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Obesity consequences from the people's perspective living in Kurdish regions of Iran: A qualitative content analysis

Seyed Fahim Irandoost, Mohammad Hosein Taghdisi, Tahereh Dehdari, Bahman Bayangani¹, Nammam Ali Azadi²

Abstract:

BACKGROUND: Overweight and obesity are one of the most public health problems in the world. Considering obesity prevalence and its widespread health, economic, psychological, and social consequences, this study aimed to explain the consequences of obesity among women and men in the Kurdish region of Mukryan.

SUBJECTS AND METHODS: The present qualitative study was conducted in the Mukryan Kurdish region in West Azerbaijan province in Iran from June 2017 to November 2017. Data were collected by deep interview, focus group and dialogue with 111 obese and thin men and women and various fields experts who were selected by purposive sampling, and analyzed by qualitative content analysis technique of conventional type and Graneheim and Lundman steps.

RESULTS: Data analysis results were classified into two categories and 12 subcategories: Favorable consequences of normal obesity (social acceptance, internalization of obesity, and reproduction of the family institution), unfavorable consequences of extreme obesity (decreasing agency, physical-psychological dysfunctionalities, family fragility, prevalence of passive leisure, clothing obligation, social objectivity, exogenous and endogenous social exclusion, imposing economic costs, and devaluation of life).

CONCLUSION: With due attention to unfavorable consequences of extreme obesity on health, illness, social issues and costs, simultaneously with the adoption of preventive approaches to obesity through targeted policies in education, health literacy, promotion of sport culture, development of sports context especially for women, improving recreational facilities, etc., appropriate planning and interventions should be designed and applied for changing the behavior, culture, and community beliefs in dealing with obesity phenomenon.

Keywords:

Mukryan region, obesity, overweight, qualitative study

Introduction

Obesity is considered as a chronic disease and one of the most fundamental health problems around the world.^[1-3] According to the WHO definition, obesity refers to the excessive accumulation of fat in the body that causes harm to the

individual and endangers his/her health. Overweight and obesity make numerous challenges in all nations, especially those experiencing widespread cultural and social changes.^[4] Based on estimates, obesity is the main cause of decline in life expectancy in the 21st century.^[5] The rate of people with obesity in the world has more than quadrupled (1975–2015); this rate by 2016 showed overweight people about 39%

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Department of Education and Health Promotion, School of Public Health, Iran University of Medical Sciences, Tehran, Iran,

¹Department of Social Sciences, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran, ²Department of Biostatistics, School of Public Health, Iran University of Medical Sciences, Tehran, Iran

Address for correspondence:

Prof. Mohammad Hosein Taghdisi, Department of Education and Health Promotion, School of Public Health, Iran University of Medical Sciences, Shahid Hemmat Highway, Tehran, Iran. E-mail: taghdisi.mh@iums.ac.ir

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and obese people about 13% (>650 million people).^[4] According to the latest statistics in Iran, 56.1% men and 62.8% women had overweight, and 18% men and 29.9% women were obese.^[6]

All political and health organizations agree on this issue that they must take basic measures to tackle obesity.^[7] The number of people who have died due to obesity-related problems has been higher than the number of people who died as a result of hunger in recent years.^[8] Every year, 3.4 million people die as a result of overweight and obesity.^[3,9] There has been identified the transplantation of many diseases and difficult conditions of life with obesity, for example, it has been shown the association of obesity with chronic disease, quality of life, economic costs caused by care and health services, and occupational problems.^[2] Increasing incidence of obesity is associated with an increased risk of noncontagious illnesses. Obesity is one of the causes of cardiovascular disease,^[7,10-15] diabetes,^[7,13] hypertension,^[7,10] dyspnea,^[7] osteoarthritis,^[7] fertility and reproduction,^[10,12] and some cancers.^[2,7,10,16] There are some socio-cultural consequences such as social stereotypes,^[17] discrimination and exclusion,^[17,18] social and psychological consequences such as lack of self-esteem, negative self-esteem, low self-esteem,^[13,19] depression,^[7,19] and fatigue^[19] are also due. However, obesity is not always associated with unfavorable consequences. For example, in some areas, it is socially and culturally accepted by the society. In South Africa, obesity is associated with respect and beauty and wealth. Historically, it is a sign of success, wealth, health, and indeed optimism and happiness.^[20,21]

Researchers of this study found that in Iran and the Kurdish regions, the study of obesity has often focused on the medical and physical consequences, and the social, cultural, and psychological consequences of obesity have not been taken into consideration and the studies have used of quantitative (correlation) and empirical methods. The purpose of this study was to explain the consequences of obesity among women and men in the Kurdish region of Mukryan in the West Azerbaijan province using a qualitative research design. The reasons for using the qualitative method have been the lack of qualitative research about obesity consequences in Iran and Kurdish regions in one hand and understanding the hidden parts of participants' experience of obesity phenomenon and giving them an opportunity to comment on the other. The results can be used by managers, planners and health professionals and guide the interventions, planning and policies associated with obesity.

Subjects and Methods

Design

The present study was a qualitative research with conventional content analysis approach. The qualitative

method is based on analytical and explanatory methods in which emphasis is placed on the deep understanding, complexity, details, and context of the phenomena and the researcher actively engages in the research process. Interviewing with people in the conventional content analysis provides better understanding and richer data of participants' experiences and perspectives.

Setting and participants

This research was conducted in Mukryan cultural-ethnic region (Kurdish cities of Mahabad, Piranshahr, Bukan, Sardasht, and Oshnaviyeh in West Azerbaijan). Mukryan Region is a cultural zone in the northwest of Iran and is ethnically, culturally, religiously, and linguistically similar; its people have experienced the same background and social changes, and now they have almost the same social and living system. The research population included all the women and men in the Mukryan Region in 2017. Criteria for people to enter the study were being at least 15 years old to understand the obesity phenomenon, satisfaction for the interview, and having obesity information or experience and exiting criteria were dissatisfaction and leaving the interview by the participant. The interviews were accomplished in public spaces, parks, researcher's home, and participants' satisfied places.

Data gathering

After obtaining the ethical code from Iran University of Medical Sciences, the data were collected using a questionnaire and semi-structured interviews, and in-depth interview techniques, focused group discussions, and face-to-face discussions with native speakers (Kurdish) from June 2017 to November 2017 were used. Purposive sampling and maximum variation criteria were used with the participation of 111 slim, overweight, obese men and women and experts in different fields [Table 1]. It was used of a trained assistant woman for taking the qualitative interview in necessary situations.

At the beginning of the interview sessions, the study objectives were described to the participants and ethical codes of confidentiality of the information, maintaining anonymity and being free to refuse to answer or leave the meeting were explained. Then, the participant signed the consent form, and with his/her permission of him, interviews were recorded. The interviews of expert, fat, and slim individuals differed slightly, but the general question was about the "favorable and unfavorable consequences of obesity." Some of the interviews guide questions were as follows: how do family members, friends, and society in general deal with obesity? What kind of problems do obese people have? Does obesity have desirable consequences or only create restrictions in people's life? Under what conditions the obesity

Table 1: The demographic characteristics of participating in the study

| Characteristic | Frequency |
|-------------------------------------|-----------|
| Gender | |
| Male | 69 |
| Female | 42 |
| Level of education | |
| Illiterate | 8 |
| <12 grade | 24 |
| Diploma | 19 |
| Bachelor's degree and master of art | 51 |
| PhD | 9 |
| Employment status | |
| Unemployed | 27 |
| Employed | 65 |
| Retired | 4 |
| Data gathering technique | |
| Interview | 67 |
| Dialogue | 13 |
| Focus group | 31 |
| Marital status | |
| Single | 36 |
| Married | 69 |
| Widow/divorced | 6 |
| Locations | |
| Mahabad | 21 |
| Piranshahr | 21 |
| Bukan | 21 |
| Sardasht | 21 |
| Oshnaviyeh | 26 |
| Age group | |
| Under 30 years old | 28 |
| 30-50 years old | 65 |
| Over 50 years old | 18 |
| BMI* | |
| Obesity | 31 |
| Overweight | 21 |
| Normal/thin | 16 |

*The physical condition of educated and expert participants (43 people) is not included in this section. BMI=Body mass index

consequences are desirable and in what conditions are undesirable? These guide questions along with follow-up and exploration questions were further explored during the interviews. The viewpoints of experts and slim people about the consequences of obesity were taken for external look and view of obese people was checked directly based on their situation and experiences. Individual interviews lasted between 30 and 60 min, and focus groups lasted about 100 min on average; end of data collection and theoretical saturation obtained when responses became repetitive and did not obtain new data of interviews. The numbers of participants were 111 people.

Data analysis

The data analysis was performed simultaneously with the data collection. The qualitative conventional content

analysis method and Graneheim and Lundman's suggested steps^[22] were used for coding and analyzing the data. After each interview, the researcher and his colleague listened to the content of the interview twice, and then, the interviews were transcribed and entered the MAXQDA-12 software. Then, initial coding was performed by identifying and defining the basic concepts. Subsequently, we reduced the concepts to the subcategories by differences and similarities, and finally, considering the association and consistency between the subcategories, major categories were formed.

Trustworthiness

There were met the Lincoln *et al.*^[23] Trustworthiness criteria for the evaluation of the results quality: for credibility, the researcher involved in collecting data flow up to 6 months and considered triangulation (using data collection different ways), noting, and continuous observation. For dependability, a qualitative research expert supervised the workflow and data, simultaneously with collection and analysis, were provided to some participants to confirm the researcher findings accuracy with their own experiences. To increase confirmation, personal bias has been set aside and recorded all angles and observations. To make transformability, it was expressed the reasons and its specific meanings for each part of the society description and identified features.

Results

The participants' demographic information in the study is shown in Table 1.

There were extracted two major categories, 12 subcategories, and 228 initial concepts after analyzing data; the results showed that the consequences of obesity are multidimensional and varied.

Considering that the method was qualitative and the participants were able to express their views and experiences in the analysis of the data, the consequences of obesity were obtained from the viewpoint of residents of the Mukryan region. Overall, the results showed that obesity in Mukryan region had both favorable and unfavorable consequences, and each of these aspects has certain implications that are categorized under different levels [Table 2].

Favorable consequences of normal obesity

The obesity accepted by Mukryan people have the features and criteria that we call "normal obesity;" Normal obesity, i.e., having a large body without big abdomen, are the main criterion for social acceptance of obesity and is different from the standard and balanced weight proposed by medicine. In this type of normal obesity, an individual has large body organs,

Table 2: Categories and subcategories of content analysis of participant's experiences

| Categories | Subcategories |
|---|---|
| Favorable consequences of normal obesity | Social acceptance |
| | Internalization of obesity |
| | Reproduction of the family institution |
| Unfavorable consequences of extreme obesity | Decreasing agency |
| | Physical-psychological dysfunctionalities |
| | Family fragility |
| | Prevalence of passive leisure |
| | Clothing obligation |
| | Social objectivity |
| | Exogenous and endogenous social exclusion |
| | Imposing economic costs |
| Devaluation of life | |

and physics with an appropriate back fat and the whole body is normal, and even an overweight person can be considered a normal weight person. That is, individuals may be obese in weight, but because they do not suffer in their everyday life, they are not sensitive to it. This balance is more seen with the eye, not with scales. This normal obesity has implications for the people that are being studied further.

Social acceptance

Social acceptance has changed the view of individual on the community and is the basis for success and improvement of its social status. A normal obesity leads to prestige and social respect and even if the individual has not a high position in terms of literacy and thinking, the community has a better look to him, and it is more confident in him. This community interest is so much that, when choosing a spouse from a person with normal obesity and a slim person, certainly, the priority will be given to the normal obese. There is also satisfaction and acceptance at the family level, where parents are satisfied with the obesity of their children or daughter in law and children. The normal obesity also requires the provision of its social representation and allows the individual to provide an ideal image him/herself to the community.

Normal obesity is better for achieving social standing and success (Participant No 26). A normal obese person may have a higher acceptance, and his social trust is better (Participant No 69). Now I've got almost obesity, my family is satisfied and I like my figure, too (Participant No 42). Normal obesity and thicker body meet the needs of people to be seen and raise the chance of marriage (Participant No 15).

Internalization of obesity

The positive attitude of the community toward normal obesity becomes a norm that reaches relative relaxation because the process of social interaction and acceptance is strengthened. In this situation, a person compares himself with the time of being slim, and when

he/she finds herself better than before, self-esteem and satisfactions get higher, because he/she is fitted with cultural norms and feels more secure in the community due to his physical condition, which plays a role in the reproduction of normal obesity.

If the normal obese body is praised, he/she tries to stay in that physical form (Participant No 11). Slim people get calm after reaching normal obesity (Participant No 27). I consider myself more beautiful than being slim, and my wife satisfaction with my weight has increased my confidence (Participant No 19). The normal obesity designate power and security (Participant No 104).

Reproduction of the family institution

In Mukryan, normal obesity, with special conditions, is the main criterion for marriage and choice of a spouse, and girls with normal obesity are more likely to marry than slim girls. The men who want an obese wife, express this interest after marriage, and in the case of fulfillment, their love to the spouse will increase and makes their marital relationship much more intimate. Thus, normal obesity can strengthen marital relationships and while continuing the process of family formation, strengthens it. A woman with normal obesity can cause husband satisfaction which leads to a pleasant life as the husband physical dissatisfaction leads to many dissatisfactions and challenges.

One of criteria for marriage was that my wife should be a little obese. After my marriage, my husband tried not to get slim as he knew I did not like It (Participant No 2). When I got married, I was slim, but after getting fat, my wife loved me more (Participant No 19).

Unfavorable consequences of extreme obesity

People are trying to achieve normal obesity, but they may experience extreme obesity, whose consequences will be unfavorable and widespread. Extreme obesity is disproportionate in terms of society and disrupts life individually and socially. This type of obesity has different effects on individual, social, economic, and psychological areas of life.

Decreasing agency

When an individual agency is weakened, one cannot decide for himself and is not able to do his activities properly suffering from a kind of boredom and constant fatigue, for example, an extreme obese homemaker will be tired of cooking and home chorus much more than a woman with normal obesity. These people have limitations in movement, and instead of activity, they are not constantly exercising, lose their individual autonomy, depend on others to fulfill their duties and responsibilities, and ultimately cannot self-control and are unable to prevent overeating.

I get tired of doing homework very soon (*Participant No 31*). I like to go to the gym, but I cannot do regular sports (*Participant No 18*). Sometimes, when you become extremely obese, you will be dependent on others and will not have the ability and independence of the past (*Participant No 57*). Obese people are always overeating (*Participant No 39*).

Physical-psychological dysfunctionalities

Dysfunctioning means a person body and mind have some disorders and disruptive functions, some of which are health and some psychological. In recent years, in the Mukryan region, diseases such as cardiovascular disease, diabetes, hypertension, and respiratory problems have been rising, which are directly or indirectly linked to obesity. Obese people have disturbed sleep, experience skin dermatosis and wrinkles, and have a poor physical form and refrain from interacting with people because of transpiration. Due to these problems, the obese person will not have a psychological relaxation, and his/her mind will change which is associated with low self-esteem and self-confidence and depression in long run.

I know people with obesity that had heart surgery, diabetes, and blood pressure. In terms of health, obese people, especially in the warm seasons, are at risk of skin diseases and bother others due to sweating (Participant No 79). Obesity made my skin wrinkled and it is distressing to me (Participant No 21). When I'm obese, my confidence goes down and my feelings change (Participant No 5).

Family fragility

Obesity reduces the odds of marriage and marriage rates because it reduces the attractiveness and subtly individuals; the problem that female obese participants point out. Due to the dominant culture in the region, extreme obese girls have little chance of marriage, especially with the widespread media and communication developments which attract young people attention to new patterns of marriage and body. The obese boys also believe that their proposal will be rejected, but in the patriarchal Mukryan society, the chance of obese boys' marriage is higher than obese girls. This situation causes a delay in marriage because many obese people do not see themselves ready for marriage, and the tendency to lose weight and achieve a better body will increase their marriage age.

Obesity reduces person's attractiveness (Participant No 7). If I like a person, she probably will not accept me because of my obesity (Participant No 3). The odds of extreme obese individuals (women and even men) have become less for marriage (Participant No 38).

The extreme obesity of married women is a source of frustrations and family conflicts and affects the

early husband interest in his wife. This becomes more severe as the age increases because the hope for weight loss is reduced, and women sexual orientation is disturbed. Of course, Obesity also causes men sexual problems, but because of patriarchal cultural issues and socialization, women are accustomed to accepting this problem. In general, these conditions cause couples to fight, reduce their intimacy, and challenge the family and the whole life. It may even lead to divorce.

If the woman is extremely obese, the man will ignore her, and their relationship will be cold (*Participant No 42*). Due to obesity and its problems, my sexual desire has decreased (*Participant No 16*).

Prevalence of passive leisure

Obesity makes it impossible for people to do different activities and have a selective leisure, because the obese person cannot have fun like a person with a lower weight, and these changes impose a lot of pain on the person in his spare time. Hobbies such as hiking, sports and group entertainment for these people are associated with limitation and lack of pleasure, and they spend their time with passive activities that do not require any special travel with the help of the media and using TV and satellite, and especially the Internet and social networks. In the case of women, home-based leisure is also a common phenomenon in which women consider staying home as a perfect way to spend their leisure time because they are not enjoying themselves as others, and they do not want to disturb the leisure and pleasure of others because of their inappropriate conditions.

I do not like to spend my leisure time with family very much. I watch the TV and I am busy climbing up the house (Participant No 17). When we go to mountains or relax, I have to sit somewhere because of obesity. I like to stay home more (Participant No 81). Social networks, TVs, and satellites are the main leisure of obese people (Participant No 22).

Clothing obligation

People, especially women with obesity, have to wear clothes that they do not want and choose them regardless of their dress patterns and interest; the reason for this is that large size design has very little variety and as a result, obese people should just look for clothes that they can wear. Lacking large sizes makes some people order clothes, and changing clothing cost a lot to them because of shrinking or tearing.

I cannot choose clothes of my own taste. I should buy something of my size with any design is either beautiful or ugly (Participant No 18). I need to order my clothes, because the very large size is lacking (Participant No 13).

As cultural norms do not accept the appearance of female organs, the community becomes the source of choice for dressing to people, and therefore, obese people cannot wear short or tight dresses at all. This clothing style conceals abdomen and obesity; Kurdish clothes style play the covering role here. Moreover, it is commonly believed that happy dresses show people more obese than they are, so, obese women choose dark clothes to make their organs look balanced.

Because tight clothes are not fit for an obese person, I have to wear wide and even ugly clothes (Participant No 17). I do not want to wear a bright dress, because my body seems larger. I even wear dark clothes (Participant No 81).

Social objectivity

Objectivity refers to the process of transforming one into the subject and focus of discussions in the community. The labels that people receive in this process often lead to their discomfort and show their shaky and low social status. Extreme obesity is ridiculed and humiliated and is associated with verbal negation and stigma such as lack of power in decision making and control, weakness, fatigue and laziness, and lack of strong will to lose weight. The stupidity stigmas that the obese individuals are fool along with gourmand are negative views of society toward these people. It causes obesity to be seen as an anti-pattern which is rejected by the community.

When a very obese person crosses from a place, people mock him/her and watching him/her for a long time (Participant No 30). It is believed that very obese person does not have the will and power and are lazy, and they don't understand anything (Participant No 62). It bothers me when people think i don't have any will and I cannot control myself (Participant No 33).

Exogenous and endogenous social exclusion

Obese people have the minimum social acceptance criteria. The social abnormality of extreme obesity makes the community to ignore the words of obese people. Moreover, community expectations of the obese people decrease because they suspect they are not capable of doing things. Obese people experience verbal and behavioral violence such as anger, inappropriate treatment, irrational words and advice, and unscrupulous recommendations for obesity and weight loss and annoying empathy.

When you are very obese, others are distancing you. Because of the look of people, sometimes I feel, it is better not to go out. (Participant No 2). People ignore obese people (Participant No 35). Families and people do not have a positive view on my situation and I'm suffering (Participant No 15).

Social ignorance and these inappropriate experiences are indications of the exclusion of obese people from the

community, which leads to distancing and undermining their position in society. This exogenous social exclusion causes obese people to rethink their daily interactions and journeys to be free from the tensions of community, that is, the individual chooses a kind of individual isolation consciously for calmness, and this isolation is relaxing as long as the obese person prefers to stay more at home and minimize interaction with friends and go less to public spaces and community.

I do not go out with friends and only attend private and family parties (Participant No 3). In our society, a person pressed from the people around him gradually goes away from the society in order to achieve relative peace (Participant No 16).

Imposing economic costs

Due to weak functioning and physical problems, excessive obese people are being limited and discriminated in occupations that require good fitness and physical form. Extreme obesity after employment can cause impairment in occupational tasks, for example, high weight and low back pain result in disruption of tasks and lead to a reduction in the efficiency and productivity of individuals and greatly reduces their activity.

I cannot do some jobs because of my weight (Participant No 9). I cannot be an engineer to supervise the fourth floor of a building under construction (Participant No 36). Obesity does not allow me to work like the past and I evade the job more (Participant No 6).

Obesity can also impose material costs on an obese person; an obese person who cannot do his work should pay someone to do his work, and at a higher level, the obese will suffer from illness and problems, which will also incur costs for family and community and reduces its active economic life and may even result in retirement earlier than due.

Always, i should have an apprentice with me to do the work and i pay for it (Participant No 39). Extreme obesity will reduce the active life of people. The life expectancy of a person who is very obese will decrease (Participant No 67).

Devaluation of life

Extreme obesity leads to relative deaths of motives and eliminates hope and delight in life and the future and causes concern for the conditions of life and future. People with these conditions do not have the ability to achieve their goals and have an ambiguous future. They feel ashamed and afraid to be tagged in the community, and the body-dysmorphic disorder causes a negative view of themselves making them aloof from the community and leads to the formation of a negative self-concept to dislike themselves. On this basis, weight loss becomes a big concern to achieve acceptance of the

community which makes life bitter for them. Regretting obesity and ultimately, life is the end of the devaluation process influenced by social encounters, humor, advice, and peoples' suggestion.

Some motives have died in me body because of obesity. I'm thinking a lot about the future, and what other problems will be caused by obesity (Participant No 8). I'm not hoping to get slim. My mind is always involved in how to reduce my weight (Participant No 6). Some people behave rudely and talk nonsense which makes me angry and tired of life (Participant No 31).

Discussion

According to results, obesity has a variety of consequences; normal obesity in Mukryan is favorable, i.e., the person is relatively obese, but his life and activities do not stop as a result of obesity. This criterion is determined by the community, and it is supported and induced by the culture and teachings of the community. As a result, the individual having the standard (normal obesity) is protected by the community and keeps his/her normal obesity. Similar to our results, in some parts of the world, obesity is socially and culturally accepted, for example, in South Africa, obesity is associated with respect, beauty and wealth, and historically a sign of success, wealth, health and optimism and happiness, and the obese person is protected by the community and experiences a few unpleasant challenges.^[20,21,24] While another study has shown that emphasis is currently on weight loss,^[25] there is still positive points for obesity in traditional and less developed societies, and local norms and culture support it. Proper planning (cultural and policy-making) should be followed regarding the change of the positive attitudes of the community to obesity since the desirability of normal obesity leads to reproduction while the normal obesity is a context for extreme obesity. Besides, the developments taking place in these societies will face obesity with major challenges in the immediate and near future; these are the challenges that are currently being addressed in Mukryan. At the moment, in Mukryan, the people emphasize the importance of health and importance of having a fit body replacing normal obesity. However, this metamorphosis is moving slowly, the local norms and teachings still do not agree with this development and resist it, but it is anticipated that in the not-too-distant future, fitness will replace normal obesity in the Mukryan region.

The most important consequences of obesity are unfavorable, and when obesity exceeds normal levels, they become very important. The findings of this study showed that a person with an extreme obesity is faced with poor agency and low ability to perform various life affairs and faces diseases. The functioning of the

person is impaired, and his/her mind and body become dysfunctional (negative functions). Many studies have revealed association between obesity and diseases such as cardiovascular disease, diabetes, and hypertension.^[7,10-15] Besides, low self-esteem^[10,14,15,19] and disturbance in mental functions^[25] are also associated with obesity. Although these unfavorable consequences of obesity threaten a person, their effects are significant on family and community.

According to the findings of the present study, the other major consequence of obesity is that it also limits the chances of achieving a suitable job for a person and increases the barrier to earn money as the productivity of the individual are challenged, and the economic costs are imposed on the person and the social system. Consistent with our results, other studies have found that obesity has economic consequences;^[2] on the one hand, it causes unemployment^[26,27] or discrimination in employment and wages,^[28] reduces the income,^[11,29] reduces productivity,^[2,30] leads to earlier retirement^[25] and employees face more healthcare costs.^[11] The important thing is that obese people will not be able to work efficiently due to problems and disabilities, and by decreasing their economic life and early employment, the whole economic system of the country will be endangered. The obese person, because of low level of ability to work in his or her career, forces the system to pay extra for employment, and at the same time, due to illness, costs will also be incurred for health. In fact, the high cost will be paid for treating illness and the consequences of obesity which highlights the need for serious action and basic planning.

The findings of this study showed that extreme obesity is a threat to the family institution. On the one hand, it reduces and delays marriage; on the other hand, extreme obesity exposes the marital life to separation and coldness as it reduces the charm of couples and their sexual orientation. Other investigations have indicated that sexual dysfunction is one of the consequences of obesity,^[7] and obesity has an important relationship with sexual function in Italian^[31] and Iranian^[32] women and French^[33] and Chinese^[34] men. Currently, in the Mukryan region, the reduced probability and delay in marriage of obese girls and even boys are observed which can have unfavorable influences on the family institution in long run.

The results of our investigation showed that the person with extreme obesity, in addition to family challenges, becomes an objection in society, and while being tagged, is referred to by stereotypes and verbal and behavioral stigma such as laziness, weakness, fatigue, and ignorance. Several studies have argued that obese people often receive verbal and physical stigma

including being lazy, unsuccessful, and discriminatory speech.^[35-37] These social stigma and stereotypes are widespread in relation to obese people^[35,38] affecting their health, dignity, and quality of life.^[38] Along with social exclusion (exogenous), the individual excludes him/herself (endogenous) to stay away from the inappropriate encounter of the community and to reach calmness in his isolation. In other studies, social exclusion and verbal distress of obese women in the community are some of the consequences of obesity, That as a result, women become exclude themselves to be relax, and this, in general, reduce their presence in the community.^[39] People who receive inappropriate stigma and is ignored by the community, finds him/herself inappropriate for the community and takes steps and chooses to exclude him/herself. This two-sided social isolation will create a deep divide between the individual and the community in the long run, which will lead to irreversible psychological and social consequences, because society cannot utilize the capacity and potential of a part of its human resources, and the individual is faced with the challenge of interacting with his social life.

Another result of this study was that obesity causes a person to have a passive and individualized leisure, in which he/she performs less physical activity and is interested in immobile activities away from the community. Especially, women choose home entertainment, watching TV, and using social media. Similarly, a study pointed out that obese women prefer to stay home and entertain themselves with special activities such as reading books and watching movies.^[39] Other researchers also believe that obesity decreases physical activity and increases passive activity.^[13,40] In sum, changing the pattern of leisure and using a stagnant and individualist process of leisure rather than an attractive and collectivist leisure plays a role in the persistence of obesity and the emergence of wider implications because of a defective cycle in which obesity reduce physical activity, and this condition is once again effective in maintaining obesity. It also reduces family and social relationships, and imposes psychological pressure on people, prevents everyday activities and can challenge the whole life of the individual.

In addition to leisure, obesity negatively affects the style of clothing, and especially for women, where they have to wear large clothing in accordance with their size, and because of the lack of fittings of their size, they are forced to choose dark and customized clothes at high expense. Studies have demonstrated that women have identified unequal opportunities in the provision of appropriate clothing for obese people as one of their fundamental problems, and have expressed their limitation in clothing and selection of it as their first priority.^[39] This lack of choice of clothing and force in choosing a particular

cloth causes pressure on people, especially obese women because they are one member of the community who are ignored.

The implications of this result is a dramatic decrease in the mental health of a person with extreme obesity; thus, lack of agency and various diseases and disorders emerge, and the inappropriate behavior and social exclusion of obese people and other consequences discussed for obesity directly and indirectly result in low self-esteem, a feeling of shame and death of motives. They have a vague future that leads to meaninglessness and dissatisfaction with life. Previous research findings have shown that obesity causes a lack of self-confidence.^[13,19] Obese people feel ashamed, and obesity makes them lose their motivation and be dissatisfied.^[13,25] This situation limits the realm of life for an obese person, causing him to take distance from society and develop various psychological and social problems. It has challenges for a part of the population, have different consequences for society in the health, economic, social, and health sectors. Therefore, it is necessary to make appropriate plans to cope with this situation. In sum, for the consequences of obesity, custodial institutions and policymakers have implemented certain policies and policies, but the current status of obesity shows that these actions have not been effective, because obesity in Mukryan is more a social and cultural phenomenon than a medical problem, and social and cultural aspects of obesity must be considered in policy making, because the culture is a widespread and endemic category that, without knowing it, and just using top-down programs without field surveys and environmental awareness cannot be effective.

This is the first study in the country (Iran) that investigates the obesity consequences with the qualitative approach and lets the participants express their own perspectives and experiences without having any limitations of the quantitative methods (questionnaire). The study results (obesity; a phenomenon with desired and undesired consequences) are due to this innovative feature of the study. The strength of this study was using a triangulation technique in which diversity sampling was used, and various methods for data collection were used. Lack of generalizing the results to other populations was one of the study limitations. It is suggested to investigate the effects of obesity with a qualitative approach in other cultures and ethnic groups.

Conclusion

According to the perspective of people living in the Mukryan region, normal obesity has favorable consequences, but if it is toward the extreme, its consequences will be unfavorable and extensive. With due attention to unfavorable consequences of

extreme obesity on health, illness, social issues and costs, simultaneously with the adoption of preventive approaches to obesity through targeted policies in education, health literacy, promotion of sport culture, development of sports context especially for women, improving recreational facilities, and etc., appropriate planning and interventions should be designed and applied for changing the behavior, culture, and community beliefs in dealing with obesity phenomenon. In this regard, some of the practical actions are the use of indigenous capacities of the area such as providing educational programs, informing people about the negative consequences of obesity, attempting to change the positive beliefs of the society towards obesity with the local language (Kurdish), utilizing the mountainous potential of the region to promote exercise and mountain climbing by providing facilities and using of Kurdish elites and athletes, utilizing the agricultural potential of the region for producing organic and healthy products, and etc., That is, apart from efforts to prevent and reduce obesity, the society perception of the obesity also needs to be changed, since mere obesity should not lead to discrimination, social exclusion, and social isolation. Combination of “preventive actions” and “Culture-making regarding obesity-related social problems and acceptance of extreme obese people as part of the community” can, in the long run, reduce costs, illness and deaths as well as change the community view of obesity and reduce the social and psychological consequences of it. The planners and policymakers can use the findings of this study to formulate their own strategies and decisions about obesity.

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Conflicts of interest

There are no conflicts of interest.

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