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WHAT WOMEN THINK ABOUT THEIR HUSBANDS' OPINIONS MIGHT INFLUENCE WOMEN'S BODY IMAGE: AN EXPLORATIVE STUDY

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ABSTRACT

BACKGROUND: Self-perception of weight status is an important factor in food consumption and weight-loss-related behaviors. AIMS: To determine women's self-perception of weight status, married women's perception of their husbands' opinions regarding women's weight status, the relationship between socio-demographic factors and under-assessment of weight status in overweight/obese women. SETTINGS AND DESIGN: In a cross-sectional study in the year 2003 in Islamshahr, 704 adult women aged 19 to 65 years were included. MATERIALS AND METHODS: Women's self-perception of weight and married women's perception of husbands' opinions regarding women's weight status were compared with actual weight group categorized according to body mass index (BMI). STATISTICAL ANALYSIS USED: Results were expressed as frequency and percentage. Logistic regression was used to assess the independent effects of various socio-demographic factors on under-assessment of weight status in overweight and obese women. Data were analyzed using SPSS 11.5 for Windows (SPSS, Chicago, IL). RESULTS: Overall, 48% (338) women misclassified their weight status relative to their actual weight. Married women's perception of husbands' opinion regarding women's weight status showed about 57% (266) misclassification. Multivariate regression analysis revealed place of residence and women's perception of husbands' opinion regarding women's weight status to be independently associated with under-assessment of weight status by overweight and obese women. CONCLUSIONS: Overweight and obese women's perception of their husbands' opinion regarding women's weight status has a significant effect on assessment of weight status by women. Women of Islamshahr should be taught to more accurately assess weight status and to initiate action to prevent or correct excessive weight.

Key words: Husbands, weight status, women

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INTRODUCTION

There is a high prevalence of obesity among women throughout the world.[1] In Iran, 40.7% of adult women are overweight or obese.[2] In Islamshahr, a suburban area of Tehran; and

the north of Iran, 67% (727) and 61.2% (1101) of adult women respectively are overweight or obese.[3,4]

On the other hand, self-perception of weight status is an important factor in weight-loss-related behaviors.[5,6] Misclassification of weight status has been shown in several studies.[7-11] In the United States, 27.5% (2,253) of women misclassified their own weight.[7] Underestimation of weight status shows wide variation in different populations. In Spain, 30% (97) of overweight women did not perceive themselves to be overweight.[8] In Saudi Arabia, 33.8% (25) of obese women considered themselves to be of normal weight.[9] Underestimation of weight status in overweight or obese Moroccan women and Japanese female workers was 99.2% (124) and 0.4% (23) respectively.[10,11]

In Iran, it is a common belief that many husbands, especially those with traditional point of view, prefer plump women. However, this subject has not been investigated previously. This belief may affect women's perception of weight status and their nutritional and behavioral practices. To our knowledge, no studies have examined the relationship between women's perception of husbands' opinions regarding weight status or husbands' actual opinions and women's weight status. Therefore, the aim of this study was to determine women's perception of weight status, their perception of husbands' opinions of women's weight status, the relationship between socio-demographic factors and under-assessment of weight status in overweight/obese women.

MATERIALS AND METHODS

Subjects

The study was approved by the Research Ethics Committee of Tehran University of Medical Sciences. In a cross-sectional study in the year 2003, 340 households in rural and urban areas of Islamshahr district were randomly selected. This district is located in south of Tehran, with a population of 447,192.

In each household, all 19- to 65-year-old women were included. Non-Iranians, pregnant and/or lactating women were excluded from the study. For each subject, a questionnaire on socioeconomic characteristics was completed by the interviewer. Level of physical activity was categorized as [1 = no general exercise, 2 = occasional exercise or daily work or hobbies or sports requiring exercise (including seasonal sports) 1 to 2 times a week, 3 = definite exercise program 3 times a week or more]. Respondents (n = 704) were asked about their self-perception by this question: "Do you consider yourself to be underweight, normal weight, overweight or obese?"

In addition, married women (n = 645) were asked about their perception of husbands' opinions regarding their weight status by this question: "Does your husband consider you to be underweight, normal weight, overweight or obese?"

Responses to these questions were compared with women's actual BMI. The women who declared to be unaware of their husbands' opinions were excluded from this analysis (n = 177).

Anthropometric measurements

Height was measured without shoes against a wall-fixed tape, and weight with light clothing and without shoes on a platform scale with a 1.0 kg subtraction to correct for the weight of the clothing. The BMI was calculated as weight/height^2 (kg/m^2). The following gradation for weight classification was used: underweight (BMI, <18.5); normal (BMI, 18.5-24.9); overweight (BMI, 25-29.9); and obese (BMI, ≥30).

Table 1: Demographic characteristics of the study

Variable	*N*	*%*
Age		
20-29	249	35.4
30-39	208	29.5
40-49	170	24.1
>49	77	10.9
Marital status		
Married	645	91.6
Single	59	8.4
Per capita income ($ US/ months)		
<15	112	16.1
15-30	309	44.5
>30	274	39.4
Education (y)		
0-3	160	22.8
4-7	280	39.8
>7	263	37.4
Place of residence		
Urban	355	50.4
Rural	349	49.6
Occupation		
Housewife	644	91.5
Student	38	5.4
Employed	22	3.1
Parity		
<4	358	55.5
4-6	183	28.4
>6	104	16.1
Physical activity (/week)		
No exercise	436	61.9
1-2 times	169	24
3 times or more	99	14.1

Statistical analysis

Data were analyzed using SPSS 11.5 for Windows (SPSS, Chicago, IL). Results were expressed as frequency and percentage. Logistic regression model was used to assess the predictive effects of socio-demographic variables, including age, place of residence, occupation, education, parity, per capita income, marital status, physical activity, and women's perception of husbands' opinions regarding women's weight status on the under-assessment of weight status in overweight or obese women.

RESULTS

The socio-demographic characteristics of women are shown in Table 1. Table 2 presents a cross-tabulation of women's perception of weight status and their actual weight group.

More than 40% (88) of women who had normal weight identified themselves as underweight or overweight or obese. In addition, more than 36% (92) of overweight women and about 45% (102) of obese women under-assessed their weight status. Distribution of women's perception of husbands' opinions

Table 2: Comparison of women's perception of weight status and actual weight

Women's perception	*Actual weight (%)*				*Total*
	Underweight (BMI < 18.5)	*Normal (18.5 ≤ BMI < 25)*	*Overweight (25 ≤ BMI < 30)*	*Obese (30 ≤ BMI)*	
Underweight	19 (79.2)	49 (23.7)	10 (4.0)	3 (1.3)	81 (11.5)
Normal	5 (20.8)	119 (57.5)	82 (32.8)	22 (9.9)	228 (32.4)
Overweight	0	32 (15.5)	107 (42.8)	77 (34.5)	216 (30.7)
Obese	0	7 (3.4)	51 (20.4)	121 (54.3)	179 (25.4)
Total (N.)	24	207	250	223	704

Table 3: Comparison of women's perception of husbands' opinion regarding women's weight with women's actual weight

Women's perception of husbands' opinion regarding women's weight	*Women actual weight (%)*				*Total*
	Underweight (BMI < 18.5)	*Normal (18.5 ≤ BMI < 25)*	*Overweight (25 ≤ BMI < 30)*	*Obese (30 ≤ BMI)*	
Underweight	6 (66.7)	40 (29.6)	5 (3.0)	3 (1.9)	54 (11.5)
Normal	3 (33.3)	86 (63.7)	88 (52.1)	43 (27.7)	220 (47.0)
Overweight	0	6(4.4)	31 (18.3)	30 (19.4)	67 (14.3)
Obese	0	3(2.2)	45 (26.6)	79 (51.0)	127 (27.1)
Total (N.)	9	135	169	155	468

Table 4: Factors associated with under-assessment of weight status in overweight and obese women

Variable	*OR**	*95%CI†*	*P value*
Age (y)			
20-29	1.49	0.34-6.61	0.6
30-39	1.23	0.33-4.59	0.76
40-49	1.69	0.53-5.39	0.38
>49	1.00	-	-
Place of residence			
Urban	0.35	0.18-0.69	0.002‡
Rural	1.00	-	-
Occupation			
Student	0.13	0.01-1.86	0.134
Employed	0	-	0.99
Housewife	1.00	-	-
Education (y)			
0-3	1.61	0.53-4.86	0.39
4-7	1.36	0.59-3.10	0.46
>7	1.00	-	-
Parity			
<4	0.85	0.25-2.91	0.79
4-6	1.00	0.34-3.01	0.99
>6	1.00	-	-
Per capita income ($ US/ months)			
<15	0.97	0.34-2.72	0.95
15-30	1.28	0.64-2.56	0.49
>30	1.00	-	-
Marital status			
Single	0.17	0.005-5.75	0.32
Married	1.00	-	-
Physical activity (/week)			
No exercise	1.58	0.62-4.07	0.34
1-2 times	0.68	0.24-1.96	0.48
3 times or more	1.00	-	-
Women's perception of husbands' opinion of weight status			
Underweight	33.07	4.58-238.9	0.001‡
Normal	9.04	4.61-17.69	<0.001
Overweight/obese	1.00	-	-

*Odds ratio, †Confidence interval, ‡Significant at α = 0.05

regarding weight status across different actual weight groups of women is demonstrated in Table 3. While 33.3% (3) of underweight women thought that their husbands would consider their weight as normal, more than 52% (169) of overweight and obese women thought that they would be considered underweight or normal weight or overweight (for obese women) by their husbands.

Table 4 displays the results of logistic regression for the under-assessment of weight status in overweight or obese women. Place of residence was significantly related with under-assessment of weight status by women. Women who lived in urban areas were less likely [0.35 (95% CI: 0.18 to 0.69)] to under-assess their weight status compared to women who lived in rural areas.

Women's perception of husbands' opinions also showed a significant relationship. Overweight and obese women who thought their husbands would assess them as underweight or normal weight were more likely [33.07 (95% CI: 4.58 to 238.98)] to under-assess their weight status as well. Other variables did not show any independent significant effects.

DISCUSSION

The results of this study showed a high rate of misperception of weight status among Islamshahr women. Place of residence and women's perception of husbands' opinions regarding women's weight status were

associated with under-assessment of weight by overweight and obese women.

About 48% (338) of women had misclassified their weight status. Underweight women classified themselves more appropriately than other groups. Underweight women in Spain also showed better classification of their weight status.[8]

In our study, 13.5% (95) of women overestimated and 34.5% (243) underestimated their weight. These figures were 28.6% (41) and 28.9% (42) in Saudi Arabia and 0.8% (2) and 74.5% (201) in Moroccan women respectively.[9,10] We also observed that 36.8% (92) of overweight and 45.7% (102) of obese women under-assessed their weight status. The prevalence of under-assessment of weight among overweight and obese women of Islamshahr is higher than that among women of Spain and Saudi Arabia and much lower than that among Moroccan women.[8,9,10] The perception of the body is influenced by cultural and social factors.[12,13] In developed societies, thinness is considered an ideal of beauty.[14] However, in some developing countries such as Morocco, overweight or obesity seems to be perceived as a sign of beauty, force, and prosperity among women.[15] In addition, in the past, being fat was a symbol of wealth and health.[16] This concept may still exist in some communities. The common belief in Iran, especially in rural areas, that many husbands prefer plump women may influence women's weight perception and preferences and decrease their motivation to lose weight. Therefore, sociocultural influences on women might explain the higher prevalence of under-assessment of weight observed in women of Islamshahr, but it still needs further investigation.

A high percentage of overweight and obese women thought that they would be considered underweight or normal weight or overweight (for obese women) by their husbands. The effect of women's perception of husbands' opinions regarding weight status or husbands' actual opinions on women's weight perception has not been shown in other studies. Whether these women's perception reflects their husband's actual opinions or not has not been determined in this study. Indeed, women's perception of their husbands' opinion, even if inaccurate, is an important factor which may affect women's weight perception. We can even say that a woman's perception of her husband's opinion can be more important in shaping her body image than the real opinion of the husband. However, the higher misperception of self-weight status by men has been shown in other studies.[8,17]

The higher prevalence of under-assessment of weight in rural women is consistent with a previous study in Spain,[8] which may be due to their poor understanding of obesity and its related unfavorable health outcomes. In addition, being overweight might be more acceptable for rural women, and this may affect their perception of weight status.

Moreover, overweight/obese women who thought they would be considered underweight or normal weight or overweight (for obese women) by their husbands underestimated their weight status as well. The result of this study showed women's perception of husbands'

opinions regarding weight status has a strong effect on women's perception of weight.

This study has some limitations. First, the self-assessment of weight status was subjective and no reference points were provided. However, direct self-perception is an initial step for healthy behaviors. Second, we did not consider body fat distribution, which may affect women's perception. Third, in some households more than one woman were included in the analyses, which might contribute to similar perception pattern.

Despite these limitations, this study provides a novel examination of the effect of women's perception of their husbands' opinions regarding weight status on their own assessment of their weight status. Based on the study findings, women of Islamshahr should be taught to more accurately assess weight status and to initiate action to prevent or correct excessive weight. More detailed studies are recommended for direct assessment of husband-related factors and their association with women's perception of weight status. Public health strategies for preventing obesity may need to target both women and their husbands.

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