Perceived barrier (an individual's assessment of the difficulties and cost of adopting behaviors), Cue to action (the internal or external motivations promoting the desired behavior), and Self-efficacy (an individual's belief about their capabilities to successfully perform a new health behavior). [9]

The health belief model proposes that the individuals who are aware that they are under the threat of real health risks are more committed to taking preventive measures if there are fewer costs less than the benefits of engaging in it. Integrating the Health Belief Model into one-on-one health teaching sessions may help practitioners better understand and predict their clients' health behaviors. The HBM consists of a combination of health education and particular interventions aimed at encouraging people to adopt healthier lives. [10]

Objectives of the study: The study aim to assess health belief model of secondary school students about weight reduction.

Methods

Study design: Descriptive study design conducted at the period of 1st of October 2023 to 20st November 2023 to assess health belief model of secondary school students about weight reduction in Baghdad city

Sitting: The study carried out at 5 secondary school selected randomly in Baghdad city.

Sampling: The study sample is 200 students at age (13-18) years selected by probability sampling (simple random sample) from 5 secondary school.

Instrument: The study tool is a questionnaire composed from 2 parts. first part related to the socio demographic characteristics of the sample (age, sex, socioeconomic status, body mass index). The second part is health belief model scale consisted of 4-point Likert scales. The Perceived threat scale consisted of eleven items about susceptibility (possibility of becoming obese) and severity of obesity (severity of disease resulting from obesity), the perceived benefits scale with 11 items, the perceived barriers scale with 12 items, the cues to action scale with 6 items, the perceived self-efficacy in dietary life scale with 16 items, and the perceived self-efficacy in exercise scale with 9 items. Possible responses for each variable were "completely disagree", "disagree", "agree", and "completely agree". A score was given for each response from 1 to 4, whereby higher scores indicated a stronger feeling of each variable.

Validity and Reliability: the instrument is valid and reliable according to the previous study conducted by Park. Cronbach's α of the perceived threat scale was 0.761, 0.859 for the perceived benefits scale, 0.805 for the perceived barriers scale, 0.764 for the cues to action scale, 0.843 for the perceived self-efficacy in dietary life scale, and 0.831 for the perceived self-efficacy in exercise scale according to the study of Park. [11]

Ethical consideration: The researcher explains the study and the objectives to the sample and ask them to participate in the study. After take the sample agreement, the investigator collect the data through use of interview method.

Data analysis: The statistical data analysis done by (SPSS) version 22 through use of descriptive and inferential statistical data analysis.

Results

Table 1 Distribution the demographic characteristics of students

Variables		Frequency	Percent
Age 15.24±1.511	13	29	14.5
	14	38	19.0
	15	55	27.5
	16	30	15.0
	17	30	15.0
	18	18	9.0
	Total	200	100.0
Gender	Male	105	52.5
	Female	95	47.5
	Total	200	100.0
SES	Low	31	15.5
	Moderate	128	64.0
	High	41	20.5
	Total	200	100.0
Body mass index	Under weight	25	12.5
	Normal weight	113	56.5
	Overweight	44	22.0
	Obese	18	9.0
	Total	200	100.0

The finding in this table shows that 55(27.5%) of students at age (15) years, 105(52.5%) are males, 128(64%) of them have moderate socioeconomic status, 113(56.5%) have normal weight status.

Table 2 Distribution of students' health belief model about weight reducing (n=200)

Domains	Mean	Standard deviation	Minimum	Maximum
Perceived threat of obesity	2.706	.269	2	3.09
Perceived benefits of weight reduction	3.086	.495	2.363	3.818
Perceived barriers to weight reduction	2.658	.220	2.416	3.166
Cues to action for weight reduction	2.765	.169	2.333	3
Perceived self-efficacy in dietary life	2.623	.162	2.312	2.875
Perceived self-efficacy in exercise	2.644	.202	2.333	3.111
Health belief model	2.747	.1997	2.35	3.13

The finding indicated that the mean of perceived threat of obesity is (2.706), perceived benefits of weight reduction is (3.086), perceived barriers to weight reduction is (2.658), cues to action

for weight reduction is (2.765), perceived self-efficacy in dietary life is (2.623) perceived self-efficacy in exercise is (2.644), and the mean of health belief model is (2.747)

Table 3 Difference between students' sociodemographic characteristics and health belief model

Scale	Age	N	Average	SD	F	p
	13	29	2.643	.217	10.097	.000
	14	38	2.804	.189		
HBM	15	55	2.860	.171		
	16	30	2.630	.173		
	17	30	2.695	.157		
	18	18	2.732	.165		
Scale	Sex	N	Average	SD	T	p
HBM	Male	105	2.894	.128	17.19	.000
	Female	95	2.585	.124		
Scale	SES	N	Average	SD	F	p
	Low	31	2.782	.215	.920	.400
HBM	Moderate	128	2.733	.198		
	High	41	2.763	.193		
Scale	BMI	N	Average	SD	F	p
	Underweight	25	2.783	.213	.335	.800
HBM	Normal weight	113	2.745	.198		
	Overweight	44	2.734	.198		
	Obese	18	2.741	.200		

This table shows that there is significant deference between the mean score of students' health belief model with age and sex at p-value (0.000 & 0.000) respectively.

Discussion

In table (1) more than 1 quarter of sample at age 15 years. In another study conducted by Grace et al., [22] they found that more than half of adolescent at age 13-15 years.

More than half of adolescents were males. Grace et al., n similar study the found that more than half of students were females. In another study the finding indicated males more than females. [22]

More than half of them had moderate level of SES. Grace et al., in similar study the found that more than half of students had moderate level of SES. In similar study the found that more than half of students had moderate level of SES. [22]

According to body mass index of adolescents in this study shows that more than half of them had normal weight and about 1 third of sample had BMI overweight and obese weight status. This finding supported by the study of Słowik et al., [21]

The finding in table (2) indicated that the students had moderate mean of perceived threat of obesity, perceived benefits of weight reduction, perceived barriers to weight reduction, cues to

action for weight reduction, perceived self-efficacy in dietary life, perceived self-efficacy in exercise, and the mean of health belief model.

This finding supported by the finding of similar study conducted by Kebede et al., the finding indicated that the mean of perceived susceptibility of obesity is (20.26), perceived benefits of weight reduction is (23.27), perceived barriers to weight reduction is (14.52), perceived severity for weight reduction is (22.35), perceived self-efficacy in dietary life is (23.11) perceived self-efficacy in exercise is (13.33). [23]

It is increasingly recognized that obesity is an illness unto itself, one that may be mainly avoided by adopting other lifestyle choices. One of the biggest threats to public health is the rising prevalence of obesity, which is defined as a BMI of 30 or higher. In 2015, there were over 700 million obese persons globally and around 2.3 billion overweight people aged 17 and older, according to the World Health Organization (Ferreira; Strong et al.,). [12, 13]

The current study's social and demographic characteristics of secondary school pupils showed that majority of the students were in the 13–18 age group, which means that there were somewhat more men than women among them. This result is in line with research on the prevalence and associated factors of obesity and central obesity in This result is in line with the research on the prevalence of overweight and obesity among adolescent children in Jordan: Overweight and Obesity Among Adolescent Children in Jordan: Associated Factors by Khader et al., which discovered that daily pocket money was linked to overweight and monthly household income to obesity. [14]

This is also consistent with research on obesity, metabolic syndrome, and cardiovascular disease conducted in the United States by, which found that those with greater socioeconomic status had a lower prevalence of obesity in the country. People who have a high economic index may be more susceptible to obesity and overweight. The average family size in Palestine was reported to be 5.7% in prior studies on the sociodemographic correlates of adolescents' nutritional condition in Palestine Soliman et al., yet in this study, it was found to be 8.1% in Ramallah and 8.9% in Hebron. [15] I also disagree with those findings. The sample is made up of particular families that have progressed further in their life cycles. Small family sizes were linked to overweight and obesity; I disagree with Al-Isa, who investigated the association between obesity and overweight. [16]

About the body mass index of college students elevated risk of obesity According to the current study, less than half of them had class 1 obesity, which indicates a low risk of obesity, less than a third had class 2 obesity, which indicates a moderate risk, and tenth had class 3 obesity, which indicates a high risk of obesity. Additionally, less than tenth of them were overweight. This result is in line with studies from Kuwait and Saudi Arabia that found that teenagers' overweight/obesity ranged from 35 to 45% using the National Center for Statistics/WHO reference. In contrast, a 2013/2014 study conducted among Palestinian adolescents aged 18 to 25 years revealed that the percentage of teenagers who were overweight or obese was 20.4% for boys and 23.0% for girls out of 2131 surveys. This pattern contrasted with findings from a study by Soliman et al., on the impact of television on metabolic rate and its consequences for

adult obesity, which reported that the prevalence of overweight/obesity was 18.3% among women and 15.0% among boys. [15]

In American teenagers in their adolescent years. But, since the Palestinian study among adolescents employed self-reported weights and heights, whereas this study indicated that weights and heights were measured, the comparison must be made with caution. The prevalence of overweight is underreported in self-reported data, particularly among overweight girls and adolescents (Al-Rukban,). [18]

Also, the previous study findings were in accordance with those of the study carried out by Talat and El Shahat, who study prevalence of overweight and obesity among preparatory school adolescents in Sharkia Governorate, Egypt. they found that positive correlation as regards dietary knowledge and lifestyle of the preparatory school students, they were skipping breakfast which was associated with overweight/obesity in adolescents. [20]

This finding could be explained, as being unaware about skipping breakfast leads to eating more energy-dense, less-nutritious snacks and fast foods later during the school hours to compensate this lost meal. So, nutrition education altered the eating patterns of adolescent girls dramatically.

Conclusion

The study finding concluded that adolescents had moderate health belief model about weight reducing. There is significant deference between the mean of HBM with age and sex.

Recommendation

It is important to check up the weight status of adolescents in secondary schools. Enhance adolescents' awareness about obesity risk factors, complication, prevention and treatment through educational sessions and posters. Encourage students to visit the primary health care centers to check up their health status.

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