

## Original Article

# An anthropological-cultural analysis of nutritional barriers and social health: a mixed-methods study across generations of urban households in Iran

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## Abstract

**Background:** Healthy nutrition and social health are key components of sustainable community development. However, cultural and economic barriers, along with generational differences, can significantly affect dietary patterns and levels of social health in urban Iranian households. This study aimed to provide an anthropological-cultural analysis of nutritional barriers and their relationship with social health across different generations.

**Methods:** This mixed-method study included both quantitative and qualitative approaches. The quantitative phase involved a survey of 400 individuals from urban households representing three age groups (youth, middle-aged, and elderly). The qualitative phase included semi-structured interviews with 20 participants. The number of interviewees was determined based on the principle of data saturation, whereby new interviews no longer produced additional themes or insights. Saturation was reached after approximately 17 interviews, and three further interviews were conducted to confirm this point. Participants were selected purposefully to ensure diversity in age, gender, and socio-economic background. Data were analysed using regression analysis in the quantitative phase and thematic analysis in the qualitative phase.

**Results:** The findings showed that cultural barriers ( $\beta = -0.42$ ,  $p < 0.001$ ) and economic barriers ( $\beta = -0.38$ ,  $p = 0.004$ ) had significant negative effects on social health. In addition, the generational variable was positively associated with social health ( $\beta = 0.21$ ,  $p = 0.026$ ). The qualitative analysis supported these results, indicating that older generations maintained stronger adherence to traditional dietary patterns and family interactions, whereas younger generations demonstrated a tendency toward fast food consumption and individualistic lifestyles.

**Conclusion:** The results highlight the need for urban health policies to focus on nutrition education, revitalization of family-oriented food culture, and reduction of cultural and economic barriers to healthy eating. Considering generational differences is essential in designing effective interventions.

**Keywords:** Anthropology; Communication Barriers; Culture; Diet, Healthy; Nutritional Status; Social Health.

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## Introduction

**N**utrition and social health are vital components of development in any society. In the Iranian context,

particularly in urban areas, these dimensions are influenced by a complex interaction of cultural, economic, and

generational factors (1). Rapid lifestyle changes driven by economic developments have altered food consumption patterns, while generational differences shape attitudes toward both nutrition and social health (2). Media and globalization further reinforce these changes by promoting modern and industrial dietary habits, often at the expense of traditional practices. From a theoretical perspective, these elements are interconnected: economic transitions provide the structural conditions for lifestyle shifts, generational differences reflect the way these changes are internalized across age groups, and media act as a cultural driver accelerating the adoption of new behaviours. Together, these dynamics contribute to the emergence of unhealthy eating patterns and weakened social cohesion. Previous studies highlight that the intergenerational gap in nutrition and health-related behaviours not only affects physical health but also has broader implications for social health, including family relationships, social participation, and a sense of food security (3).

The present study seeks to analyze the socio-cultural barriers to nutrition and health across generations. Identifying these barriers can help policymakers design targeted educational and support programs. Additionally, the results of this study can provide a new framework for future studies due to the lack of mixed (qualitative-quantitative) studies in this area in Iran. Several studies have investigated social barriers to nutrition and health in Iran and other countries (4). Economic factors are considered to be the most important barriers to access to healthy nutrition in Iranian cities. This study revealed that food price fluctuations and insufficient household income have a significant impact on food consumption patterns. Domosławska-Żylińska et al., emphasized the role of culture and generational identity in food choices (5).

This study revealed that intergenerational differences in cultural beliefs, values, and

attitudes can shape diverse food preferences. Despite these insights, a significant research gap remains regarding mixed-method investigations of nutritional barriers and social health among different generations of urban Iranian households. Most existing studies have either focused only on economic aspects or examined cultural factors in isolation, whereas a mixed approach can provide a more comprehensive perspective.

Accordingly, the present study was designed to address the following research questions:

1. To what extent do cultural and economic barriers affect social health in urban households?
2. How do these effects differ across generations (youth, middle-aged, and elderly)?
3. What qualitative themes emerge from intergenerational experiences regarding nutrition and social health?

Based on these questions, the study hypothesised that (a) cultural and economic barriers would have a significant negative effect on social health, and (b) intergenerational differences would explain variations in nutritional behaviours and social health outcomes.

## **Methods**

This study used a mixed approach (qualitative-quantitative) and a sequential exploratory design:

This study employed a mixed-methods approach with a sequential exploratory design. In the qualitative phase, cultural and social barriers to nutrition and social health were identified through semi-structured interviews with key participants. Participants were selected using purposeful sampling to ensure diversity in age, gender, and socio-economic background, focusing on individuals who could provide rich and relevant information regarding intergenerational nutritional behaviours. The sample size was determined based on

the principle of data saturation, which was reached when additional interviews no longer generated new themes. Saturation was achieved after 17 interviews, and three additional interviews were conducted to confirm the completeness of the thematic coverage.

Quantitative stage (descriptive-analytical): Then, qualitative findings were tested quantitatively using a standardized questionnaire.

A major advantage of the mixed approach is that it allows the researcher to cover both the depth of subjective perceptions (qualitative) and statistical generalizability (quantitative).

#### Statistical population and sampling

Statistical population: Iranian urban households in three different generations (older generation: those born before 1971, middle generation: 1971-1991, younger generation: after 1991).

#### Sampling:

Qualitative stage: 30 participants from different cities (Tehran, Isfahan, Mashhad) were selected using purposeful sampling (maximum diversity).

Quantitative stage: 400 people from different urban areas (based on income and cultural divisions) were selected using multi-stage cluster sampling.

Quantitative sample size calculation: Using the Cochran formula and assuming a 5% error rate and a 95% confidence level, the sample size was estimated to be 384 people, which was increased to 400 for more confidence.

#### *Data Collection Tools*

This study used two separate tools to collect data in the qualitative and quantitative stages. In the qualitative stage, data were collected through semi-structured interviews with 15 open-ended questions designed based on the research objectives. Their content validity was confirmed by five experts in related areas. All interviews

were accurately recorded, carefully translated, and analyzed after implementation. In the quantitative stage, a researcher-made questionnaire consisting of four sections (cultural barriers, economic barriers, social health, and demographic data) was used. The construct validity of this questionnaire was confirmed through exploratory factor analysis, and its reliability was obtained at the desirable level by calculating Cronbach's alpha for all subscales (more than 0.78). The questionnaire was distributed among the samples online and in person. The section related to cultural barriers was designed based on the themes extracted from the qualitative stage. To measure social health, a Persian version of Keyes (6) standard questionnaire was used. It included components such as family cohesion, social participation, and social ties.

#### *Statistical Analysis*

Mixed methods were used to analyze the data in this study. In the qualitative section, interview data were analyzed using thematic analysis and based on the Braun & Clarke (7) model, which included open, axial, and selective coding stages. In the quantitative section, descriptive statistics (mean and standard deviation) were first calculated. Then, analytical tests, including independent t-test and ANOVA, were used to compare generations, and multiple regression was used to predict the impact of barriers on social health. Path analysis was used to examine causal relationships between variables. Qualitative data were analyzed in NVIVO 12 software, and quantitative data were analyzed in SPSS 26 and AMOS software (for structural equation modeling).

#### Ethical considerations

In this study, ethical principles were carefully observed. Informed consent was obtained from all participants prior to their involvement, ensuring that they were fully aware of the study's objectives and procedures. Furthermore, data

Table 1. Primary themes and subthemes extracted from qualitative data on nutritional barriers and social health in different generations of urban Iranian households

Primary theme	Subthemes
Cultural beliefs and norms	- Traditional food taboos
	- Preference for traditional high-calorie foods in the older generation - Generational differences in health and nutrition
Economic and social constraints	- Economic pressures and inability to prepare healthy food
	- Little time to prepare home-cooked foods (especially for working people)
Family and social dynamics	- Intergenerational disconnection regarding eating patterns
	- Elimination of family foods and replacement with individual foods

confidentiality was strictly maintained by not disclosing the names or any identifying information of individuals, thereby protecting their privacy throughout the research process.

**Results**

This study used a sequential mixed exploratory design to investigate the anthropological-cultural barriers to nutrition and social health among three generations of urban Iranian households. The results are presented in two qualitative and quantitative sections.

**Qualitative results**

Three primary themes and nine subthemes were identified using thematic analysis of semi-structured interviews with 30 participants from Tehran, Isfahan, and Mashhad: These results provided the conditions for designing a questionnaire with 36 items in four sections (cultural barriers, economic barriers, social health, and demographic variables) in the quantitative stage. As shown in the Table 1, the qualitative themes of the present study show that nutritional barriers in urban households in Iran are rooted in three primary areas: cultural beliefs and norms, economic and social constraints, and family and social dynamics. In the cultural dimension, food taboos and emphasis on traditional high-calorie foods, especially among older generations, have led to a

generational gap in attitudes toward health and nutrition. Younger generations have a greater tendency toward modern eating styles, but they experience conflict when dealing with traditional family norms.

In the economic dimension, financial pressures and lack of time to prepare home-cooked foods, especially among working people, are major barriers to achieving healthy nutrition. These conditions lead to greater dependence on ready-made foods with low nutritional value. Finally, at the social and family level, the weakness of intergenerational communication in the transmission of nutritional values and knowledge, and a reduction in family communal foods and their replacement with individual eating, has led to reduced social health and family cohesion. These results indicate that nutritional patterns are affected by individual factors and are tied to cultural, economic, and social structures.

*Quantitative results*

Analysis of Variance (ANOVA):

ANOVA was used to examine the differences between the three generations in the perception of cultural barriers and social health. The results showed significant differences between age groups: The ANOVA results (Table 2) indicated significant differences in both cultural barriers and social health across generations

Table 2. Intergenerational comparison in the perception of cultural barriers and social health level

Variable	Mean of older generation	Mean of middle generation	Mean of younger generation	Statistic F	Sig (p)
Cultural Barriers	3.89	3.52	2.94	18.73	< 0.001
Social Health	3.23	3.01	2.71	12.09	< 0.001

Post hoc Tukey HSD tests showed that the younger generation reported significantly lower mean scores of social health compared with the middle and older generations, while the difference between the middle and older generations was not significant. In terms of cultural barriers, the younger generation differed significantly from both the middle and older generations, and the difference between the middle and older generations was also statistically significant, though smaller in magnitude.

### Multiple Regression Analysis

Multiple regression was used to predict the effect of cultural, economic, and generational barriers on social health.

Table 3. Results of Multiple regression for predicting social health based on cultural, economic, and generational barriers

Independent variable	Standard coefficient (Beta)	Sig (p)
Cultural barriers	-0.42	< 0.001
Economic barriers	-0.38	0.004
Generation	0.21	0.026

The results of Table 3 indicate that the three variables "cultural barriers", "economic barriers", and "generation" can significantly predict social health. In this model, cultural barriers, with a negative and significant standardized coefficient (Beta = -0.42,  $p < 0.001$ ), are the strongest negative predictor of social health, so that as people's perception of cultural barriers increases, their level of social health decreases significantly. Economic barriers also negatively and significantly affect social health (Beta = -0.38,  $p = 0.004$ ), indicating that economic pressures also play an effective role in weakening social interactions and sense of belonging. The generation variable also, with a positive and significant coefficient (Beta = 0.21,  $p = 0.026$ ), indicates a weak but significant tendency to reduce social health as people move from the older generation to the new generations. These results emphasize that

multidimensional interventions should be designed to reduce cultural and economic barriers, and special attention should be paid to generational differences in social and health planning to promote social health.

### Path Analysis (Structural Equation Modeling)

Structural equation modeling was used to examine the causal relationships between the variables of cultural, economic, generational, and social health barriers.

Table 4. Fit indices of the path analysis model to examine the effect of cultural, economic, and generational barriers on social health

Model fit index	Obtained value	Desirable value
$\chi^2/df$	2.04	< 3
RMSEA	0.056	< 0.08
CFI	0.94	> 0.90
TLI	0.91	> 0.90

As shown in Table 4, the results of the path analysis model fit indices show that the proposed model has a good fit. The chi-square ratio to the degree of freedom ( $\chi^2/df$ ) is 2.04, which is less than the desired value of 3, indicating an acceptable fit of the model to the data. The RMSEA index is also 0.056, which is less than 0.08, indicating a good fit of the model. Also, the values of the incremental indices CFI and TLI are 0.94 and 0.91, respectively, which both exceed the threshold of 0.90 and indicate the adequacy of the model in explaining the relationships between variables. These indices confirm that the proposed structural model fits the empirical data well and its results can be trusted in analyzing the causal relationships between nutritional barriers, generational differences, and social health.

### Integrative interpretation of results

The integration of qualitative and quantitative data led to a comprehensive understanding of socio-cultural barriers to nutrition and social health across generations of urban households:

Table 5. The integration of qualitative and quantitative data to explain socio-cultural barriers to nutrition and social health in different generations of urban Iranian households

Study case	Key result
Generational differences in nutrition	The older generation is more committed to traditional and family-oriented food patterns, while the younger generation is more inclined toward fast food and consumerism.
Social health across generations	Social health is higher in the older generation, which is consistent with patterns of social participation and greater family interactions.
The role of cultural and economic barriers	These barriers have a significant negative impact on social health, and cultural barriers were the most significant negative predictor of social health.
Implications for policymaking	The results indicate that urban health planning should focus on nutrition education, reviving a family-oriented food culture, and removing economic barriers to healthy nutrition.

Table 5 shows generational differences in nutritional patterns. The older generation reported higher consumption of traditional, family-oriented foods, whereas the younger generation demonstrated a tendency toward fast food and consumerist dietary habits. Consistent with these patterns, social health scores were higher among the older generation, reflecting greater family interactions and social participation.

Path analysis further indicated that both cultural ( $\beta = -0.42$ ,  $p < 0.001$ ) and economic barriers ( $\beta = -0.38$ ,  $p = 0.004$ ) had significant negative effects on social health, with cultural barriers being the strongest predictor. Integration of qualitative findings revealed that these barriers are experienced differently across generations: older participants emphasized adherence to cultural norms and family meals, while younger participants reported greater exposure to external influences such as media and modern lifestyle pressures.

These findings demonstrate that generational differences in attitudes and practices regarding nutrition contribute to variations in social health, highlighting the importance of considering both cultural and economic factors when examining intergenerational health outcomes.

## Discussion

The present study was an anthropological-cultural analysis of nutritional barriers and their impact on social health among three generations of urban Iranian households. The results revealed that nutrition and

social health are affected strongly by cultural, economic, and intergenerational factors that have experienced significant changes over time.

The results of the qualitative phase showed that cultural beliefs and norms play a significant role in shaping dietary patterns, especially among older generations. Food is not only a physiological need but also a part of cultural identity (8). Food taboos and the preference for traditional high-calorie foods, mostly inherited from previous generations, persist in the older generation, but these beliefs have weakened in the younger generation, and they show a tendency toward industrialized foods and consumerism. These results are in line with previous studies that have indicated that intergenerational cultural transmission and globalization of lifestyle have caused changes in nutritional patterns and weakened traditional food values (9,10).

This study also highlighted the significant role of economic pressures in the formation of unhealthy eating habits. Families exposed to economic instability are more likely to consume cheap, high-calorie, low-nutritional value foods (11). This issue was particularly seen in the middle and younger generations, who are more affected by the costs of urban living and lack of time.

The present study is consistent with similar studies in Iran and other countries that have indicated that economic indicators are the strongest social determinants of nutritional status (12, 13). Quantitative results revealed

that social health, which includes dimensions such as family cohesion, social participation, and sense of belonging (14), is significantly lower in the younger generation. The elimination of family foods and their replacement with individual foods has reduced social interactions at the family and community levels. This pattern is an indicator of the growing individualism in the younger generation, which can have several negative impacts on mental and social health (15-18). These results emphasize that food is not only a factor of nutrition but also an opportunity for social cohesion and strengthening family ties, compromised by generational changes. Path analysis in this study revealed that cultural and economic barriers significantly and negatively affect social health. Among them, cultural barriers were the strongest negative predictor of social health. This issue had been previously raised by researchers such as Cockerham (19) and Shim (20). This result highlights the importance of paying attention to cultural dimensions in public health interventions as changes in beliefs and norms can pave the way for changing nutritional behaviors and promoting social health.

### ***Recommendations***

Based on the results, the following recommendations can be proposed for macro-planning and policy-making in the field of urban health:

- Developing nutritional education based on indigenous culture to restore healthy and family nutritional patterns.
- Designing social interventions to strengthen intergenerational ties in the area of nutrition, such as family cooking programs or social nutrition schools.
- Financial and economic support for low-income households to access healthy food through purposeful subsidies.
- Production and promotion of cultural media based on promoting social health through food and family interactions.

### ***Conclusion***

The results of this mixed study revealed that the perception of cultural and economic barriers to nutrition differs significantly among different generations of urban Iranian households, and these differences play a significant role in the social health status. Quantitative analyses revealed that the younger generation faces more challenges in the area of healthy nutrition, and they reported lower levels of social health. However, the older generation enjoys more favorable social health, although exposed to more traditional economic and cultural constraints. This is likely due to greater social cohesion, a lifestyle based on family interactions, and adherence to traditional dietary patterns. Regression analyses and structural equation modeling also showed that cultural and economic barriers significantly and negatively affect social health and can be considered risk factors for weakening social relationships, reducing the sense of belonging, and reducing the quality of social life. These results emphasize the need to design targeted cultural and economic interventions to promote social health in the younger generation. This study suggests that health-oriented and cultural policies should pay serious attention to intergenerational differences and provide solutions to improve nutritional behaviors and strengthen social ties by understanding the specific cultural and economic contexts of each generation.

### ***Author's contribution***

Ali Reza Golestani developed the study concept and design. Ali Reza Golestani acquired the data. Ali Reza Golestani analyzed and interpreted the data, and wrote the first draft of the manuscript. All authors contributed to the intellectual content, manuscript editing and read and approved the final manuscript.

### ***Informed consent***

Questionnaires were filled with the participants' satisfaction and written

consent was obtained from the participants in this study.

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### **Conflict of interest**

The authors declare that they have no conflict of interests.

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