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Original Article

Community Health Assessment for Identifying and Prioritizing Health Issues in a Southwestern City of Iran

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Abstract

Background and aims: This study aimed to evaluate the community health of Taganak in Chaharmahal and Bakhtiari Province, focusing on identifying and prioritizing health-related challenges faced by residents. Utilizing the 8-stage North Carolina model, the assessment incorporated active community participation and a systematic evaluation process. This process included the formation of assessment teams, data collection, analysis of findings, and the development of operational plans to address the identified key issues.

Methods: This cross-sectional study was conducted in the fall of 2023. Overall, 195 residents (mean age 43.29±15.13 years; 56% female) were involved in this study, and interviews were included with seven city managers. Participants were selected using a multi-stage random sampling technique. Data collection methods encompassed surveys, interviews, and secondary sources, including health statistics from local health centers.

Results: The assessment identified 34 significant issues across six domains, including health, education, economy, urban services, security, and social rights. The highest priorities included unemployment (average score: 10), poor economic conditions (9.8), and addiction (9.5). Approximately 45% of participants rated their health as good; however, 66.1% deemed the city unsuitable for children, and 50% found it inappropriate for the elderly. Furthermore, 71.3% reported a lack of economic opportunities, and 52% perceived the city as unsafe. Finally, concerns regarding drinking water pollution and the prevalence of non-communicable diseases, such as diabetes and obesity, were also prominent.

Conclusion: This study underscores a diverse array of economic, social, and cultural challenges facing Taganak, with unemployment identified as the predominant issue. Accordingly, effectively addressing these challenges will necessitate collaborative efforts among government officials and local stakeholders.

Keywords: Community health assessment, Health prioritization, Taganak, North Carolina model, Chaharmahal and Bakhtiari province, Public health challenges

Introduction

A community health assessment is a collaborative process in which an assessment team works in collaboration with community members to collect and analyze data regarding the community's health, concerns, and healthcare system. This assessment aims to achieve a comprehensive understanding of the community's health status and its capacity for development.[1]

Successful interventions rely on addressing the community's identified and perceived needs.[2] Research processes that actively engage community members function as tools to promote social development, improve communication, and facilitate the exchange of ideas.[3] This heightened awareness motivates individuals to devise solutions and develop tools to address their challenges.[4]

To accurately identify the most pressing issues and priorities within a community, it is essential to obtain precise and reliable information regarding the community's needs and resources.[5] However, such information is frequently incomplete or insufficient, which can result in unjustified assumptions and flawed decision-making.[6,7]

In community health assessments, as exemplified by the North Carolina model, community members take on a leadership role in forming partnerships, collecting data, setting health priorities, identifying resources, and planning health programs.[8,9] By directly involving community members in the evaluation process, the assessment becomes more relevant and applicable to their specific context, making their participation a critical component.[10]

The standard stages of implementing a community assessment typically include forming an assessment team, collecting and analyzing data, integrating health statistics, reporting findings to the community, prioritizing issues, preparing an evaluation document, and presenting an

operational plan to address the identified problems.[11]

Previous studies similarly evaluated various communities. For instance, in the Chahestani neighborhood of Bandar Abbas, researchers identified and prioritized 11 key issues, which included neglect by authorities, insecurity, unemployment, poverty, sewage problems, water outages, lack of infrastructure, electricity outages, inadequate street lighting, lack of green spaces, and unclean roads.[12]

The most pressing issues identified in the 17th district of Tehran included addiction, poverty, low household income, high population density, transportation challenges, deteriorating infrastructure, environmental health concerns, inadequate employment opportunities, and noise pollution.[13]

A study conducted by the Population Research Institute of Gonabad identified 54 perceived needs and issues across various domains, including health, healthcare services, personal safety, and social security.[14]

Considering the findings of previous studies, community evaluations within the healthcare system serve as valuable tools for assessing needs, identifying strengths and weaknesses, and addressing societal challenges.[15-18] This study aims to identify and prioritize the issues in Taganak, Shahrekord, Chaharmahal and Bakhtiari province, with the active participation of residents. It will encompass various aspects of the community, including healthcare, business, culture, education, and social security, among others.

Materials and Methods

Study Design and Population

In November 2023, a cross-sectional study was conducted in the Taganak area of Shahrekord, located in Chaharmahal and Bakhtiari province, in southwestern Iran. Taganak is a small town with a population of 6,620, situated along the Khuzestan Road. The study employed the North Carolina model, a well-established and progressive method for community health assessment. This model is performed every four years and follows an eight-stage process that emphasizes community participation.

Community Health Assessment Steps

The first stage involved the formation of a community health assessment team, which comprised work groups, consultant groups, and project supervisors. These teams were responsible for implementing and monitoring the project. The work group included three master's students specializing in epidemiology, while the consultant group consisted of representatives from various sectors of the community. A faculty member from the Faculty of Health facilitated the project.

In the second stage of the study, the community assessment team collected primary data using both qualitative and quantitative methods. Surveys and focus-group discussions were conducted to gather the opinions and concerns of the community members. Additionally, interviews were held with health officials and key community members, including local leaders and stakeholders who were considered influential or representative of the population. The sample size consisted of 200 participants, selected through multi-stage random sampling. Following the guidelines outlined in the community health assessment handbook and considering the population and geographic layout of Taganak, the city was initially divided into two blocks. Based on the number of households, it was determined that one household out of every six would be included in the study, resulting in a sample size of 200 (one participant per household). At this stage, households from each block were randomly selected using a table of random numbers to ensure an unbiased selection process.

The third stage involved collecting and analyzing health data from secondary sources, such as health centers. The team compared the statistics and health indicators of Taganak with those of the province and a "match city"-a city with similar demographic, economic, and social characteristics used for comparative analysis. This comparison facilitated the identification of both unique and common issues by contrasting Taganak's data with those of a similar urban area within the province.

In the fourth stage, secondary data were combined with primary data to gain a preliminary understanding of the major problems and risk factors in Taganak. This synthesis allowed the team to identify key health challenges and areas of concern within the community. During the fifth stage, the team presented the evaluation results to the community members who participated in the process. Using the nominal group technique, the community members ranked and prioritized the identified issues based on several criteria, including the extent of the problem, its consequences, ease of resolution, and urgency. This participatory approach ensured that the community's perspectives were integral to the prioritization process.

In the sixth and seventh stages, the collected information was compiled into a comprehensive community health assessment document, and a detailed report was prepared about the assessment process. This report was shared with community members and other stakeholders to ensure transparency and foster community engagement. Finally, in the eighth stage, an action plan was developed to address issues identified from the community health assessment. This action plan outlined specific strategies and interventions aimed at mitigating the prioritized problems, leveraging community resources, and promoting collaboration among stakeholders to enhance the overall health and well-being of Taganak.

Data Collection Tools

The data collection tools utilized in the study included:

1. Interview questions for service providers (n = 11),
2. Interview questions for residents (n = 16), and
3. Community Health Opinion Survey, which comprised 54 questions organized across six dimensions,

including living in our community, health and human services, health services for women/infants/children, health services for older people, diseases and disabilities, and unhealthy behaviors/violence).

Each dimension was meticulously designed to capture specific aspects of community health concerns, thereby providing a holistic understanding of local issues. Responses to the survey were scored on a scale ranging from 1 to 5, where higher scores indicated greater concern or need regarding the respective health issues.

Identification of Key Problems

Key problems were identified through a multi-step process that integrated input from stakeholders and thorough data analysis. To effectively prioritize community health issues, the average score for each identified problem was calculated by summing the responses across all participants and then dividing the sum by the total number of respondents. This method provided a clear metric for evaluating the level of concern associated with each health issue based on collective inputs from the community.

The number of problems was determined through a systematic analysis of community data and feedback collected during the assessment phase. Initially, a broad list of potential health issues was generated through surveys and listening sessions, where community members were encouraged to voice their concerns and experiences. Following this initial gathering of information, the list of potential issues was narrowed down by prioritizing those with the highest average scores, as calculated from the survey responses. Additionally, the team considered the potential impact of each issue on the community, focusing on those that posed the greatest risk to health and well-being.

Results

In this study, a standard community health assessment questionnaire was administered to 195 residents of the region to gather a broad range of perspectives on local health issues. This quantitative data collection provided valuable insights into the health concerns and needs of the community. In addition to the questionnaire, qualitative data were obtained through interviews with seven key city officials. These officials included representatives from various departments, such as the gas department, municipality, water and sewage department, the head of the health center in Taganak, the local imam, and several school principals. The opinions and insights from these interviews were thoroughly recorded, enriching the assessment with expert perspectives on community health and resources available to address the identified issues.

The demographic characteristics of the study participants provided a valuable context for understanding the community health assessment results. The participants had an average age of 43.29 ± 15.13 years, indicating a diverse age range within the sample.

Key demographic details were as follows:

- Gender: More than half of the respondents (56%) were female.
- Ethnicity: Most participants (95%) were identified as Turks.
- Language: Overall, 97.3% spoke a language other than Farsi at home, highlighting the linguistic diversity within the community.
- Marital status: About 75.4% of participants were married.
- Education: Approximately 77.5% had a high school diploma or lower, suggesting a need for educational resources and support.
- Housing: Most participants (77.9%) lived in their own homes, while 14.4% rented a house, indicating a relatively stable housing situation.
- Income: Approximately 33% reported a monthly household income of 4–6 million tomans, reflecting the economic conditions of the community.
- Employment: Among the respondents, 17.9% were housewives, and 1.5% had been unemployed for over a year, suggesting varying levels of employment stability.
- Internet access: The Internet was available to 73.3% of respondents, which may influence their access to health information and services.
- Vehicle ownership: Nearly 64.6% of participants owned a vehicle, which could affect their mobility and access to healthcare facilities (Table 1).

An assessment of living conditions in Taganak indicated that 45% of participants perceived the city as having good healthcare services. In contrast, 66.1% disagreed that it was an appropriate environment for raising children, while 50% considered it unsuitable for the elderly. A substantial proportion of respondents (71.3%) expressed concerns regarding inadequate economic opportunities in the city, and 52% felt that Taganak was not a safe place to reside.

The evaluation revealed that low income, poverty, and water pollution were the most significant factors influencing the quality of life. Low income and poverty were identified by 61.5% of respondents as the primary determinants affecting their health, while 14.4% cited drinking water pollution as a concern. Access to employment opportunities was regarded as the most critical need by 47.5% of participants. Furthermore, 33.3% prioritized receiving information on smoking cessation and drug use, while 26.6% expressed interest in learning about the risks associated with drug and alcohol abuse. The internet emerged as the primary source of health information for 45.7% of participants, and 24% indicated a desire for information on preventing drug abuse among teenagers (Tables 1 and 2). Regarding personal health, nearly half of the participants (49.8%) rated their health as good. The most frequently reported health conditions included high blood pressure (16.4%), diabetes (14.87%), and overweight/obesity (12.8%). Over the past 30 days, 31.79% of respondents indicated experiencing health issues that interfered with their work or daily activities.

Table 1. Demographic Characteristics of Participants in a Community Health Assessment in Taganak

Variable	Variable Levels	Number (%)
Gender	Female	85 (44)
	Male	110 (56)
Marital status	Single	40 (20.5)
	Married	147 (75.4)
	Divorced	5 (2.6)
	Widowed	1 (0.5)
	Other	2 (1)
Employment status	Employed	26 (13.3)
	Retired	27 (13.8)
	Self-employed	80 (41)
	Unemployed for more than one year	3 (1.5)
	Disabled	1 (0.5)
	Homemaker	35 (17.9)
	Student	14 (7.2)
	Unemployed for one year or less	1 (0.5)
	Other	8 (4.1)
Monthly family income	Less than 2 million tomans	9 (4.6)
	2–4 million tomans	17 (8.7)
	4–6 million tomans	59 (33)
	6–8 million tomans	51(2.26)
	8–10 million tomans	29 (14.9)
	10 million tomans and above	30 (4.15)
Vehicle ownership	Yes	126 (64.6)
	No	69 (4.36)
Housing status	Owner-occupied	152 (77.9)
	Rental	28(14.4)
	Organizational housing	4(2.1)
	Other	11 (5.6)
Level of education	Illiterate	16 (2.8)
	Less than 9 years of education	57 (29.2)
	High school diploma	78 (40)
	Associate degree	15 (7.7)
	Bachelor's degree	27 (13.8)
	Master's degree and higher	2 (1)

Only 16.4% engaged in physical activity or sports for approximately 30 minutes per day, while 31.2% utilized gym facilities. Among those who did not participate in regular exercise, 33.2% attributed their inactivity to a lack of time, and 11.56% cited physical disabilities as the reason.

A significant percentage of participants reported regular consumption of fruits and vegetables, with 97.44% and 94.88%, respectively, consuming these items several times a week. Additionally, 46.2% of respondents indicated consuming natural fruit juice. In terms of oil usage, 41.5% mentioned that they used vegetable oil. Regarding smoking habits, 13.84% of respondents were identified as smokers; notably, 55.6% expressed no interest in quitting.

In terms of healthcare access and family health, 62% of participants declared having received necessary services from health centers; however, none expressed interest in traditional medicine centers. A majority of respondents (58.4%) were covered by social security insurance, while 17% were uninsured, and the remaining participants had either other forms of insurance or supplementary coverage. Over the past 12 months, 66% of respondents required medical services, with 23.2% visiting a health center. Notably, 42% indicated that lack of access to services was their primary obstacle.

Regarding emergency preparedness, 82.5% of participants reported not having an emergency supplies kit at home. Additionally, 44.6% opposed forced evacuations during emergencies, with 29.1% citing concerns for their family's safety and 22.38% expressing distrust in officials. Based on the needs assessment derived from the questionnaire and feedback from the working and advisory groups, the most significant problems identified in Taganak included unemployment, lack of job opportunities, poor economic conditions, and drug addiction (Table 3).

Discussion

In this study, 34 issues were identified and categorized into six distinct domains, including health, culture and education, economy and employment, social and citizenship

Table 2. Challenges Identified in the Community Health Assessment of Taganak (2023)

Health	Educational and Cultural	Economy and Employment	City Services	Security	Social and Civil Rights
• Diabetes • Hypertension (high blood pressure) • Cardiovascular diseases • Overweight and obesity • Oral and dental diseases • Depression and mental illness • Exposure to secondhand smoke • Rising cancer rates	• Lack of awareness about health issues • Excessive use of virtual space • Low communication skills in teenagers • Lack of information about drug abuse prevention	• Unemployment • Low-income level • High cost of living • Poor economic situation	• Lack of recreational facilities • Lack of green space • Lack of grocery stores • Lack of gas stations • Unsafe roads • Access to drinking Water • Sewage contamination of agricultural land	• Natural disasters • Lack of home security • Quarrels and conflicts • Presence of drug dealers	• Unpleasant smell of sewage • Absence of trash cans in the city • Unsanitary disposal of sewage • Stray animals • Insufficient insurance coverage • High cost of dental treatment • Lack of trust in officials • Increase in water tariffs

Table 3. Priorities of Taganak According to the Community Health Assessment Model (2023)

Problem	Mean Score (SD)	Min-Max
Unemployment	10 (0.18)	9-10
Unfavorable economic conditions	9.80 (0.43)	8-10
Substance addiction	9.50 (0.88)	6-10
High medical and dental expenses	8.80 (1.47)	3-10
Tobacco use (cigarettes and hookah)	8.65 (1.38)	5-10
Alcohol consumption	8.60 (1.32)	6-10
Prevalence of non-communicable diseases (e.g., hypertension or hyperlipidemia)	8.50 (1.44)	4-10
Cybersecurity risks	8.17 (1.23)	3-9
Insufficient sports and recreational facilities	8.15 (1.35)	2-10
Suicide rates	7.80 (2.03)	3-10
Presence of stray animals	7.70 (2.20)	2-10
Inadequate health insurance coverage	7.50 (2.04)	3-10
Poor condition of road infrastructure	7.45 (2.32)	1-9
Limited access to public transportation	7.45 (2.47)	2-10
Traffic accidents	7.40 (1.95)	5-10
Inefficient waste management and insufficient availability of trash bins	7.35 (3.13)	1-10
Delayed age of marriage	7.20 (3.01)	2-10
Social harm and its prevalence	7.17 (2.49)	3-10
Limited access to health care facilities	7.10 (2.36)	2-10
Incidence of cancer	7 (2.18)	4-10
Low health literacy among the population	6.85 (2.23)	2-10
Insufficient physical activity	6.70 (2)	2-10
Obesity and overweight issues	6.60 (1.86)	4-10
Mental health disorders (e.g., depression)	6.50 (1.83)	3-10
Cardiovascular diseases	6.50 (1.80)	2-10
Limited access to high-speed internet	6.20 (2)	1-10
Insufficient parks and green spaces	6.15 (2.24)	1-10
High housing costs and rental prices	6 (1.87)	3-10
Lack of health education professionals in schools	5.20 (1.65)	1-8
Low consumption of fruits and vegetables	5 (1.77)	1-9
Occupational health hazards	4.40 (1.63)	1-8
Malodorous sewage issues	4 (1.99)	1-9
Deteriorating condition of educational institutions	3.95 (2.05)	1-10
High consumption of fast food	3.20 (1.82)	1-8

Note. Max: Maximum; Min: Minimum; SD: Standard deviation.

rights, security, and urban services. The ten most pressing concerns in Taganak included unemployment, poor economic conditions, substance addiction, high medical and dental expenses, smoking, alcohol consumption, the prevalence of non-communicable diseases, cyberspace-associated risks, inadequate sports facilities, and suicide. It is evident that many of the challenges faced by Taganak stem from economic and social determinants, including unemployment, addiction, the presence of drug dealers, and the pollution of drinking water sources.

Similar studies conducted in Choliche, located in Farsan County within Chaharmahal and Bakhtiari Province, Iran, identified analogous issues, including water pollution, economic hardship, unemployment, low health awareness, a high prevalence of cancers, smoking, hypertension, physical inactivity, risky behaviors among youth, and insufficient consumption of fruits and vegetables. These parallels indicate that the challenges faced by these two communities are closely interconnected. Both cities exhibit comparable characteristics in terms of population size, cultural context, social dynamics, and economic conditions, highlighting the interrelated nature of the issues they confront.

In a separate study performed in Aleni village, Mashgin Shahr, Ardabil province, Rafiemanesh et al identified ten priority issues, including unemployment, mental health problems and depression, substance addiction, early marriage, and insufficient paved roads. The other important issues were inadequate sewage and waste disposal systems, high blood pressure, water shortages during hot seasons, a lack of dams and agricultural water, and a lack of cooperation from officials in providing employment loans.[19]

Similarly, in a community evaluation study conducted in Jamkaran village, Qom province, Rahmani et al identified 48 distinct problems. The most pressing issues included the absence of a sanitation system, a lack of parks and green spaces, unemployment, the prevalence of non-communicable diseases (e.g., diabetes and hypertension), and the absence of a public library. The other issues were infectious diseases (e.g., tuberculosis and pediculosis), insufficient sports and recreational facilities, inadequate road paving in streets and alleys, and frequent power outages during the spring and summer months.[20]

Differences between the problems identified in these studies and those observed in Taganak can likely be attributed to disparities between urban and rural life. Issues such as unpaved roads, agricultural water shortages, and early marriages tend to be more prevalent in rural areas.

Community health assessment studies have been conducted worldwide, and their findings often differ from those observed in Iranian society.[21-23] For example, a study performed in London identified widespread dissatisfaction with service providers as the primary issue affecting community health.[24] In Northern Ireland, significant concerns included the lack of safe spaces and support for the elderly, as well as an increased reliance on psychiatric medications.[25]

Similar to the present study, all these assessments emphasized community participation in both problem prioritization and intervention development. This approach underscores the importance of involving the public as an effective means to identify key issues and develop solutions. When individuals actively participate in the process, they are more likely to take ownership of the outcomes, which significantly enhances the likelihood of successful interventions.[26-30]

The variations in study results, whether domestic or international, can be attributed to the specific characteristics of study locations, including factors such as urban versus rural settings, population size, and proximity to central cities. These differences are inevitable and reflect the unique contexts of each community. However, despite the variations in methodology and outcomes, it is important to note that the model used in this study can be applied across a wide range of societies, irrespective of cultural or customary differences. With minor adjustments to account for local contexts, this approach can effectively engage communities in research initiatives. This adaptability highlights the potential for collaborative community health assessments to yield valuable insights and foster meaningful participation, ultimately enhancing the relevance and impact of health interventions.[31-33]

In the fall of 2023, we implemented this project in collaboration with the dedicated staff of the Comprehensive Health Service Center of Taganak. With their support and the active participation of the compassionate people of Taganak, this study addressed the identified problems within the community.

During the study, we encountered several limitations. A significant challenge was the lack of trust among residents, which resulted in hesitancy to provide certain information on the questionnaires. For example, some individuals were reluctant to disclose their income, while others were unwilling to discuss sensitive issues such as addiction within their families. Additionally, when gathering information from organizations, we initially faced resistance from some school officials due to various concerns. Nevertheless, by offering clear explanations of the project's objectives and emphasizing how the findings could address the residents' issues, we could surmount most of these obstacles.

Conclusion

The study illuminated a wide range of economic, social, and cultural issues in Taganak. While unemployment emerged as the most pressing concern, it is essential not to overlook the significance of the other challenges identified in this study. Addressing these issues will require collaboration and deliberate action from local authorities. The active participation of community members in identifying these problems underscores the effectiveness of the evaluation approach employed in this research. Furthermore, the data collected from this assessment provides valuable insights for future health planning. Incorporating this methodology as a needs assessment tool within the health network could substantially enhance its effectiveness, thereby contributing to the development of a comprehensive and actionable plan.

Authors' Contribution

Conceptualization: Tayyaba Zamani Qomi, Hamid Bazund, Mehdi Rahimi, Abdollah Mohammadian-Hafshejani.
Data curation: Tayyaba Zamani Qomi, Hamid Bazund, Mehdi Rahimi.
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Writing–review & editing: Tayyaba Zamani Qomi, Hamid Bazund, Mehdi Rahimi, Abdollah Mohammadian-Hafshejani.

Competing Interests

The authors declare that there is no conflict of interest.

Ethical Approval

The study protocol received approval from the Ethics Committee of Shahrekord University of Medical Sciences (IR.SKUMS.REC.1403.076). All necessary permits were obtained, and measures were taken to ensure participant privacy and informed consent throughout the study. The obtained data were analyzed using SPSS version 26, with descriptive analyses conducted to interpret the results effectively.

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