JQRHS

Journal of
Qualitative Research in Health Sciences

https://jqr1.kmu.ac.ir
10.34172/jqr.1438
JQRHS. 2025;14:1438

Original Article

Open Access
Publish Free

Factors Influencing the Preference for Local Dairy Products among Residents of Gorgan, Iran: Insights From a Qualitative Study

Amin Sharifi[1,2], Hadise Rashin[3], Sayyed Mohammad Reza Qanbari[4], Ali Shahryari[4], Mohammad Bazyar[5,6*]

[1]Golestan Research Center of Gastroenterology and Hepatology (GRCGH), Faculty of Health, Golestan University of Medical Sciences (GOUMS), Gorgan, Iran
[2]Nutrition Health Research Center, Institute of Health Sciences and Technologies, Hamadan University of Medical Sciences, Hamadan, Iran
[3]Student Research Committee, School of Health, Golestan University of Medical Sciences, Gorgan, Iran
[4]Environmental Health Research Centre, School of Health, Golestan University of Medical Sciences, Gorgan, Iran
[5]Health and Environment Research Center, Ilam University of Medical Sciences, Ilam, Iran
[6]Department of Health Management and Economics, Faculty of Health, Ilam University of Medical Sciences, Ilam, Iran

*Corresponding Author: Mohammad Bazyar, Email: bazyar.mohamad@gmail.com

Abstract

Background: Local or traditional dairy products are often associated with poor hygienic conditions during storage, inadequate heat treatment, and secondary contamination, creating an environment conducive to the growth, reproduction, and transmission of a wide range of pathogens. To date, no study has explored the causes and factors affecting consumers' preference for local dairy products. This study aimed to identify the reasons for the increasing tendency of residents in Gorgan, Iran, to consume local dairy products.

Methods: In this qualitative study, data were collected through semi-structured in-depth interviews. Participants included local dairy vendors and consumers, health and food industry professionals, managers, and personnel working in regulatory and trade bodies. Interview transcripts were coded and analyzed using content analysis facilitated by Atlas.ti software.

Results: The analysis reached theoretical saturation after 31 interviews. A total of 6 themes and 25 subthemes emerged. The main themes included *nutritional beliefs*, *hygiene beliefs*, *taste*, *supportive political environment*, *economic predisposing factors*, and *weaknesses in the dairy industry*.

Conclusion: To protect public health, government and provincial policymakers and authorities should focus on supporting small-scale food enterprises to generate employment while strengthening health monitoring of local food industries, given their potential health risks. Moreover, health professionals and nutritionists can play a crucial role in shaping consumer preferences by providing public education about healthy and safe food choices.

Keywords: Dairy products, Milk, Food safety, Food quality, Qualitative research, Iran

Citation: Sharifi A, Rashin H, Qanbari SMR, Shahryari A, Bazyar M. Factors influencing the preference for local dairy products among residents of gorgan, Iran: insights from a qualitative study. *J Qual Res Health Sci*. 2025;14:1438. doi:10.34172/jqr.1438

Received: May 25, 2024, **Accepted**: June 24, 2025, **ePublished**: July 22, 2025

Introduction

Milk and its products are vital sources of protein with high nutritional value that play a crucial role in the human diet by providing significant amounts of protein, calcium, and other nutrients (1). In Iran, calcium is the second most abundant mineral after iron in the average diet. However, studies show that the calcium intake of most Iranian households falls below recommended standards (2). Specifically, in Iran, the average daily calcium consumption is approximately 134 grams in rural areas, 142 grams in urban areas, and about 139 grams in the whole country per adult (3). Today, most dairy products are processed and supplied by the dairy industry. However, the expansion of local dairy supply units in recent years reflects a demand for these traditional products. Local or so-called traditional dairy products can serve as conducive environments for the growth, reproduction, and transmission of a wide range of pathogenic microbial agents due to poor hygienic conditions during milking and storage, improper heat treatment, and secondary contamination. This can lead to the spread of common human and animal diseases (4-6).

Given these concerns, it is necessary to investigate the underlying reasons and motivations behind consumers' preference for traditional dairy products. Quantitative

© 2025 The Author(s); Published by Kerman University of Medical Sciences. This is an open-access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

studies alone have been insufficient to capture the full complexity of this phenomenon with all its dimensions. Qualitative studies, particularly with in-depth interviews, offer a valuable approach to understanding these social phenomena. Therefore, the present qualitative study was conducted to explain the reasons behind the increasing tendency of residents in Gorgan, Iran, to consume local dairy products.

Methods

This qualitative study was conducted using a content analysis approach in 2020. Data were collected through semi-structured in-depth interviews (7-9). The initial version of the interview guide was developed in consultation with a nutritionist, with probing questions asked during interviews to explore topics more thoroughly. The primary questions focused on demographic information, including age, education level, and occupation, followed by general and open-ended questions about the reasons for consuming local dairy products and why consumers preferred traditional local dairy products over industrial and packaged alternatives. Then, based on participants' responses, additional probing questions were posed to explore all relevant dimensions of the issue.

Purposive sampling was employed to identify and select participants (10-12). A total of 31 individuals were interviewed, including local dairy consumers and vendors, managers and staff of health monitoring and quality control institutions, environmental health and food hygiene professors, and dairy industry quality control experts (Table 1). These groups were selected because of their direct engagement with local and industrial dairy products through consumption, production, sales, inspection, or academic involvement. Consumers were selected from different regions of Gorgan, ensuring representation across genders and age groups.

The interview process lasted about four months from April 22 to August 17, 2020. Sampling continued until theoretical saturation was reached (13). The time and place of interviews were determined based on participants' preferences and consent. Interviews were recorded using a digital audio recorder, with the recorded audio files stored under each participant's code and subsequently transcribed. Voice recordings and transcripts were cross-checked by two researchers for accuracy.

Table 1. Main characteristics of participants

Key Informants	Numbers of interviewees
Managers or staff of health monitoring and quality control institutions	3
Food hygiene professor	1
Dairy industry quality control experts	3
Environmental health professor	1
Veterinarians	2
Local dairy vendors	6
Local dairy consumers	15

Qualitative data analysis

Each interview was transcribed and analyzed immediately after completion, facilitating an in-depth understanding of the data and informing subsequent interviews. One researcher (MB) led the analysis and coding process. The approach followed the six-step content analysis framework developed by Braun and Clarke(14). This process involved familiarizing with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and reporting the findings. An inductive method was employed to categorize the emerging codes based on their patterns and similarities, focusing on code frequency, recurrence, and significance to participants. Subsequently, these codes were organized into broader categories aligned with the research objectives. Ongoing discussions among the research team focused on the emerging categories and subcategories, ensuring appropriate titles were assigned and that each subcategory was correctly categorized, with adjustments made as needed (15). All theme development and data coding processes were conducted using Atlas.ti software.

Trustworthiness of the findings

To ensure the validity and reliability of the findings, several strategies were employed. The first author (MB) engaged extensively with the qualitative data for nearly four months to bolster credibility. During interviews, participants' feedback was solicited to verify a shared understanding and interpretation between the interviewers and participants. Peer review was utilized as a strategy to enhance credibility through continuous discussions between the two authors (MB and AS) regarding the accuracy and classification of emerging categories and subcategories. To enhance transferability, the applicability of the findings in different contexts, the researchers used purposive sampling with maximum variation. Furthermore, direct quotations from participants were included to demonstrate that the findings were grounded in the data (16).

Ethical considerations

This study was approved by the Ethics Committee of Golestan University of Medical Sciences (Ethics Code: IR.GOUMS.REC.1397.212). Participants were informed that participation was voluntary, and they could withdraw at any time without consequence. They were also assured that all data would be kept confidential, their personal information would be anonymized, and their views would be analyzed without identifying details beyond a coded identifier. Written informed consent was obtained from all participants before data collection.

Results

Using content analysis of the interviews, six main

themes were extracted, including *nutritional beliefs*, *hygiene beliefs*, *taste*, *supportive political environment*, *economic predisposing factors*, and *weaknesses in the dairy industry*. These themes are explained in detail below. The relationships between themes and subthemes are illustrated in Figure 1.

Nutritional beliefs

This theme encompassed 7 subthemes, including conflicting statements from traditional medicine experts, influencers, and officials, and the information propagated through mass media against industrial dairy products.

One of the reasons for the negative perceptions about industrial dairy products is the statements by some individuals and healthcare professionals who claim that industrial dairy products contribute to certain diseases. In this regard, one participant stated:

"*I feel that price is not as important as the issue of culture-building; my brother, who cares about quality and may pay a high price for clothing, prefers local dairy because his doctor in traditional medicine told him to consume just local dairy because consumption of these things - industrial dairy - causes pain and disease. Price is the second priority. There are many who are even willing to buy local dairy products at a higher price because they do not trust industrial dairy products*".

In addition, part of the distrust of industrial dairy products stems from the statements by some political officials. In particular, a report was published in the national media quoting a senior official of the Ministry of Health regarding a nutritional problem in industrial dairy products, which resulted in the belief that industrial dairy products were completely unhealthy. A local dairy consumer recounted:

"*The truth is that with these stories about the use of palm oil in industrial milk and a thousand other things, we're trying to use local dairy*".

Furthermore, a dairy industry expert explained:

"*People have been suspicious of industrial dairy products ever since. It's not possible for anyone to come and ask if you use palm oil in your dairy or not, or what the point of palm oil in yogurt is. Or, for example, they used to say that factories use bleach or dishwashing liquid in their products, which is completely irrational. Once, they discussed that palm oil was used in yogurt and milk, which was not true at all. The use of palm oil was just a rumor. Some dairy factories may have used vegetable oil to make some products, such as pizza*

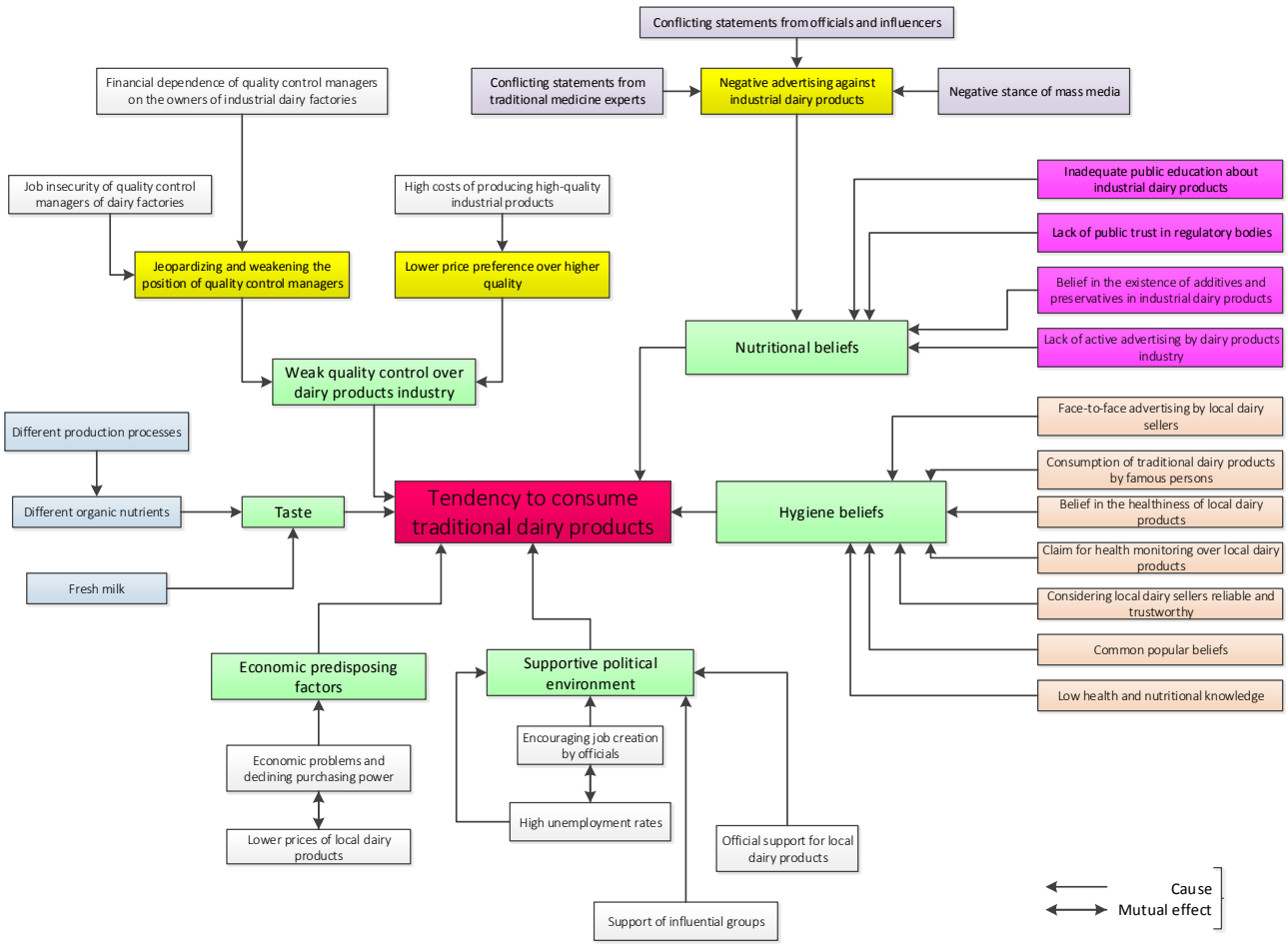

Figure 1. Relationships between themes and subthemes influencing the consumption of traditional dairy products in Gorgan, Iran

cheese or cream cheese, which was standard and legally permitted. Before the palm oil was discussed publicly, the Institute of Standards allowed all companies to use vegetable oil, with labels indicating its presence. But after rumors about palm oil, regulatory bodies became highly cautious, revoked licenses, and banned its use entirely".

Another dairy expert did not deny the use of palm oil in dairy products in the past. Instead, they explained that it was part of the official standards at the time and also highlighted its economic benefits for dairy producers, since palm oil was much cheaper than dairy fat. The expert stated:

"*Some factories extracted milk fat and used palm oil instead. Dairy fat is almost three times more expensive than palm oil. There was a common misconception that palm oil was made from crude oil, but palm oil is an edible oil, and in most of our frying oils, there is palm oil because of its high heat resistance. They have publicly stated that it should never be consumed*".

Another reason for the negative perception of industrial dairy products is the influence of the National Broadcasting Organization and social media. A local dairy consumer commented:

"*Radio has repeatedly claimed that bleach is used in pasteurized milk production. Sometimes, bad news spreads about industrial dairy products; for example, people say that they put milk in the refrigerator for a month, and nothing happens. Well, surely there is something wrong. Milk, which should be sour within a few hours, doesn't spoil for many days. So, preservatives are added to it. This kind of misinformation circulates on social media*".

However, compared to local dairy products, industrial dairy products are frequently monitored by regulatory bodies, including the Veterinary Organization and the Food Supervision Department. They often have quality control laboratories and managers. Despite this formal oversight, distrust in regulatory bodies persists. A local dairy consumer explained:

"*I don't trust the Ministry of Health. In a factory, we saw bleach used as a preservative. When we reported this to the health minister, he responded that they checked a factory in one city where only remnants of bleach remained on the washing machines and utensils, nothing else. Well, of course, he's covering up. How can a person trust him?*"

According to interviewees, one reason for the tendency to consume local dairy products is the poor public understanding of the importance of consuming food products under proper supervision – i.e., those regularly and legally overseen by regulatory bodies. A food industry expert said:

"*Many consumers lack the basic knowledge to make informed choices. They should be educated via national television. Nutritionists should explain and teach about the differences between local dairy and industrial dairy products, using scientific facts, in the public media*".

Another contributing factor is the inadequate advertising by industrial dairy producers. "*One of the main tasks of a factory is to introduce its product to the public and build trust. Not all people are nutritionists, and they do not know enough about dairy products*".

Hygiene beliefs

A significant reason for the preference for local dairy products relates to the lack of knowledge about nutrition, health, and food processing, as well as limited awareness of regulatory oversight. For instance, a local dairy consumer said:

"*Many people say that industrialists take everything [nutrients] out. When you drink this milk, it tastes like water*".

This belief is common among most people, even those highly educated. A person with a Ph.D. explained:

"*Industrial dairy products are harmful to the body*". When he was asked about the source of his information, he answered: "*My sources are books, the Internet, and what I learned from elementary school up to now. I've read a lot of books; I've read Imam Reza's medical book [a religious book]; I've read about preservatives, even the high doses of foreign preservatives imported into Iran, which I believe can have serious harmful effects on male and female fertility*".

An important point is the widespread suspicion that industrial dairy products, especially yogurt and milk, contain preservatives. One comment was:

"*If they don't use preservatives at all, why would a dairy product last 90 days at room temperature?*"

Confidence in local dairy is reinforced by the way it is advertised face-to-face. An industry expert commented,

"Face-to-face advertising, although limited in reach, has a deeper impact on the customer".

One of the reasons for the greater impact of face-to-face advertising about local dairy products is the sellers' claim that industrial dairy products are unhealthy, while promoting local ones as healthy and natural:

"*The number of diseases has increased in Iran. Everyone is aware [believing that such diseases are caused by industrial foods]. There's a growing shift towards traditional methods. Now we have a 'cancer tsunami' in Iran. My sister died of cancer*".

In face-to-face advertisements and shop signs (as observed by the researcher), the sellers claim that their products are under health supervision. However, the Food and Veterinary Administration does not have a formal process for monitoring such shops. An official from the Food Supervision Department, a specialist in veterinary medicine and food hygiene, stated:

"*Consumers should buy products that are guaranteed*

safe and thoroughly monitored. Factory products fall under strict supervision, but traditional (local) products do not, or the supervision is very weak. This is the most significant weakness we're concerned about".

People tend to trust local dairy, notably because they know the producers personally. In this regard, an environmental health expert noted:

"*Trust stems from familiarity. For example, in Kordkoy, a well-known producer, who was also a teacher, made local dairy products, and yogurt was sold out by 11 a.m. Despite some health issues in his products, customers trusted him*".

Another factor is the role of influential figures, including relatives, family members, friends, co-workers, doctors, role models, and even some celebrities who may be willing to consume local dairy for any reason. The use of local dairy products can have a significant impact on some people:

"*We often use local dairy products. My colleagues all do so. This is not related to education. I know a doctor who personally goes to villages to buy local dairy*".

Another reason for the use of local dairy products is the distrust of the quality, health, safety, and standards of industrial dairy products. One participant shared:

"*Many of my friends and relatives work in these companies [food industry]. For example, my friend's husband, who works in a tomato paste factory, has told his wife not to buy industrial tomato paste at all. They're producing their own at home. They don't use their own company's paste, despite their quota every six months*".

Taste

One of the main reasons people prefer to consume local dairy products is their better taste. A local dairy consumer said:

"*Industrial milk has no taste. It's like water*".

A veterinarian and food hygiene expert acknowledged that this difference in taste is due to production processes. Homogenization alters fat globule sizes, changing organoleptic properties. Besides, low-fat products taste different because of reduced fat content, especially for those accustomed to whole milk. Cooking at boiling temperatures for longer periods during local production also impacts flavor, despite reducing nutritional value.

Supportive political environment

One reason for people's increasing tendency to consume local dairy products is the increase in the number of local dairy shops, which facilitates access. The underlying causes of this trend fall into the political will category. These causes are mainly linked to support from politically influential figures, as well as the lack of seriousness in addressing health violations.

Due to rising unemployment, policymakers have decided not to prevent the establishment and development of local dairy shops. Some of these shops operate without even a license from the Office of Commerce. According to regulatory experts and even the Trade Union Confederation, there is no serious will to enforce penalties:

"*There have been cases where, according to the health department, a local workshop was closed, but unfortunately, the next day, an order was issued, and the seal was broken. Why? Because they said that the production conditions are difficult, closing this shop would destroy a family's income. Unfortunately, this is a problem we can't handle properly*".

At the same time, authorities do not take decisive action against offenders reported by health inspectors. According to inspectors, sometimes there may even be problems for them, which in the long run leads to discouragement and a lack of motivation among health inspectors.

Although legislation states that health inspectors are judicial officers, in practice, they are often seen as being on one side of the conflict. A former health inspector explained:

"*Health inspectors are legally judicial officers, but in practice, that's not really the case. When you go to court, the judge says, 'You [the inspector] have to explain yourself.' I am a health inspector [in law, I am the reference authority]. That's why health inspectors say, 'Why should I attend court, and the judge tells me to explain?' Health inspection doesn't need explanation; I'm a health inspector, and I'm legally a judicial officer. Because the inspectors in this system have no support, they become unmotivated. We had a case where an inspector was questioned because he sealed an unauthorized workshop with police support [according to instructions and regulations]. Not only is there no judicial support for health inspectors, sometimes there is even disrespect*".

Economic predisposing factors

The economic context and purchasing power were also among the key factors identified in this study influencing customer choices. Economic problems and declining purchasing power, along with lower prices for local dairy products compared to industrial ones, drive the trend toward local options. A local dairy seller remarked:

"*We sell 2 kilograms of low-fat yogurt for 7,000 Tomans, but the industrial type costs over 10,000 Tomans*".

Furthermore, the high costs associated with equipping and maintaining dairy processing machinery in factories contribute to the difference in the prices of local and industrial dairy products. A food science expert explained:

"*Another reason is cost. Industrial dairy products are much more expensive, so much so compared to local producers, who simply heat milk in a pot, pour it into cheap disposable containers, and sell it. Of course, the cost of producing a factory-made product is much higher* ".

Weaknesses in the dairy industry

This theme encompassed two categories, including the tendency to prioritize lower production costs over higher quality and the job insecurity of quality control managers.

Since, according to regulations, quality control managers of food industry factories are responsible for ensuring the quality of the products in all respects, and no product can be sold without their approval, their role is crucial in determining final product quality. Nevertheless, several weaknesses affect this position. One major issue is that quality control managers are not financially independent, and they depend on the factory owner. Although the quality control manager is supposed to be the final authority on product quality, their salary is paid by the factory owner. A quality control manager stated:

"*Legally, the product is approved by a quality control expert. I know an unskilled worker, who represents the factory owner, ordered the quality control expert that this material with this quality [poor quality] must enter the production cycle and go to market. The quality control expert can't do anything because he is paid by the factory owner* ".

Due to the higher costs associated with raw materials of higher quality and the expense of advanced equipment and technology, factory owners may often favor lower production costs over higher quality. This not only compromises the position of the quality control manager but may also lead factory owners to overlook certain quality issues, ultimately affecting the final product and consumer preferences.

Discussion

This study identified six main themes influencing the trend towards local dairy product consumption, including *nutritional beliefs*, *hygiene beliefs*, *taste*, *supportive political environment*, *economic predisposing factors*, and *weaknesses in the dairy industry*.

While dairy products are vital for meeting nutritional needs, particularly calcium and protein, ensuring the health and safety of these products remains crucial. Since food factories, especially those in the dairy industry, are overseen by regulatory bodies and equipped with quality control tools, the health control of industrial dairy products is facilitated. However, for the reasons outlined in this study, some people are reluctant to use industrial dairy products. Understanding these reasons and the factors affecting people's desire to consume dairy products (17), can help promote the culture of choosing healthy dairy products.

Consumer preferences are also significantly influenced by taste, the localization of dairy products (18), advertising, and cultural attitudes. Conversely, local dairy units are supervised only sporadically by environmental health units in healthcare centers, with inspections occurring infrequently and within a very limited scope of quality control. Although these issues can impose potential health risks, some citizens still prefer local over industrial dairy products. In this study, taste, freshness, and lower price were among the main reasons cited for choosing and favoring local dairy products. Trust in taste was also a significant factor influencing the choice of dairy products purchasing in Algeria (19). Due to price differences between local and industrial products and ongoing economic challenges in recent years, cost has become a decisive factor affecting the choice of consumers. However, unlike our findings, a study in Senegal revealed that despite a strong preference for local dairy products, many participants still favored imported and domestic industrial products because of their lower prices (20).

If government and provincial policies aim to promote employment by supporting small businesses, they must also focus on the critical issue of health monitoring for small local food industries, considering the potential health risks involved (21-23). Nevertheless, the development of local dairy units does not seem to significantly impact the broader dairy sector's economic development (24).

As previously discussed, one key reason for consumers' preference for local dairy products was their lack of confidence in inspections, quality control, and product safety in industrial dairy factories. In a similar study in China, consumers focused more on food safety and quality over price, with 'freshness' being the most frequently cited factor influencing their dairy purchasing choices (25). A study in Senegal showed that although participants expressed a high preference for local dairy products over domestic and imported ones, they did not fully trust their safety(20). Another study in Ghana revealed that participants perceived indigenous dairy products as unsafe, mainly due to poor sanitation and low standards for environmental and processing hygiene (26).

In this study, nutritional and health beliefs were among the important factors influencing the tendency to consume local dairy products. The impact of nutritional and health beliefs on the food choices of people has been discussed in other studies (27-29). Public education by health and nutrition professionals could play a crucial role in guiding consumers toward healthier dairy choices (30). In a similar study in western Iran, key reasons influencing attitudes toward rural dairy products included price, health, quality, and taste values (31). In a study by Boimah and Weible in Senegal, the main reason for preferring local dairy products was that they perceived local products as nutritious and healthy (20). However, other attributes such as greater accessibility, availability, and longer shelf life also prompted consumers to choose domestic and imported dairy products over local ones.

Policy implications

According to the findings, the following recommendations can be implemented:

1. Enhance Public Education: Initiatives should be launched to educate the public about the safety and nutritional values of industrial dairy products through community workshops, informational campaigns, and partnerships with healthcare professionals to build trust in regulatory bodies.
2. Improve Transparency: Industrial dairy producers should increase transparency regarding their production processes, ingredient sourcing, and quality control measures. Providing clear information about additives and preservatives could help alleviate consumer concerns.
3. Leverage Influencers: It is required to collaborate with local influencers, including healthcare professionals and trusted community figures, to promote the benefits of industrial dairy products through face-to-face interactions and social media platforms.
4. Develop Targeted Marketing Strategies: Industrial dairy companies should invest in targeted marketing strategies that highlight the quality, safety, and nutritional benefits of their products. Engaging storytelling that resonates with cultural values could be effective.
5. Support Local Economies: It is recommended to encourage policies that support both local dairy producers and industrial manufacturers to coexist. This could include subsidies for quality control measures in industrial production or initiatives that promote local sourcing for industrial producers.
6. Foster Community Engagement: Creating forums for dialogue about dairy consumption is recommended, allowing consumers to voice their concerns and preferences. This engagement could help bridge gaps between local and industrial producers.
7. Address Economic Barriers: It is essential to alleviate economic challenges faced by consumers, such as job insecurity and low purchasing power, which influence their choices in dairy consumption. Initiatives could include price adjustments or subsidies for healthier options.

Conclusion

The preference for local dairy products over industrial alternatives in Iran can be attributed to a complex interplay of cultural beliefs, economic factors, and trust issues. The findings revealed that various factors, including traditional medicine's opposition to industrial dairy, the influence of local figures and community trust in sellers, and concerns about the health implications of industrial dairy products, significantly shape consumer choices. Furthermore, the lack of effective advertising and public education regarding industrial products, coupled with economic hardships and a belief in the superior quality of locally produced goods, reinforces this preference. Local dairy products are not only viewed as healthier options but also as a means of supporting the local economy and community. By implementing the suggestions proposed above, stakeholders can cultivate a balanced perception of both local and industrial dairy products, fostering a healthier overall dairy consumption landscape in Iran. To the best of the authors' knowledge, this study represents the first of its kind conducted in Iran, contributing to the growing body of knowledge in this field. However, a limitation of this study is its focus on a single city in Iran, underscoring the need for further research across different regions of the country.

Acknowledgments

We thank all participants who shared their experiences, thereby enriching the insights and findings of this study.

Authors' Contribution

Conceptualization: Amin Sharifi, Hadise Rashin, Sayyed Mohammad Reza Qanbari, Ali Shahryari, Mohammad Bazyar.
Data curation: Hadise Rashin.
Formal analysis: Amin Sharifi, Mohammad Bazyar.
Funding acquisition: Amin Sharifi, Hadise Rashin, Sayyed Mohammad Reza Qanbari, Ali Shahryari.
Investigation: Amin Sharifi, Sayyed Mohammad Reza Qanbari, Ali Shahryari.
Methodology: Amin Sharifi, Mohammad Bazyar.
Project administration: Amin Sharifi, Sayyed Mohammad Reza Qanbari, Ali Shahryari.
Supervision: Amin Sharifi, Ali Shahryari, Mohammad Bazyar.
Validation: Amin Sharifi, Sayyed Mohammad Reza Qanbari, Mohammad Bazyar.
Writing–original draft: Amin Sharifi, Hadise Rashin, Sayyed Mohammad Reza Qanbari, Ali Shahryari, Mohammad Bazyar.

Competing Interests

The authors declare no conflicts of interest.

Ethical Approval

This study was approved by the Ethics Committee of Golestan University of Medical Sciences (Ethics Code: IR.GOUMS.REC.1397.212). As this is a qualitative study, verbal informed consent was obtained from all participants, which the ethics committee deemed sufficient.

Funding

This research was supported by a grant from Golestan University of Medical Sciences and Health Services (Grant No.110436).

References

1. Poppitt SD. Milk proteins and human health. In: Boland M, Singh H, eds. Milk Proteins. 3rd ed. Academic Press; 2020. p. 651-69. doi: 10.1016/b978-0-12-815251-5.00018-9.
2. Valaei S, Rashidi A, Haghighian Roudsari A, Houshyarrad A, Abadi A, Abdollahi M, et al. Evaluation of Iranian household's diet in terms of calcium and iron density in the seven provinces of Iran. J Nutr Food Secur. 2017;2(2):157-63.
3. Esfarjani F, Mohammadi-Nasrabadi F, Roustaee R, Khalafi M, Alikhanian H, Nouri-Saeidlou S, et al. Household milk consumption and its socio-economic associates in West Azarbaijan province, north-west Iran. Nutr Food Sci Res. 2015;2(3):21-7.
4. Karmaker A, Das PC, Iqbal A. Quality assessment of different commercial and local milk available in the local markets of selected area of Bangladesh. J Adv Vet Anim Res. 2020;7(1):26-

33. doi: 10.5455/javar.2020.g389.
5. Yuen SK, Yee CF, Yin FH. Microbiological quality and the impact of hygienic practices on the raw milk obtained from the small-scale dairy farmers in Sabah, Malaysia. Int J Res Agric Food Sci. 2012;2(2):55-9.
6. Khan MT, Zinnah MA, Siddique MP, Rashid MH, Islam MA, Choudhury KA. Physical and microbial qualities of raw milk collected from Bangladesh agricultural university dairy farm and the surrounding villages. Bangladesh J Vet Med. 2008;6(2):217-21. doi: 10.3329/bjvm.v6i2.2339.
7. Sinuff T, Cook DJ, Giacomini M. How qualitative research can contribute to research in the intensive care unit. J Crit Care. 2007;22(2):104-11. doi: 10.1016/j.jcrc.2007.03.001.
8. Bisogni CA, Jastran M, Seligson M, Thompson A. How people interpret healthy eating: contributions of qualitative research. J Nutr Educ Behav. 2012;44(4):282-301. doi: 10.1016/j.jneb.2011.11.009.
9. Qu SQ, Dumay J. The qualitative research interview. Qualitative Research in Accounting & Management. 2011;8(3):238-64. doi: 10.1108/11766091111162070.
10. Teddlie C, Yu F. Mixed methods sampling: a typology with examples. J Mix Methods Res. 2007;1(1):77-100. doi: 10.1177/1558689806292430.
11. Robinson OC. Sampling in interview-based qualitative research: a theoretical and practical guide. Qual Res Psychol. 2014;11(1):25-41. doi: 10.1080/14780887.2013.801543.
12. Ranjbar H, Haghdoost AA, Salsali M, Khoshdel A, Soleimani M, Bahrami N. Sampling in qualitative research: a guide for beginning. Ann Mil Health Sci Res. 2012;10(3):238-50.
13. Darawsheh W. Reflexivity in research: promoting rigour, reliability and validity in qualitative research. Int J Ther Rehabil. 2014;21(12):560-8. doi: 10.12968/ijtr.2014.21.12.560.
14. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77-101.
15. Yazdi-Feyzabadi V, Bazyar M, Ghasemi S. District health network policy in Iran: the role of ideas, interests, and institutions (3i framework) in a nutshell. Arch Public Health. 2021;79(1):212. doi: 10.1186/s13690-021-00737-7.
16. Bazyar M, Tahmasebi Ghorabi S, Sadeghifar J, Ranjbar M, Pakzad R, Bonyadi F, et al. What may encourage or deter health services utilization by people living with or at the risk of HIV/AIDS in special health centers? Qualitative evidence from a stigmatized community. BMC Public Health. 2024;24(1):981. doi: 10.1186/s12889-024-18480-3.
17. Boniface B, Umberger WJ. Factors Influencing Malaysian Consumers' Consumption of Dairy Products. Fremantle, Australia: Australian Agricultural and Resource Economics Society; 2012.
18. Thongplew N, van Koppen CS, Spaargaren G. Transformation of the dairy industry toward sustainability: the case of the organic dairy industries in the Netherlands and Thailand. Environ Dev. 2016;17:6-20. doi: 10.1016/j.envdev.2015.11.005.
19. Bousbia A, Boudalia S, Chelia S, Oudaifia K, Amari H, Benidir M, et al. Analysis of factors affecting consumer behavior of dairy products in Algeria: a case study from the region of Guelma. Int J Agric Res. 2017;12(2):93-101. doi: 10.3923/ijar.2017.93.101.
20. Boimah M, Weible D. "We prefer local but consume imported": results from a qualitative study of dairy consumers in Senegal. J Int Food Agribus Mark. 2023;35(2):244-60. doi: 10.1080/08974438.2021.1986453.
21. Millogo V, Svennersten Sjaunja K, Ouédraogo GA, Agenäs S. Raw milk hygiene at farms, processing units and local markets in Burkina Faso. Food Control. 2010;21(7):1070-4. doi: 10.1016/j.foodcont.2009.12.029.
22. Belli P, Cantafora AFA, Stella S, Barbieri S, Crimella C. Microbiological survey of milk and dairy products from a small-scale dairy processing unit in Maroua (Cameroon). Food Control. 2013;32(2):366-70. doi: 10.1016/j.foodcont.2012.12.021.
23. Kamal RM, Bayoumi MA, Abd-El Aal SF. MRSA detection in raw milk, some dairy products and hands of dairy workers in Egypt, a mini-survey. Food Control. 2013;33(1):49-53. doi: 10.1016/j.foodcont.2013.02.017.
24. Donnelly CW, Pritchard TJ. Do Raw Milk Sales Help or Harm Local Dairy Economies: The Case of Vermont H.125. University of Vermont; 2010.
25. Maitiniyazi S, Canavari M. Understanding Chinese consumers' safety perceptions of dairy products: a qualitative study. Br Food J. 2021;123(5):1837-52. doi: 10.1108/bfj-04-2019-0252.
26. Kunadu AP, Aboagye EF, Colecraft EK, Otoo GE, Adjei MY, Acquaah E, et al. Low consumption of indigenous fresh dairy products in Ghana attributed to poor hygienic quality. J Food Prot. 2019;82(2):276-86. doi: 10.4315/0362-028x.Jfp-18-146.
27. Zaitlin P, Dwyer J, Gleason GR. Mistaken beliefs and the facts about milk and dairy foods. Nutr Today. 2013;48(3):135-43. doi: 10.1097/NT.0b013e3182941c62.
28. Perez-Cueto FJA. An umbrella review of systematic reviews on food choice and nutrition published between 2017 and-2019. Nutrients. 2019;11(10):2398. doi: 10.3390/nu11102398.
29. Bimbo F, Bonanno A, Nocella G, Viscecchia R, Nardone G, De Devitiis B, et al. Consumers' acceptance and preferences for nutrition-modified and functional dairy products: a systematic review. Appetite. 2017;113:141-54. doi: 10.1016/j.appet.2017.02.031.
30. Liu N, Mao L, Sun X, Liu L, Yao P, Chen B. The effect of health and nutrition education intervention on women's postpartum beliefs and practices: a randomized controlled trial. BMC Public Health. 2009;9:45. doi: 10.1186/1471-2458-9-45.
31. Moradi M, Basami A, Alambeigi A, Zhoolideh M, Babazade Khamenh S. Determinants of local dairy products purchasing behavior: the case of western Iranian consumers. J Int Food Agribus Mark. 2025;37(2):404-22. doi: 10.1080/08974438.2024.2335620.