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The Relationship between Personality Factors, Social Support, and Regulation with Lifestyle

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ABSTRACT

Background: Since lifestyle is a multi-dimensional concept and various dimensions of health or disease are affected by each other, the measures taken to promote health should pay attention to all aspects of individual physical, mental, spiritual health, as well as the general health of society. The present study aimed to investigate the relationship between psychological components including personality factors, social support, and regulation with lifestyle among obese individuals.

Methods: This study was analytical in terms of purpose and cross-sectional in terms of time and was conducted in 2018. In this study, the individuals referring to the health centers of Isfahan were considered as the research population. A number of 357 individuals randomly entered the study. Data collection was based on the perceived social support questionnaire of Zimet et al., health promoting lifestyle questionnaire of Walker, the CERQ emotion cognitive regulation questionnaire, and Neo five-factor inventory. Data were analyzed by $SPSS_{18}$ using independent T-test, Pearson correlation, and ANOVA.

Results: In the final model, a significant relationship was found between gender, nervousness, extroversion, openness, conscientiousness, social support, and health promoting lifestyle (P-value < 0.05). In addition, a significant relationship was observed between marital status, nervousness, extroversion, openness, agreement, and social support (P-value < 0.05). A significant relationship was observed between personality factors and health promoting lifestyle. Such a relationship in nervousness was inverse and significant while it was positive and significant in extraversion, openness, and conscientiousness (P-value < 0.05). Based on the results, there was an inverse relationship between social support and lifestyle and also between regulation and lifestyle (P-value < 0.05).

Conclusion: In order to take motivational measures for changing the lifestyle of obese individuals, it is recommended to regard the psychological factors and their relationship to increase the effectiveness of interventions.

Key words: Lifestyle, Psychological components, Personality factors, Social support, Regulation

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Introduction

Lifestyle reflects theattitude to life, world, and accepted values (1). Since lifestyle is a multi-dimensional concept and various dimensions of health or disease affect each other and are affected by each other, the measures taken to promote health should consider all aspects of physical, mental, and spiritual, and personal health as well as the general health of society (2). Health promoting behavior as a key issue in the concept of health promoting has attracted wide attention in research and program development (3). Health promoting lifestyle includes six dimensions of physical activity, nutrition, health responsibility, mental growth, interpersonal relationships, and stress management.In addition to maintaining and strengthening the level of health and well-being, this lifestylecauses a sense of satisfaction and self-actualization (4). Studies have indicated that non-communicable diseases are closely related to lifestyle. Inother words, lifestyle is one of the significant determining factors of health and disease (5). Meanwhile, most Asian countries including Iran are transitioning from traditional lifestyle to Western lifestyle or from traditional to machinery.With the industrialization and development of societies, physical activities, involving occupational and communicative activitieshave significantly reduced. At the same time, the changes in eating habits have occurredfrom traditional and carbohydrate diets to high-fat diets.Lifestyle changes in such societies have increased the prevalence of overweight and obesity (6). Although obesity has been a health issue in many industrialized countries during the past century, its prevalence has expanded so that a lot that the World Health Organization has declared it as a global epidemic and health threat (7). Obesity is a chronic disorder including the complex interaction of environmental, cultural, social, psychological, metabolic, and genetic factors (8). Although the behavioral approach believes that genetic and metabolic factors play a role in obesity, it is believed that some advantages can be gained through usinga healthy lifestyle. Based on this belief, treatment focuses more on the situations associated with over eating or lack of mobility (9). Eating along with restrictions, eating emotionally, and eating with external stimuli are the three most critical psychological areas of eating behavior. Psychological stress is also related tohaving more food, especially high-fatfood. In general, a relationship exists between perceived stress and emotional eating behavior (10). As the population grows and life expectancy increases, it is predicted that the population will be in higher danger if no appropriate right lifestyle is followed ornocomprehensive and preventive plan isdeveloped.The flood of diseases which are the result of living in the world of urbanization and technology will threaten the lives of the middle-aged and elderly groups in the near future. According to researchers, preventive measures are applied only by teaching the right lifestyles and practices. The present study aimed to investigate the relationship between psychological components, including personality factors, social support, and regulation with the lifestyle of obese individuals.

Materials and Methods

This study was a cross-sectional analytical study being conducted in Isfahan city in 2018. The studied population included the individuals referring to health centers in Isfahan.Due to the greatness of Isfahan, two districts of five and nine were selected randomly from 15 districts areas (10-15 %). All of the health centers in the above-mentioned areas were considered in this study.Inclusion criteria included the obese individuals with 27-35 BMI, 27 -50 age group, and education higher than the middle school certificate. The lack of tendency to cooperate in the study was considered as exclusion criterion. Cochran's formula was used for calculating the sample size, the formula of which is as follows:

$$N = (z_1 + z_2)^2 * s^2 / d^2$$

In the above-mentioned formula, z1 indicates 95 % confidence coefficient equal to 1.96, z2 represents the power factor of 80 % equal to 0.84, represents the standard deviation of lifestyle, and d indicates the sampling error rate (by calculating 0.05 error).Based on this information, the sample size was estimated to include 357 subjects. In order to select the sample, random individuals entering the health

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centers were included in the study if the inclusion criteria were met.

In addition to the informed consent received from individuals to participate in the study, they were allowed to withdraw from participating in the study at any time. The following questionnaires were used for collecting data: Perceived social support questionnaire of Zimet et al., including 12 questions in Likert scale, according to which individuals were classified into four groups of good, average, weak, and very weak, and its validity and reliability were confirmed in a study by Sarayan (11); The health promoting lifestyle questionnaire of Walker including 54 questions with maximum and minimum lifestyle scores of 216 and 54, respectively, and its validity and reliability were confirmed in a study by Muhammadi Zeidi (12); CERQ cognitive emotion regulation questionnaire including 36 questions and maximum and minimum scores of 144 and zero, respectively. Its scores were classified into five groups and its validity and reliability were confirmed in a study by Karimifar (13); Neo five-factor questionnaire for personality factors and its validity and reliability were confirmed in a study by Fereydounpur (14). The collected data were analyzed by $SPSS_{18}$ and independent T-test, Pearson correlation, and ANOVA.

The authors declare that they have complied with the principles of the Helsinki Declaration.

Results

Of 357 distributed questionnaires, a total of 312 questionnaires were collected (87 %). The majority of participants were female (67 %) and married (79 %). Most of the participants had associate degree (37.5%) and diploma (33.3 %). Most of the studied subjects had an average social support (45.8 %). In addition, most of the studied subjects had a strong lifestyle (62.5 %). Regarding emotion regulation, half of the studied subjects were in poor conditions (50 %) (Table 1). There was a significant difference between the male and female groups in terms of other variables except agreement and regulation in other variables (P-value < 0.05). Furthermore, due to the marital status between the married and single groups, there was a significant difference in other variables except conscientiousness, regulation, and health promoting lifestyle (P-value < 0.05). In addition, there was a significant difference between different groups of education based on the variance analysis test except for conscientiousness and regulation in other variables (P-value < 0.05) (Table 2). Based on Pearson correlation test (Table 3), there was a positive and significant relationship between openness with motivational structure while a significant inverse relationship between nervousness and conscientiousness with motivational structure; (P-value < 0.05). In addition, there was a significant relationship between personality factors and healthpromoting lifestyle. Such a relationship wasreverse and significant in nervousness while positive and significant in agreement, extraversion, openness, and conscientiousness.The results of correlation test indicated a significant relationship between personality factors and social support (P-value < 0.05). This relationship was positive and significant in nervousnesswhile it was inverse and significant relationship in other personality factors. In addition, a significant relationship was found between emotion regulation, nervousness, agreement (direct), and extroversion (reverse). Based on the results, there was an inverse relationship between social support and lifestyle as well as between regulation and lifestyle (P-value < 0.05).The result of analysis of variance indicated a significant difference between the mean scores of motivational structure in four groups (P-value < 0.05). Based on the mean scores, there was a more maladaptive motivational structure in the two groups of average and very poor social support.

In addition, the results of analysis of variance indicated a significant difference between the mean scores of motivational structure in five regulation groups (P-value < 0.05) and any subject with a lower regulation score showed a more maladaptive motivational structure. The results of analysis of variance showed no significant difference between the mean scores of motivational structure in the three groups of lifestyle questionnaire (P-value < 0.05) (Table 4).

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Table 1. The demographic information of the studied sample

Gender	(%)	Marital status	Percentage	Education	Percentage	Social support	Percentage	Regulation	Percentage	Lifestyle	Percentage
Male	33	Married	79	Diploma	33.3	Good	25	Perfect	0	Weak	0
Female	67	Single	21	Associate degree	37.5	Average	45.8	Good	8.3	Average	37.5
				Bachelor	12.5	Weak	20.8	Average	33.3	Strong	62.5
				Master and Higher	16.7	Very weak	8.3	Weak	50		
								Very weak	8.3		
Total	100		100		100		100		100		100

Table 2. The relationship between demographic information and measured variables

Variables	Gender					Marital Status				
		Mean	SD	T-test	P		Mean	SD	T-test	P
Nervousness	Male	43.7	4.9	4.3	0.0001*	married	47.8	8.6	4.6	0.0001*
	Female	48.1	9.7			single	42.4	7.6		
Extraversion	Male	52.2	8.8	- 2.4	0.02	married	48.6	13.6	- 3.7	0.0001*
	Female	48.6	14.3			single	54.4	8.1		
Openness	Male	45.5	4.8	- 3.3	0.001*	married	42.8	8.3	-3.01	0.003*
	Female	42.5	8.5			single	46	3.4		
Agreement	Male	51.2	11.6	0.0001	0.99	married	50.4	10.1	-2.7	0.007*
	Female	51.2	10.2			single	54.4	12.4		
Conscientiousness	Male	53.3	9.1	- 3.9	0.0001*	married	49.7	10.9	-0.47	0.64
	Female	48.1	11.3			single	50.4	10.9		
Social support	Male	27.1	6.8	5.8	0.0001*	married	33.1	10.4	4.9	0.0001*
	Female	34	10.8			single	26.4	7.7		
Cognitive regulation	Male	71.5	16.8	0.7	0.5	married	72.9	17.8	1.05	0.29
	Female	72.9	15.7			single	70.6	4.8		
Health promoting lifestyle	Male	152	14.3	- 5.4	0.0001*	married	141.9	23.5	-0.63	0.53
	Female	137.5	25.3			single	144	22.5		

Statistical significance: P-value < 0.05

Table 3. The relationship between personality factors and motivational structure, social support, regulation, and lifestyle

Personality factors.	Motivational structure		Lifestyle		Social Support		Regulation	
	Correlation Coefficient	P	correlation coefficient	P	Correlation Coefficient	P	Correlation Coefficient	P
Nervousness	- 0.3	0.0001*	- 0.57	0.0001*	0.29	0.00001*	0.29	0.00001*
Extraversion	0.02	0.72	0.45	0.0001*	- 0.26	0.00001*	- 2.8	0.00001*
Openness	0.46	0.0001*	0.42	0.0001*	- 0.15	0.008*	- 0.03	0.5
Agreement	0.08	0.16	0.21	0.0001*	- 0.12	0.04*	0.41	0.00001*
Conscientiousness	- 0.12	0.0001*	0.68	0.0001*	- 0.45	0.00001*	- 0.07	0.2
Social support			- 0.21	0.001*				
Regulation			- 0.24	0.0001*				

Statistical significance: P-value < 0.05

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Table 4. The relationship between motivational structure and social support, regulation, and lifestyle

Variable	Groups	Motivation structure score		Test results				
		Mean	Standard deviation	Source of changes	Degree of freedom	Mean square	F	P-value
Social support	12-24(good)	52.7	7.7	Intra-group	3	2315.33	42.1	0.0001
	24-36 (average)	42.6	8.3	Inter-group	3.8	54.99		
	36-48(weak)	51.9	4.9	total	311			
	48-60 (very weak)	44.4	6.2					
regulation	0-24(perfect)	0	0	Intra-group	3	413.95	5.63	0.001
	24-48 (good)	53.45	5.04	Inter-group	308	73.52		
	48-72(average)	46.86	10.5	total	311			
	72-96 (weak)	46.93	7.9					
	96-144 (very weak)	44.4	6.2					
lifestyle	54-90(weak)	47.08	5.8	Intra-group	1	4.37	0.05	0.81
	90-135(average)	47.33	10.1	Inter-group	310	77.03		
	135-216(strong)	47.24	8.7	Total	311			

Discussion

Findings indicated a significant relationship between personality factors and motivational structure. A study by EilBeigi et al (15)., entitled "The role of HEXACO personality dimensions, emotion regulation, and stress management strategies in predicting the quality of life of individuals with migraine," indicatedthat excitability, extroversion, emotionally-oriented coping strategies, problem- oriented coping strategies, emotion suppression, and reassessment have a significant relationship with the quality of life of individuals with migraine. In addition, they found that excitability, extroversion, emotion regulation, and coping strategies can significantly predict the changes of the quality of life in individuals with migraine. This issue is consistent with the findings of the present study and it can be said that personality dimensions predict the motivational structure of a healthy lifestyle. The research findings indicated a significant relationship between personality factors and social support. Such a relationship was positive and significant in nervousness while inverse and significant in other factors. A study by Fereydoonpur et al (14) entitled "Prediction of job satisfaction based on personality type and perceived social support", indicated that psychoanalysis had a significant correlation with the promotion of job satisfaction. Extroversion had a positive correlation with family support, peer support, the total score of social support, nature of work, supervision, and the total score of job satisfaction. In case of extraversion, the findings of the above-mentioned study are inconsistent with the present study. It can be concluded that obese individuals have a lower level of perceived social support depending on their condition. Except openness and conscientiousness, there is a significant relationship between other personality factors and cognitive regulation. This relationship is positive and significant between nervousness and agreement whilereverse and significant in extroversion. Mehrad Sadr et al (16) in their study entitled "the relationship between emotion regulation strategies with five major personality factors" concluded that there is a significant correlation between personality factors and emotion regulation strategies, being consistent with the results of the present study. Findings indicated a significant relationship between social support and motivational structure. Based on the mean scores in two groups of average and very low social support, there was a more

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maladaptive motivational structure. Melissa et al. (17) studied the stress and quality of life of children with asthma in the US and the long-term effects of social support and protection of children with asthma. As a conclusion, the individuals with lower social support and protection hadhigher stress and lower quality of life, being consistent with the results of this study. Further, the results showed a significant relationship between cognitive regulation and motivational structure and any subject withless regulation has also more maladaptive motivational structure. A study by Taherifar et al., (18) entitled "The mediating role of emotion regulation strategies failure in the relationship between the intensity of negative emotion and security motivation with generalized anxiety disorder symptoms" showed a significant positive relationship between the intensity of negative emotion and security motivational structure with anxiety arousal .The research findings indicated a significant relationship between personality factors and healthpromoting lifestyle. This relationship was inverse and significant in nervousness while it was positive and significant inagreement, extraversion, openness, and conscientiousness. In a study by Behzadipur et al. (19) entitled " personality traits and defense mechanisms of obese individuals in comparison to those with normal weight" in 2011, the results indicated that obese individuals and those with normal weight were significantly different from each other in terms of extraversion, acceptability, conscientiousness, and openness, so that obese individuals gained lower scores in such traits. It can be concluded that the individualswithpositive personality traits have high social relations and receive more guidance and feedback. Thus, the sustainable personality traits of such individuals lead them towards improving their lifestyle and participating in the selection of lifestyle.

A significant inverse relationship was found between social support and lifestyle. A study by Esmaili et al. (20) entitled "The relationship between perceived social support and self-efficacy with dietary adherence in hemodialysis patients" showed a significant relationship between the total score of perceived social support and dietary adherence in the mental method. Thus, the individuals with higher perceived social support had higher dietary adherence, being inconsistent with the results of the present study. Explaining the reason for this relationship requires further investigation. Furthermore, the present study showed an inverse and significant relationship between emotion regulation and lifestyle. Kachuyi et al. (21) in a study entitled "The distinguishing role of emotion regulation and impulsivity in different types of unhealthy eating patterns" concluded that inhibited eating was associated with higher difficulty in emotion regulation and less impulsivity. Further, eating emotionally is associated with more difficulty in emotion regulation and impulsivity and external eating is associated with difficulty in emotion regulation and impulsivity. The individuals who have less adaptive emotion regulation strategies are more likely to havea tendency in unhealthy eating patterns toget rid of their unpleasant emotional experiences. On the other hand, the individuals with unhealthy eating patterns may experience more persistent emotions whichare difficult to be moderated. Finally, the research findings indicated no significant difference in lifestyle between different groups of motivational structure. A study by SalehiFadardi (22) entitled "Comparison of motivational structure and eating styles in overweight and obese women with women having a normalweight" revealed a difference in the motivational structure and eating styles, so that the individuals with overweight and obesity reported a more maladaptive motivational structure. In addition, overweight and obese individuals with a history of recurrent failure had a more maladaptive motivational structure. The results of the above-mentioned study were inconsistent with the present study. It is probable that such an inconsistency was because of the different gender of the population or that the subjects in

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Fadardi's study were homogeneous individuals who referred to sports clubs and had less diversity.

Conclusion

Based on the research findings, it seems that the motivational structure and lifestyle of individuals can be predicted by identifying the personality factors, social support, and emotion regulation of individuals. In addition, the lifestyle of individuals can be promoted by improving these factors. Since the goals, beliefs, and opinions of individuals play asignificant role in explaining and shaping their lifestyle, enriching goals in life increases motivation and promotes a healthy lifestyle. Thus, designing plans to change lifestyle can help improve lifestyle.However, in addition to having a goal in life; personality traits also help individuals choose a healthy lifestyle. Due to the pervasive relationship between emotion regulation and unhealthy eating patterns, training emotion regulation can be a potential interventional goal for the individuals with eating problems or preventative measures. It is suggested to use the results of this study specifically forcontrolling one of the most significant challenges of population in the future to make the effectiveness of health plans more significant.

Since the present study was of survey type and conducted using multiple questionnaires, the results may be different from the results of other studies, such as qualitative.

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Conflict of interests

The authors declared no conflict of interests.

Authors' contributions

Ferdosi M designed research; Nikkar Isfahani B analyzed data; and Nikkar Isfahani B wrote manuscript; Kolahdozan MSh collected data. Nikkar Isfahani B had primary responsibility for final content. All authors read and approved the final manuscript.

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