

Studying of the relationship between nutrition knowledge and social health

Kamal Koohi^{*}, Mohammad Abbaszadeh^{**}, Jamal Karamravan^{***}

^{*}*P.h.D in Sociology , institute of Social Research, University of Tabriz,Iran, Email of Corresponding authors:k.koohi2011@gmail.com*

^{**}*P.h.D in Sociology, Department of Social Sciences, University of Tabriz,*

^{***}*Iran Young Researchers And Elite Club ,Tabriz Branch, Islamic Azad University ,Tabriz ,Iran*

Abstract:-Social health is one of the most basic indicators of health that leads to the individuals efficiency in community. On the other hand, nutritional status of any person is closely related to physical, psychological and social qualifications. Then, proper nutrition can have the role in social health and one way of achieving a balanced diet is nutrition awareness. The aim of this study was examination the relationship between social indicators and level of nutrition knowledge. This was a cross-sectional study conducted among 384 adults aged 18 years and over of Tabriz in 2013-2014. Information about the nutrition knowledge, social health and other factors was collected based on the people's self-report by means of questionnaire. For data analyzing, Pearson correlation and Regression analysis were used. In this survey, the relationship between two variables, social health and nutrition knowledge was statistically significant; with increasing the level of social health, nutritional information improves and vice versa. The study also showed there was correlation between the level of nutrition knowledge and five dimensions of social health (social acceptance, coherence, contribution, integration and actualization); when nutrition knowledge grows, the whole five dimensions rise, too. Health and behavior are related to each other because many diseases root in the incorrect manners. Nutritional information leads to the proper diet and have a notable impact on health, so that individuals properly select the foods by acquired knowledge and can avoid eating disorders. Looking at the high rate of nutrition knowledge, the level of social health improves that provide comprehensive social development.

Keywords: *social health, nutrition knowledge, Social acceptance, Social contribution, Social actualization, Social integration*

I. INTRODUCTION

When talking about the health, physical aspect is more considered and other dimensions are usually ignored. However, World Health Organization has described the health in all physical, mental and social aspects, and not merely as the absence of illness or disorder [1]. Most of the new public hygienic activities represent the relationship between social status, living conditions and health outcomes. Accordingly, a variety of biological, behavioral, and environment factors affect the health and social health shape from the socio-economic elements [2]. Social health is one of the most important operatives in appropriate and comprehensive development of the community that leads to the individuals efficiency. "Goldsmith" interpreted social health as the significant positive or negative evaluation of one's behaviors in relation to others [3,4]. "Keyes" explained the aspects of social health regarding to the health model. In fact, the multi-faceted model of "Keyes" consists of five dimensions that shows optimal function of the individuals in their social performance. Based on, social health includes of social acceptance, social coherence, social contribution, social integration and social actualization [5]. Social health plays a major role in persons, families and society performance, and planners of the development countries try to improve it; so any education, encouragement and motivation that leads to the proper orientation of behaviors, interests and needs is valuable [6]. For this, researches seem necessary about knowing the level of social health in individuals and also relevant factors that impact in the social health growing. Before the nineteenth century, it was believed that nutrition doesn't have a notable relation with health. Now, it is quite clear what is eaten, form the body and provide physical and psychological conditions for growth, mobility and efficiency of the human in social life [7,8,9]. The serious diseases of nutrient deficiency don't have considerable importance since human beings could combat against the traditional disorders of nutrition such as "pellagra", "Rickets", "Scurvy", "beriberi" and so on. However, nowadays, new nutritional problems emerge; on one side, lack of information about the foods, their role in body health and diseases that even root in the consumption of rich regimes, and on the other side, poor physical activity and living in the urban system [10]. Researchs suggest that most people are unfamiliar with healthy foods that they need, so

nutrition education and training programs can be useful for improving the healthy eating [10,11,12]. Also, recent studies show that consumers and their nutritional awareness started to progress only in the recent years [13,14].

Healthy lifestyle in the field of food safety has the components like smoke avoidance, physical activity, stress management, preventing alcohol and drug abuse and proper nutrition. Acceptance of one meal by a person has an important role in its selection; it is affected by food flavor, and taste attitudes of the people [15]. In the other words, nutrition of human beings is in connection with several items such as environment, socio-economic and cultural factors and biological characteristic of the body like age, gender and quality of health [16,17]. "Martin" and "Litchfield" showed different experiences of the people are among the main agents in the changeability of nutritional behavior [18]. Also, findings present that food choices influence by cultures, beliefs and attitudes more than nutrition knowledge. Sometimes, pay attention to mental health for causing the changes in diet has better results in comparison with the use of medication. Thus, increasing the physical activity and improving healthy eating behaviors should become a public health priority [19,20]. To do this, basic knowledge about the factors influence eating behaviors should be achieved; nutrition knowledge and social health. And then, educational programs for nutrition training must be done. According to the above, healthy eating and social health have the impact on each other. The aim of this study was examination the relationship between social indicators and level of nutrition knowledge.

II. SOCIAL HEALTH

The purpose of this survey was examination the relationship between social indicators and level of nutrition knowledge between the citizens of Tabriz. It paid attention to the ways of obtaining social health from an especial point in order to improve the other components of lifestyle. Notably, available information about nutrition and other aspects of lifestyle were mainly the viewpoints of managers in health system. However, it seems that any plan for promoting the social health of individuals needs to know about the people's ideas and their expectations. According to the pervious researchs, the relationship between each of these two variables had been measured by various factors, but the correlation between them had not been tested. Overall, nutrition knowledge and public health are among the factors, due to local and temporal circumstances, have great importance for investigation with the purpose of achieving possible solutions. There is no doubt people's diet is closely related to the physical and mental health, and sufficient intake of nutrients maintains health and increases the efficiency [18]. Available information indicates the progression of chronic diseases is alarming; Obesity and overweight can be seen in the high percentage that provides conditions for the cardiovascular diseases, diabetes and various cancers. The main reasons can be alteration of consumption patterns and improper dietary attitudes [21,22,23]. People's beliefs, behaviors and lack of nutrition knowledge affect the incidence of malnutrition in children and micronutrient deficiencies (iron, zinc, vitamin B₂, D, A, and calcium) in different groups of the society [18]. Studies represent that despite knowing the best foodstuffs, using of appropriate meals for the health is not common. On the other hand, findings of Food and Agriculture Organization (FAO) in determination the value of consumed foods in Africa showed that eating disorders is often as the result of inadequate nutritional information, not dietary deficiencies; nutritional status is related not only to the welfare of families, but also the level of awareness. WHO manifests "it shouldn't be taught that improper nutrition is a problem because many mothers don't know what kind of food is healthier for the baby" [24].

Food and its rational connection with social status are among the topics that considered by the contemporary sociologists such as Bourdieu [25,26,27]. In sociological researchs, the role of dietary habits and community in food production and consumption are studied. It is not mean that personal choices aren't important, but social patterns of eating and food habits determine the social appetite. In another sense, nutrition associate with several factors including; personality traits of the individuals, environment, culture, economic and community status such as social health [15,16,17]. The findings of this study also suggest there was a significant direct relationship between the level of social health and nutrition knowledge.

Social health is an inseparable part of the health systems planning and make reciprocal relation with personal health. In general, social health may be defined in terms of individual's performance in the community and it is considered as a feature. Having favorable thoughts and positive ideas about the society for a better social life is the first and most important step in social health. In this survey, the correlation was found between nutrition knowledge and five dimensions of social health (acceptance, coherence, contribution, integration and actualization). It can be said that people who have social health, can cope successfully with the challenges made by social duties. They live in the families with more consistency and coherence and probably have noticeable participation in social activities; it can be expected they have more integration with social norms. On the other hand, different conditions in the community like meeting with different cultures, impression of friends, regulations of social life, emotional frustrations, problems and ... reduce the endurance and affect on social health. People who have lack of mental and social health, don't deal with the social roles and norms, properly. In those circumstances, increasing the capability of people for overcoming the problems, is possible by training the

personal and social skills. Thus, given the social nature of human life and challenges that would be posed, the social aspects of health can't be ignored besides the emotional and psychological items.

Theories of "behavioral change" are among the main issues in education. Social cognitive theory (SCT), based on the self-efficacy concept is one of these, which was chiefly focused on the discussion. Using this notion in the training process, in addition to increasing the level of awareness, improves some factors such as making the decision in attitude alteration and also motive self-confidence in learners toward the desirable behaviors. For example, nutritional education can cause the selection of foodstuffs with required nutrients, besides getting fed up. Obviously, this type of group preparation, which finally leads to the particular behavior, can't be seen in theoretical teaching [28].

According to the social learning theory (SLT), raised in the late 1970 by Bandura, the behavior results from the close interaction between personal, social, environmental, emotional and cognitive factors [29]. Because of the particular characteristics of everybody and community, the relative importance of each aspect varies. "Result expectation" and "self-efficacy" are the most important agents in behavior shaping. They are formed by several items like personal experiences, vicarious experiences, verbal persuasion and physiological features. Among these, personal experience is the most powerful cause of self-efficacy because it is based on the practical skills. People constantly learn from their experiences in routine life so that successful or ineffective repetition of them lead to the development or reduction of the self-efficacy in that case. It may affect and courage the person to follow the new behavior when encounter with a problem. For example, it is observed that high self-efficacy relates to the increased ability of people for weight loss. In addition, self-efficacy can be enhanced by observation the behaviors of others (vicarious experiences); particularly, in adolescent, the vicarious experiences such as seeing the manners of friends, watching TV and verbal persuasion are remarkable resources for improving the self-efficacy; TV nutritional education is a sample of them [30].

In the approach of community-based, the impact of social system on human attitudes is studied. The main attention is given for shaping the character and habits of individuals to improve the personality actions in social relations. Consequently, human behaviors can be rational, social and altruistic, and finally social health appears. In this process, unhealthy society is a crowd with environmental pollutants, difficult commute for the elderly and disabled, inappropriate housing, nutrition, hygiene, and overall, impossible enjoyment of social benefits for the large groups. In this case, social health tries to change the unbalanced and patient societies to a normal one [31]. In the community-based viewpoint of social health, inflation is one of the most damaging issues. Since inflation reduces the purchasing power among the different classes of society (workers, retirees, ...), is considered as one of the main agents of social inequalities. Price increase, deducts the amount of dairy and meat in the food basket of families [32]; it demonstrates the vulnerability of social health against the inflation policies.

III. METHODOLOGY

In this cross-sectional survey, which was conducted in 2013-2014, the level of social health and nutrition knowledge were examined among the citizens aged 18 years and over in Tabriz. According to the statistics, population of Tabriz was N=1194453 (601549 males and 592904 females), sample size of the study (n=384) was obtained from the Cochran formula.

Cluster sampling method was used, so each municipality area considered as a cluster and samples were selected from these groups, randomly. Information about the nutrition knowledge and other components were collected from self-reported items by using the questionnaire.

To determine the level of nutrition awareness, 47 questions were used and for each expression based on the "Likert scale" five conditions considered; from strongly disagree to completely agree. At last, total score of these following questions determined the person's level of nutrition knowledge:

Drinking at least one glass of milk is useful for the health- Sugar is healthy foodstuff that should be added to all foods- Consumption of fish and chicken is more healthier than red meat- All of boiling water are healthy regardless of their sources- Instead of water, cooling drinks such as soft drinks can be used- Soya consumption is more useful than meat- If individuals use healthy foods, there is no need to the physical activity- Daily consumption of fruits and vegetables is beneficial for the health- For being healthy, body needs a little amount of salt- Beans, lentils and peas should be used routinely in the diet- Sugar and sugary foods should be eaten in small quantities- Boiled foods are healthier than fried and roasted- Salt should be added a lot to all foods except fruits- Too much meat can be used every day- Canned and fast foods with high sugar are beneficial for the body- At least 6 cups of water must be drunk in a day- For weight loss, following a simple diet is better than physical activity- Eating too much meat instead of other foods is a good way to lose weight- For weight loss, sugary and starchy foods should be eaten in small quantities- Eating too much bread cause weight gain- Drinking beer or wine cause weight gain- Hookah, unlike cigarettes is not harmful to the body- Dairy such as milk, cheese and yogurt has too much calcium- Bread, rice and maize contain too much starch- Carrots, spinach and potatoes contain a lot of vitamin A- Fiber can be found in most of the fruits and vegetables- Meat contains

too much iron- Fast foods may be unhealthy because of being raw, not using of fresh meat and long time preservation- To defrost the frozen meat, it must be removed from freezers and put in the refrigerators- There is no need for washing the vegetables before cooking- Drinking too much of beer or wine is harmful for the health of a pregnant woman- Pregnant women should try to gain weight- Too much daytime sleeping is beneficial to the health of a pregnant woman- Beans, lentils and peas are more healthier than red meat for the body- Physical activity, eating a variety of foods and drinking too much water are useful for the health of a pregnant woman- Having three main meal in a day is beneficial to the health.

(In our family): Eating breakfast consider as one of the main prandial - Eating of main meals takes at least half an hour- Hydrogenated oil mainly use- Sugar and sweets use sometimes- Foods with preservatives commonly consume- It try to use whole meal bread- Foods with low fat consume- Carbonated drinks mostly use- Saturated fat rarely use- Tobacco products like hookah and cigarettes consume- Foods with high salt usually use. Social health questionnaire composed of 33 questions and Likert scale was used for each. Community health determined by the indexes of social acceptance, coherence, contribution, integration and actualization according to the "Keyes" social health questionnaire. Total score of these five components determined the level of citizens' social health. Social acceptance was assessed by the following expressions; (I think that): My behavior affects other members of the society- People are reliable- People are kind- People are self-centered- People shouldn't be trusted- Individuals just live for themselves- People consider important the problems of others. The variable of social integration was measured by these questions; (I feel that): Social is complicated- Researchers are only persons who can understand the around society- I can't understand what will be happened in the community- Some cultures are so strange that I can't understand them- The community is worthwhile for understanding- Predicting the future events is difficult in the community.

Social coherence was evaluated with below-mentioned items; (I believe that): I belong to the community- I am an important part of the society- If I have an idea, most people consider me- The community is the source of calmness and relief for me- If I have a demand, others don't attention- People know me as a valuable person for the society- I have sympathy with others in the community.

To measure the social actualization, the following words were used; (I think that): Society prevents of my progress- The community doesn't gratify my expectations- Social organizations such as law and government aren't effective in my life- Society is in evolution permanently- Society is a usefule and produvtive place for the people- Social progression is nonsense- The community will be a better place for everybody.

The social contribution was estimated with these questions; (In my opinion); I can perform valuable tasks for the community- My daily activities don't have noteworthy outcomes for the society- I don't have enough time and capability to present a beneficial work for the community- My tasks don't have important results for the society- I don't have any valuable activity to contribute in the community- People are more dishonest these days.

Reliability of the nutrition knowledge level and social health for the subscales of social acceptance, coherence, contribution, integration and actualization were examined by pre-test. Cronbach's alpha values for nutrition awareness and social health were 0.81 and 0.84, respectively. Finally, in order to analyze the data, Pearson correlation and Regression analysis were used.

IV. RESULTS

In the present study, sample size included 384 subjects; one hundred ninety-three males and one hundred ninety-one females. They were between 15-52 years and their mean age was 28.3.

In the variable of nutrition knowledge, score 47 and 235 indicated the lowest and highest level, respectively. The average among the participants was 189.32 and its position in the spectrum showed high level of nutrition awareness. Persons with low level gained score 147 that was more than moderate level and people with maximum level obtained 227, slightly lower than the level of very high (Figure 1).

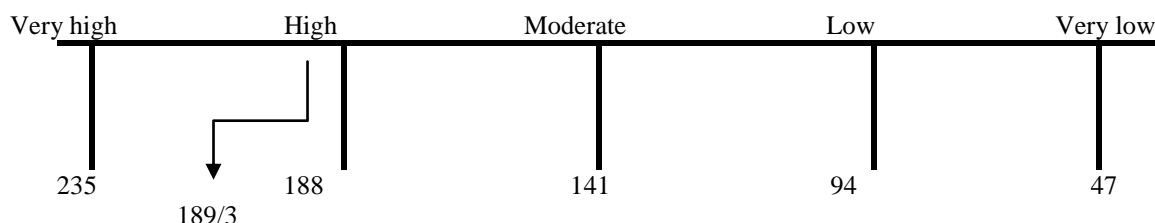


Figure 1. The level of nutrition knowledge (n=384)

Score 27 displayed the lowest and 135 proposed the highest level of social health. The average of variable for the subjects was 91.94 and its place on diagram reflected the level of social health above moderate. Individuals with minimum level had score 46 that was less than low, and people with the highest level had the score of 123; lower than the level of very high (Figure 2).

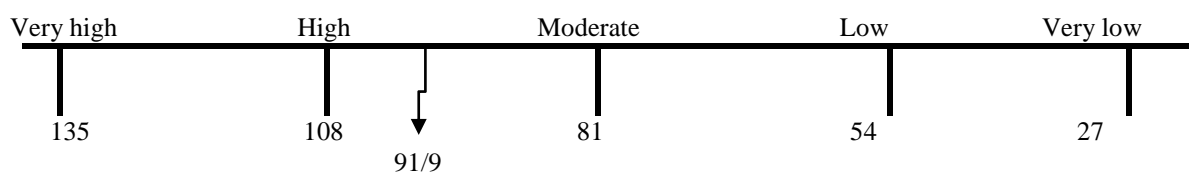


Diagram 2. The level of social health (n=384)

To test the relationship between the level of nutrition knowledge, social health and its dimensions, given that all variables had interval scale, Pearson correlation test was used ($P < .05$).

The relationship between social acceptance, coherence, contribution, integration and actualization with nutrition knowledge were examined and correlation coefficients achieved (Table 1).

Table 1. Significant level of social health dimensions with nutrition knowledge (n=384)

social health dimensions	nutritional knowledge	
Social acceptance	Pearson Correlation	0.21
	Sig	0.000
Social contribution	Pearson Correlation	0.31
	Sig	0.000
Social coherence	Pearson Correlation	0.16
	Sig	0.002
Social actualization	Pearson Correlation	0.17
	Sig	0.001
Social integration	Pearson Correlation	0.27
	Sig	0.000

*($P < .05$) Pearson Correlation Statistics.

Accordingly, it can be stated there were significant relationships between the indexes of social health with nutrition knowledge; with increasing the level of social acceptance, coherence, contribution, integration and actualization, improves the level of nutrition awareness, too.

Multiple-Regression was used for evaluation the effect of social health dimensions on nutrition awareness. Based on, four aspects of social health (acceptance, contribution, integration and actualization), totally could explain 11.4% of the nutrition knowledge variance. Since social coherence had a little role in determination of nutrition awareness, was removed from the analysis (Table 2).

Table 2. Regression analysis for determination of nutrition knowledge (n=384)

Varriable	Pearson Correlation	R	Adjusted R Square	Unstandardized Coefficients (B)	Standardized Coefficients (Beta)	F	Sig
Social contribution	0.30	0.09	0.09	0.93	0.23	40.02	0.000

Social integration	0.34	0.11	0.11	0.46	0.13	24.99	0.000
Social acceptance	0.34	0.12	0.11	0.27	0.08	17.44	0.000
Social actualization	0.34	0.12	0.11	-0.14	-0.03	13.15	0.000

*($P < .05$) Regression analysis

The results of path analysis showed that coefficient effect (direct effect) of social health on nutrition knowledge was respectively assigned to social contribution, integration, acceptance and actualization. In this study, direct impacts of social contribution and social integration on nutrition knowledge were more than their indirect effects. However, indirect impressions of social acceptance and social actualization were more notable than their straight influences on the nutrition awareness (Table 3).

Table 3. Effect of social health on nutrition knowledge in the path analysis model (n=384)

Variable	Direct impact	Indirect impact	Total impact
Social contribution	0.23	0.07	0.31
Social integration	0.13	0.13	0.27
Social acceptance	0.08	0.12	0.21
Social actualization	-0.03	0.20	0.17

In general, a significant relationship was observed between two main variables of social health and nutrition awareness. Based on the 0.31 of correlation coefficient, it was identified that improving level of social health leads to the high nutrition awareness, and by growing the knowledge about nutrition, level of social health promotes, too.

V. CONCLUSION

Scientific evidence shows that health problems in community-based approach is not limited to the externalities, and even social imbalances, injustices, abuse of civil rights and inflation lead to a sustainable stress which root in social issues. This type of stress, unlike biological ones, isn't temporary so that natural mechanisms of the body aren't effective. In social stress, doer is continuing and that is why the phenomenon of chronic stress. At this time, glucocorticosteroids, as the inhibitors of stress, secrete in the continuous level that can cause various side effects in the body; rising blood glucose in long-term, obesity, diabetes and etc. In addition, the immune system is inhibited by corticosteroids and person becomes susceptible to the various viral and bacterial infectious. On the other hand, the role of immune system in controlling and inhibiting aberrant cell mutations is well illustrated; disorder of Interleukin immunomediators in liver cancer as the result of Hepatitis C and B as well as gastric cancer causes by Helicobacter pylori, have shown that social stress through the disruption of immune system, can be regarded as a risk factor for cancer developing. Based on the above discussion, public health (physical, mental and social) is considered as the foundation of society improvement. Health and behavior are related to each other because many diseases root in the inappropriate manners and incorrect habits. Increasing the knowledge about healthy eating and social health is one of the requirements in health care because nutritional information leads to the suitable attitudes in diet and affects the health; so that any person at any time can use the acquired awareness in food choices and furnish the nutritional needs properly, at last health will progress. According to the findings of this study, authorities should plan for improvement of nutrition knowledge among the citizens. As the nutrition awareness increases, social health can grow and promote the health indicators in the society.

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