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Knowledge and Attitude of Primary Health Care Doctors towards Obesity Management, Kuwait

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ABSTRACT

Background: **Obesity is a significant public health issue constituting an independent risk factor for morbidity and mortality as well as complicating the management of other medical conditions.**
Objectives: **The objective of this study was to reveal knowledge, attitude and practice of PHC physicians as regarding overweight and obesity management.**
Methods: **This study was a cross sectional descriptive survey that was conducted in all PHC centers in Kuwait. All physicians currently working in these centers during the study period were invited to participate in the study. Data was collected through a specially designed, self-administered questionnaire.**
Results: **More than 4 fifths of participants (84.1%) declared that they didn't receive any obesity specialized courses or training, 61.8% thought they have limited knowledge about obesity management while 25.8% thought that they have good knowledge, while the rest (12.2%) have no knowledge.**
Regarding health risks related to obesity, the score of correct knowledge showed a mean score of 66.49±16.12%. Knowledge concerning diseases which could be controlled by weight reduction, showed an overall mean % score of 63.01±14.08. It was found that 26.6% of them believed that obesity is a health problem in Kuwait and 37.4% believed that they have limited role in obesity control. The vast majority of the sample agreed that normal body weight or even small weight reduction should be encouraged (86.4% & 84.7% respectively). However 63.2% agreed that few people can reduce their weight. Just less than one third of the sample agreed that different lines of management of obesity are needed.
The majority used dietary or physical activity advice or both (90.9%, 94.9% respectively). The most frequent, major limitation agreed upon by physicians was short consultation time and work overload (85.8%).
Conclusions: **knowledge and attitudes of physicians are acceptable. However, there is, room for improvement and could be done through formal training courses and distribution of guidelines. As a final point, major limitations in weight management should be taken into consideration.**

INTRODUCTION

Obesity is a significant public health issue constituting an independent risk factor for morbidity and mortality as well as complicating the management of other medical conditions. Obesity may be the most significant medical problem that health care providers will face over the coming decades which needs to be tackled. (Van Derwen et al., 2009; Warner et al., 2008; Heintze et al., 2012). Kuwait has the second highest number of obesity cases among the other Gulf countries. (Vasudevan et al., 2011)

The management of obesity with its associated morbidity and mortality is a growing problem in primary care practices. Despite numerous recommendations in response to this challenge, weight management interventions still yield poor results. This is partly due to a discrepancy between physicians' and patients' understanding of the problem and possible solutions. Previous literature suggested that many physicians believe they do not have effective tools to address obesity and/or that obesity management is not within their scope of practice. But new approaches are needed that address the different perceptions about obesity that are held by clients and health care professionals. (Heintze et al., 2012; Vasudevan et al., 2011; Terre et al., 2007) Physicians must aggressively address this chronic disease, providing both preventive and therapeutic care. Because this topic traditionally has not been taught in medical schools, physicians need to acquire the knowledge, skills, and attitudes necessary to be effective obesity care providers. (Vasudevan et al., 2011; Chamberlin et al., 2002)

Primary care physicians serve as an important source of information on weight management. Nevertheless, weight loss counseling by these physicians remains inadequate. (Kushner,2003; and Roth, 2003) General practitioners (GPs) can promote good nutrition to patients and advise them about desirable dietary practices for specific conditions. Therefore, GPs are in a better position to administer age and sex-specific preventive and health promotion packages when patients visit them for any reason. GPs also have a good potential to foster healthy behaviors. Particularly, GPs can promote the benefits of good nutrition to patients, advise them about desirable dietary practices for specific conditions, and refer them to a trained nutrition specialist for more detailed dietary counseling. (Huang et al., 2004; Brotons etal., 2003)

Several studies have indicated a poor nutritional knowledge among physicians. Accordingly there is a need for assessment of knowledge and attitude of physicians in PHC settings who are implementing preventive and health promotion activities.

The aim of the present study is to reveal knowledge, attitude and some practices of PHC physicians as regards overweight and obesity management, and the limitations of obesity control.

SUBJECTS AND METHODS

Setting:

The health care system in Kuwait is divided into five regional health authorities. Primary health care is provided through 92 centers distributed in the health regions proportionate to their population. This study was a cross sectional descriptive survey that was conducted from March to April 2012 in all PHC centers located in the five health regions. All physicians currently working in these centers during the study period were invited to participate in the study.

Collection of data:

Data of this study was collected through a specially designed, self-administered close-ended questionnaire that was derived from other published studies dealing with the same topic as well as from our own experience.

It included in its first section socio-demographic data and work related information. The second section included physicians' knowledge, attitudes and some practices towards obesity and its management. Participants' knowledge was assessed using multiple choice questions. For each question, score "1" was given for wright answer and score "0" for wrong or uncertain answer. The total percentage score was calculated.

A pilot study was carried out on 20 physicians (not included in the final study). This study was formulated to test the clarity, applicability of the study tools, identify the difficulties that may be faced during the application. Also, the time needed for filling the questionnaire by the staff was estimated during this pilot study. The necessary modifications according to the results obtained were done.

All the necessary approvals for carrying out the research were obtained. The Ethical Committee of the Kuwaiti Ministry of Health approved the research. A written format explaining the purpose of the research was prepared and signed by the physician before filling the questionnaire. In addition, the purpose and importance of the research were discussed with the director of the health center.

Statistical analysis

The Statistical Package for Social Sciences (SPSS-17) was used for data processing. Simple descriptive statistics were used (mean ± standard deviation for quantitative variables and frequency with percentage distribution for categorized variables). For comparing groups Chi square test was used with a 0.05 level of significance.

RESULTS

Recruitment effort resulted in participation of 352 physicians with an overall response rate of 51.4% where the lowest rate was in Jahraa governorate (27.4%) and the highest was in Capital and Ahmadi ones (65.5% and 64.4% respectively).

Table (1) shows that out of the total sample, 27.5% were working in Capital part, followed by Hawalli, Farwanya, and Ahmadi (21.8%, 22.7 and 19% respectively). Only 9.1% were working in Jahra. Regarding personal characteristics of the sample it was found that the mean age was 40 ± 10 years, where males represented 47.3%and 31.7% were Kuwaiti. It was observed that almost one third of the sample were holding Bachelor degree (36.3%) while 36.8% were holding master degree and 22.4% had MD. As regards marital status, 87.3% of the total sample were married, 9.9% were smokers with a mean duration of smoking (15.8±9.4 years). More than half of the sample (58.7%) had income ranging 1000-2000 KD per month, 25.8% had more than 2000 while 15.6% had less than 1000.

Weight, height and BMI showed observable differences by gender. Males were heavier than females (90.0±14.8 vs. 72.6±14.2 Kg). The mean height of males was 175.7±6.8 cm compared to 161.4±5.5 cm for females. However BMI was 29.1±4.4 for males and 27.8±5.2 for females. Waist circumference showed higher value for males than females (39.9±9.6 vs. 37.3±6.1 inches respectively).

Table 1: Socio-demographic characteristics of the sample under the study

Characteristics	No (n=353)	%
Governorate		
Capital	97	27.5
Hawalli	77	21.8
Farwanya	80	22.7
Ahmadi	67	19.0
Jahraa	32	9.1
Age		
< 30	33	9.3
30-	156	44.2
40-	105	29.7
≥50	59	16.7
Gender		
Male	167	47.3
female	186	52.7
Nationality		
Kuwaiti	112	31.7
Non Kuwaiti Arabs	220	62.3
Non Arabs	21	5.9
Marital status		
Single	42	11.9
Married	308	87.3
Widow or divorced	3	0.8
Qualification		
Bachelor	128	36.3
Master	130	36.8
Doctorate	79	22.4
other	16	4.5
Smoking		
Non smoker	318	90.1
Smoker	35	9.9
Income(KD)		
<1000	55	15.6
1000-	158	44.8
1500-	49	13.9
≥2500	91	25.8
BMI:	68	19.3
Normal	190	53.8
Overweight	67	19.0

Obese	28	7.9
Severe obese		
Waist circumference:		
Normal	179	50.7
Obese	174	49.3

Concerning working conditions, GPs represented two thirds of the sample (65.6%) while the rest of the sample were either family practitioners (FPs), internist, FPs trainer or others (252%, 2.8%, 3.4% and 2.8% respectively). The mean duration of working experience was 14.3±8.7 years with a mean working hours per week of 41.5±7.5. In addition, 84.1% of physicians reported that they did not receive any obesity specialized courses or training. However, 60.1% stated they have attended presentations or lectures regarding this topic and 83.6% had the interest in obesity management. Moreover, 61.8% thought they have limited knowledge about obesity management while 25.8% thought they have good knowledge, while the rest (12.2%) have no knowledge. Almost half of the sample (51.6%) declared that they are not aware about obesity guidelines. Out of the total sample, 56.9% and 41.9% reported that they usually advised patients for obesity management with chronic diseases or during opportunistic screening. (Table 2)

Table 2: Distribution of selected sample according to working conditions

Working conditions	No	%
Job:		
GP	232	65.5
FP	89	25.2
Internist	10	2.8
FP trainer	12	3.4
other	10	2.8
Place of work:		
GP clinic	247	70
FP clinic	96	27.2
other	10	2.8
Years of experience:		
<10	147	41.6
10-19	110	31.2
≥20	96	27.2
Working hours / week		
<40	107	30.0
40-59	236	66.9
≥60	10	2.8
Recording weight and height in managing chronic diseases		
Not at all	31	8.8
Occasionally	121	34.3
Mostly	201	56.9
Recording weight and height in opportunistic screening		
Not at all	43	12.2
Occasionally	162	45.9
Mostly	143	41.9
Having an interest in obesity management:		
No	58	16.4
Yes	295	83.6
Having enough knowledge about obesity management:		
No	43	12.2
Limited	218	61.8
Good	92	26.1
Receiving specialized courses or training on obesity management		
No	297	84.1

Yes	56	15.9
Attending lectures or presentations about obesity management		
No	141	39.9
Yes	212	60.1
Awareness of obesity management guidelines:		
No	182	51.6
Yes	171	48.4

Regarding the professional capability of physicians, 61.5% and 4.3% of them felt confident and had the ability to treat overweight and obese patients. On the other hand, only 26.6% of the participants felt that they can mostly deal with overweight and obese children. However, the majority of the sample (more than 80%) agreed that they were in need of further training in counseling about nutrition, physiotherapy and drug treatment, while 74.5% stated the need of training in surgical treatment. The frequent sources of information were internet, CME (38.9%, 39.9%, respectively) while obesity guidelines and medical journals was 37.4% for each. (Table3).

Table 3: Sources of information need of further training and feeling confident towards obesity management

Variable	No.	%
Sources of information:		
Medical journals	221	62.6
No	132	37.4
Yes		
CME		
No	212	60.1
Yes	141	39.9
Obesity management guidelines		
No	221	62.6
Yes	132	37.4
Computer programs/internet		
No	215	60.9
Yes	137	38.8
Dieticians / endocrinologists		
No	292	82.7
Yes	61	17.3
Mass media		
No	268	75.9
Yes	85	24.1
Need of further training needed in counseling about nutrition		
No	60	17
Yes	293	83
Need of further training needed in psychotherapy of obesity		
No	63	17.8
Yes	290	82.2
Need of further training needed in drug treatment of obesity		
No	63	17.8
Yes	290	82.2
Need of further training needed in surgical treatment of obesity		
No	90	25.5
Yes	163	74.5

Feeling confident and capable to treat overweight patient		
No	136	48.5
Yes	217	61.5
Feeling confident and capable to treat obesity patient		
No	200	56.7
Yes	153	43.3
Feeling confident and capable to treat overweight or obese child		
No	259	73.4
Yes	94	26.6

Table 4 shows answers regarding health risks and modifiable risks of obesity. Regarding health risks related to obesity, the score of correct knowledge of the sample ranged from 20-100%, with a mean score of 66.5±16.1%. All personal and working conditions variable had no effect on the knowledge score except the governorate of working (P_F=0.001) by governorate of work. The highest percentage score was observed in the Capital area (72.8±15.5%), followed by Jahra, Farwanya and Hawalli (65.3±13.9, 65.1±14. 7 and 64. 7±16.3 respectively), while the lowest score was observed in Ahmadi governorate (61.6±17.1). Knowledge concerning diseases which could be controlled by weight reduction, showed an overall mean percentage score of 63.0±14.1% with significant difference by gender where the mean percentage score of males was 64.2±14.0% compared to 61.6±14.0% for females (P_t=0.049). Similarly significant differences (P_f= 0.009) were observed between governorates where the highest percentage score was observed in the Capital area and Farwanya (66. 9±12.2% and 64.0±13.8% respectively) while the lowest score was observed in Hawalli, Ahmadi and Jahraa (60.5±16.0, 60.4±11.6% and 60.8±17.4% respectively). The physicians' knowledge was correct regarding BMI cut off point for overweight, obesity and morbid obesity among (87.5%, 85.5% and 89.8% respectively). However it was lower for bariatric surgery and the approved medication (69.9% and 40.8% respectively).

Table 4: Proportions of participants answered correctly statements regarding obesity

Items	No.	%
Prevalence of obesity in Kuwait	66	18.7
Obesity is a risk for :		
– Asthma	93	26.3
– Osteoarthritis	329	93.2
– Type 2 DM	350	99.2
– Sleep apnea	334	94.6
– Infertility	287	81.3
– Cancer	163	46.2
– Eczema	126	35.7
– Polycystic ovarian syndrome	274	77.6
– Epilepsy	188	53.3
– GERD	251	71.1
Reduction of weight can help in controlling of:		
– Asthma	176	49.9
– Osteoarthritis	333	94.3
– Hypertension	346	98.0
– Dyslipidemia	344	97.5
– Infertility	262	74.2
– Eczema	132	37.4
– Epilepsy	169	47.9
– GERD	243	70.3
– Fatty liver	306	86.7
BMI for overweight	309	87.5
BMI for obesity	302	85.6
BMI for morbid obesity	317	89.8
BMI for indicating bariatric surgery in diabetic patient	111	31.4
Approved medication for treatment of obesity	144	40.8

The sample was classified into two groups according to knowledge score. Those above the median were considered satisfactory while others were considered as poor. Multiple logistic regression analysis was conducted to determine variable that could be associated with lower level of knowledge score. However, none of the studied covariates showed significant effect.

Table (5) shows the attitude of physicians towards obesity. It was found that 26.6% of the physicians believed that obesity is a health problem in Kuwait and 37.4% believed that they have limited role in obesity control. The vast majority of the sample agreed that normal body weight or even small weight reduction should be encouraged (86.4% and 84.7% respectively). However, 63.2% agreed that few people can reduce their weight. However less than one third of the sample agreed that different lines of management of obesity are needed.

Table (5): Participants' responses regarding their attitude towards obesity

Attitudinal topics	Disagree	Neutral	Agree
Normal body weight should be encouraged by physician	2.8	10.8	86.4
Even small weight loss should be encouraged as a significant health benefit	4.2	11.0	84.7
Adopting healthy diet and active living is important irrespective of weight loss	2.8	21.0	76.2
Few people can reduce their weight	17.6	19.3	63.2
Limited role of physicians in obesity control	37.1	25.5	37.4
Sustained 10% weight loss is an important therapy	48.4	16.1	35.4
Overweight should be offered treatment when co-morbidity exists	53.3	15.9	30.9
Weight management in my practice is effective	33.1	39.7	27.2
Obesity as a health problem in Kuwait	60.6	12.7	26.6
Patient advice is only upon request	60.6	12.7	26.6

Figures are raw percentage

Regarding methods chosen for weight management, the majority used dietary advice or physical activity or both (90.9% and 94.9% respectively). Comes next behavioral counseling or referring to dietician (55.8% and 45.9% respectively). Other methods were occasionally or not used at all (pharmacotherapy, surgery, leaflets or family involvement. (Table 6)

Table (6): Participants' responses regarding methods chosen for weight management

Methods of weight management	Not at all	Occasionally	Mostly
Physical activity advice	1.4	3.7	94.9
Dietary advice	2.0	7.1	90.9
Behavioral counseling	12.2	32.0	55.8
Referring dietician	5.1	49.0	45.9
Leaflets and educational	15.0	42.8	42.2
Family involvement	24.9	48.4	26.6
Pharmacotherapy	44.2	50.1	5.7
Referring to weight loss surgery	28.9	65.4	5.7

Table (7) shows the major limitations in weight management. The most frequent major limitation agreed upon by physicians was short consultation time and work overload (85.8%). This was followed by lack of patients' motivation and inadequate training for obese patients (75.6% and 67.7% respectively). Other factors ranged between 14.2 % for not believing in treatment to 65.4% for lacking special obesity clinic.

Table (7): Participants' responses towards major limitations in weight management

Limitations	Agree	Neutral	Disagree
Short consultation time	85.8	7.4	6.8
Lack of obesity clinic	65.4	23.8	10.8
Unaware of guidelines	47.3	29.2	23.5
Lack of dieticians	53.0	31.2	15.9
Lack of patient motivation	75.6	10.2	14.2
Inadequate training & counseling for obese	67.7	16.1	16.1
Lack of anti-obesity drugs	64.3	20.1	15.6
Lack of knowledge in obesity management	45.0	30.3	24.6
Don't believe on obesity treatment	14.2	72.5	13.3
Lack of interest in obesity treatment	19.8	68.6	11.6

DISCUSSION

The physicians' knowledge was correct regarding BMI cut off point for overweight, obesity and morbid obesity among 87.5, 85.5% and 89.8% of participants respectively. This was better than that reported by Block JP et al. (2003) where they reported just more than 69% correct knowledge of their sample under the study. Similarly this was better than the results of Ahmadi et al. (2009).

The average score of correct knowledge in the present study regarding risks of obesity and diseases which could be controlled by weight reduction was 66% and 63% respectively. This low score could be explained by the fact that the majority (84%) of the physicians didn't receive any training about obesity management; more than 50% had no idea about obesity control guidelines. Similarly more than 80% reported the need for training in that field. This finding was in agreement with Ahmadi et al. (2009) in Iran, yet it was lower than Block et al (2003) in New Orleans. However, It was in agreement with Bocquier et al. (2005) in France.

In the present study, the significant difference observed in average knowledge by governorate health risks and diseases, in which obesity should be controlled, may be related to the different calibers of selected working physicians.

Despite the fact that physicians under the study were overweight, yet, 60.6% disagreed that obesity is a problem in Kuwait. This was in a contrary with WHO reported data (2006) that the prevalence of obesity was 41.9% and overweight was 75.4% for the age group from 20-64 years. Also it was lower than other study in Bahrain by Al-Ghawi et al. (2009) where more than 90% of the physicians believed that it is a health problem. This controversy may be related to the unforeseen health problem of overweight or obesity where only 37.4% of them agreed about their role in obesity control and 27.2% reported that obesity management is not effective and only 30.9% believed that overweight should be offered treatment. On the other hand more than 80% physicians had positive attitude towards normal body weight or even a small reduction would be beneficial to patients where 76.2% agreed that this could be only achieved by healthy diet and activity. These findings were in agreement with other studies.(Kushner et al., 2003; Ahmadi et al., 2009; Fogelman et al., 2002; Bocquier et al., 2005)

More than 50% of the sample advised patients suffering from chronic diseases on obesity control while just more than 40% did so in opportunistic screening. This could be explained by the fact that only 39.6% considered obesity as an important health problem in Kuwait. (Al-Ghawi et al., 2009; Mihalynuk et al., 2004)

For obesity management policies, more than 90% of physicians considered healthy diet and physical activity as the key elements in controlling the problem. Comes next was the behavioral change of patients or referring to a dietician. For children 26.6% their family involvement was considered. These results were in agreement with different studies. (Warner et al., 2008; Heintze et al., 2012; Bocquier et al., 2005; Smith et al., 2007)

In the present study 61.5% of the physicians were confident to manage overweight while 43.3% were confident to deal with obesity. However, almost one quarter of them was confident to manage obesity in children. This was in agreement with other studies (Van Derwen et al., 2009; and Vasudevan et al., 2011). This is so because dealing with obese child needs particular guidelines and different lines of treatment that physicians in this study are not aware of them.

Regarding limitations for overweight and obesity control, physicians addressed many obstacles where the most frequently mentioned were short consultation time, lack of obesity clinic, lack of training and knowledge as well as the unavailability of anti-obesity drugs and lack of family involvement (Chamberlin et al., 2002; Bocquier et al., 2005; Al-Ghawi et al., 2009; Fanc et al., 2009; Story et al., 2002) Efforts should be increased to minimize these limitation by improving working conditions, and supplying physicians with continuous education and in-service training on management of obesity.

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