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Physician Leadership from Within: Bedouin Doctors' Roles in Reducing Health Disparities in Southern Israel

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Abstract

Negev Bedouin settlements are characterized by inadequate infrastructure, and the population exhibits poor health outcomes across all measured indicators. Although integration of Bedouin citizens of Israel into the national labor market is challenging, their incorporation into the healthcare system is extensive. This study aims to explore the barriers and motivating factors that Bedouin physicians encounter in advancing public health within Bedouin communities in southern Israel, and to investigate how these physicians perceive the concept of leadership in the context of public health. Semi-structured interviews were conducted with Bedouin physicians from the Negev Bedouin community, and the data were analyzed using thematic analysis. The majority of participants identified themselves as leaders responsible for improving public health within their communities. They emphasized the importance of health leadership in Negev Bedouin society and expressed a strong commitment to driving internal community change. All participants reported adapting to a different lifestyle and higher living standards, which made returning to their communities challenging. Trust in the healthcare system was identified as a crucial determinant for the effectiveness of health promotion initiatives. However, participants also highlighted growing general mistrust in government institutions, which contributes to skepticism toward the healthcare system itself. Time constraints and heavy workloads were reported as obstacles to practicing leadership. Participants also described how socioeconomic conditions, living standards, and deficiencies in infrastructure, education, and training negatively influence health outcomes and limit collaboration opportunities. This study offers a distinctive insight into the perspectives of Bedouin physicians in the Negev on their engagement in grassroots leadership to reduce health disparities within their community.

Keywords: Socioecological model, Under-represented minorities, Negev Bedouin, Health leadership, Health policy, Health inequalities

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Introduction

Approximately 272,578 Bedouins reside in the Negev region of Israel (as of May 2020) [1]. The Bedouins are Sunni Arab Muslims, and the Negev Bedouin population is considered one of the most socioeconomically disadvantaged groups in Israel. Their settlements face inadequate infrastructure, and health outcomes remain poor across all major indicators—including life expectancy at birth, infant mortality, congenital anomalies, self-rated health status, and health-related behaviors—compared with both Jewish and Arab populations in Israel. Additionally, the population growth rate among Negev Bedouins is significantly higher than that of Jewish Israelis and other Arab groups in the country [1].

Over the past two decades, Bedouin society has experienced substantial transformation. Fertility rates, once among the highest globally (exceeding 10), have decreased by approximately 50%, alongside increased educational attainment, particularly among Bedouin women [1]. However, these changes are uneven and have widened internal disparities within Bedouin society, especially between urban residents and those living in unrecognized villages. The decline in fertility rates has also enabled some women to pursue higher education and enter the labor force. These ongoing shifts continue to generate tensions within Bedouin society.

Although Arab citizens of Israel face significant challenges in entering the national labor market, their participation in the healthcare sector—including Bedouins—is considerable. By 2020, Arab physicians constituted 16% of all doctors, 34% of dentists, and 48% of pharmacists in Israel [2]. This relatively high representation in health professions is attributed to factors such as job stability, secure income, and social status and prestige within Arab society [2]. There has also been a marked rise in Bedouin participation in health professions [3]. Increasing numbers of young Bedouins are pursuing medical education, and due to barriers in accessing Israeli medical schools, many are studying in Eastern Europe, Jordan, and the Palestinian Authority.

Multiple factors influence the decision to pursue medicine, including ethnic and social background. Popper-Giveon [3] identified several key motivations among Arab physicians in Israel: (1) viewing medicine as a pathway to excellence; (2) a desire to reduce health disparities between minority and majority populations and to raise awareness of the medical profession within Arab society; (3) aspirations for socioeconomic advancement, leadership, and social prestige in both Arab and Jewish communities; (4) a sense of inclusion and integration within Israeli society; and (5) strong family influence, where medicine is seen as a collective family aspiration rather than solely an individual one. Similarly, a recent study of Israeli physicians in senior management roles found that doctors are widely perceived as leaders and agents of change, with most respondents agreeing that physicians should assume broader social leadership roles and actively contribute to public health improvement and health equity beyond their clinical duties [4].

Community leadership plays a crucial role in initiating transformation within minority populations. Community leaders serve their communities and often stand at the forefront of social initiatives grounded in voluntary engagement [5]. A central challenge for community leaders and activists is determining how to empower individuals from disadvantaged backgrounds to shift from feelings of helplessness and powerlessness under poor living conditions toward self-recognition as leaders [6].

One of the most widely used strategies for reducing inequalities is fostering local leadership, based on the premise that strengthening community members' sense of capability and leadership competencies can initiate broader community-level change [7]. A community leader's capacity to influence others is demonstrated through their "awakening" as an active agent of change and their commitment to initiating and guiding transformation within the community. This process encompasses elements such as motivation, capability, and leadership capacity [8]. Transformational leadership [9] promotes positive change among followers and is strongly committed to the success of all individuals involved in the process. Such leaders are characterized by high levels of energy, enthusiasm, and determination.

Equally important is collaboration among professionals originating from the same community, enabling them to identify shared priorities, establish objectives for change, advance community development, reduce disparities, and address collective challenges [10]. Social Identity Theory [11] explains the cognitive mechanisms and social conditions that shape intergroup behavior. According to this theory, group membership is a significant source of pride and self-esteem. Social identity groups contribute to an individual's sense of belonging (feeling connected and unified with others), purpose, self-worth (pride in group achievements and a positive collective image), and identity.

The Arab Bedouin population in Israel has undergone profound changes over the past century. During the 1970s, Negev Bedouins began a process of urbanization, transitioning from small desert settlements to larger urban towns. This transition led to the emergence of new leadership structures, shifting from tribal-based authority to more modern forms [12]. A clear tension exists between these two leadership models. The sheik is regarded as the authentic, traditional tribal leader, whose position is inherited through familial lineage and aligns with the concept of traditional leadership. In contrast to the traditional leadership that guided the Bedouin population during the early decades of the State of Israel, a younger, more educated leadership has developed, demonstrating greater awareness of community health needs. As in other contexts globally, local minority leadership is often better positioned to articulate and respond to the needs of its own society and to represent its population's interests [13].

The objective of this study is to address this gap by examining the barriers and motivational factors that Bedouin physicians face in promoting public health within the Bedouin community in southern Israel, and to explore how these physicians perceive the concept of leadership in a public health context. The following research questions guide the study: How do Bedouin physicians view their role as health leaders within their community? What factors motivate them to initiate health-related change in their communities? What challenges do they encounter in leading such changes? To date, research has not yet sufficiently addressed public health leadership within Bedouin society in the Negev.

Materials and Methods

Participants, procedure, and tool

This study used a qualitative interview design. Ethical approval was obtained from the Ethics Committee of the Faculty of Health Sciences at Ben Gurion University of the Negev (approval #12-2021). The initial phase involved recruiting and interviewing five physicians from the Negev Bedouin community through professional contacts within our faculty. Subsequently, a snowball sampling strategy was used, in which these participants were asked to recommend additional Bedouin physicians from the Negev after their interviews were completed.

In total, 31 physicians were approached. Two explicitly declined participation, while 14 either did not respond or were unable to schedule an interview due to time constraints. The research team consisted of health sociologists, a physician specializing in public health, and a master's student in health policy and management. There was no prior direct relationship between the researchers and the participants. However, two researchers (K.D., N.D.) have worked for approximately a decade on health inequality research in the Negev and have maintained ongoing professional engagement with the Bedouin medical and public health sector.

Ultimately, 15 Bedouin physicians participated in the study (four women and 11 men), with ages ranging from 30 to 76 years (mean = 42.4). Two participants were unmarried (13.3%), while 13 were married and had children (86.67%). Except for one individual, all were born in the Negev. Six had relocated either to Jewish towns or abroad, whereas nine continued residing in Bedouin communities within the Negev. Twelve participants completed their medical education outside Israel, while three studied domestically. All completed their specialty training in Israel, and two also pursued subspecialty training abroad. At the time of data collection, eight worked in hospital settings, six in community healthcare services, and one in the Ministry of Health. All participants were cooperative and provided rich, detailed accounts during the interviews.

Data were collected through semi-structured, in-depth interviews that allowed the interviewer to follow a flexible guide and introduce additional questions when necessary beyond the predefined framework. Interviews were conducted in Hebrew via Zoom during August–September 2021 at times chosen by participants. All interviews were conducted by EK, who holds a BA in public health and an MA in health systems management, and who received training in qualitative interviewing from two experienced qualitative researchers (KD and ND). The authors developed the interview guide in line with the research objectives.

To ensure validity, the interview guide was reviewed by two professors from Ben Gurion University with expertise in leadership and public health using a content validity approach. This method assesses how well a tool's components reflect the intended construct in terms of relevance and coherence [14]. Following their review, three items were clarified and revised, and one additional question was added. In a second review round, both experts reached full agreement on the appropriateness of the guide. Afterward, two Bedouin pharmacists also assessed the guide through pilot interviews to ensure cultural sensitivity and appropriateness. Based on their feedback, one question was further adjusted.

Interview durations ranged from 20 to 80 minutes (mean = 44.8 minutes, SD = 17.75). At the beginning of each session, participants were informed about the study's aims and procedures and provided written consent to participate and to have their audio recorded. All interviews were recorded and fully transcribed.

The interview protocol consisted of four main sections. The first gathered demographic, general, and professional background information. The second focused on participants' community involvement and the factors motivating their engagement, emphasizing subjective experiences and personal perspectives. The third explored how participants understood "leadership" and which traits they associated with effective leaders. The fourth addressed perceived enablers, barriers, and challenges in implementing change, based on participants' lived and professional experiences.

Data analysis

The interview data were examined through thematic analysis conducted in multiple phases following Shakadi's approach [15]. A theme is understood as a central, comprehensive concept that recurs across the dataset in varying forms of expression [15].

In the initial stage, the authors aimed to develop a deep, holistic understanding of the material by conducting a full horizontal reading of all interviews. Subsequent steps involved identifying emerging ideas, categories, and themes aligned with the study's research questions. After preliminary thematic extraction, the authors validated the identified themes. In the third stage, interpretations and conceptualizations were collaboratively discussed, with the interview transcripts revisited repeatedly until the final thematic structure was established.

Initially, KD and EK independently reviewed all interviews to become fully familiar with the data. In the next phase, each researcher separately extracted initial ideas, categories, and themes relevant to the research objectives. Once consensus was reached and the themes were confirmed, the researchers jointly revisited the transcripts, refining interpretations through repeated reading until the final themes were finalized and supported with representative quotations. At the concluding stage, all themes and quotations were translated into English and systematically recorded. To maintain translation accuracy and consistency between Hebrew and English, a standardized coding framework was applied.

The final thematic organization was structured using the socioecological model in accordance with the study aims. This model is used to identify and map determinants of individual health, while also providing strategies to improve health outcomes. Its core assumption is that health is shaped through the interaction of environmental, organizational, and individual-level influences [16]. Within the socioecological framework, health is affected by multiple determinants operating at different layers.

At the micro or individual level, factors include demographic characteristics, psychological perceptions, attitudes, and influences from the immediate social environment, such as family, peers, and workplace. At the meso or community-cultural level, influences extend to broader social structures, including accessibility, sense of belonging, cultural norms, gender roles, and health disparities within the community context. At the macro or population level, determinants include national systems and policies such as legislation, governance, financial allocation, and structural inequality [17].

Results and Discussion

Table 1 presents the identified themes and sub-themes organized according to the socioecological model.

Table 1. Themes and sub-themes according to the socioecological model.

Themes	Level	Sub-themes
The emergence of leadership in health	Micro (personal)	1. Self-concept/self-perception as leaders2. "Self-reflection in the mirror"
	Micro (intrapersonal)	1. Factors contributing to leadership development
	Meso	1. Choosing to leave the village versus remaining in it
Motivational/encouraging factors for community engagement	Micro (personal)	1. Views of the physician's role and professional ethical responsibility, 2. Motivation to create impact and a sense of mission
	Micro (intrapersonal)	1. Personal and professional life experiences
	Meso	1. Sense of responsibility, commitment, and community belonging, 2. Awareness of cultural context, 3. Health inequalities and disparities
Barriers/challenges in leading community projects	Micro (personal)	1. Limited time and work-related stress
	Meso	1. Cultural barriers within Bedouin society, 2. Social and community-related obstacles, 3. Cultural and gender-based constraints
	Macro	1. Health inequities and disparities, 2. Policy-related issues

Theme 1: The development of leadership in health

The objective was to explore whether participants considered themselves health leaders and, if so, to understand the contexts and processes through which such leadership emerged.

Micro (personal) level

Self-perception/self-image as leaders

Eight participants identified themselves as leaders (53%):

"I see myself as a leader. I consider myself someone with influence and responsibility in this regard. However, leadership is not only defined by self-perception, but also by how others perceive you." (13).

The remaining participants did not provide a clear affirmative or negative response. Some viewed leadership as inherently linked to the medical profession:

"I believe the two are interconnected. One cannot practice medicine without also exercising leadership." (4).

Other participants expressed humility and initially rejected the label of leader, despite describing active involvement and meaningful contributions to their community:

[Laughs]. That is a challenging question. I do not usually like to praise myself. Perhaps others should define who I am. I try to create change. Whether that makes me a leader, I am not sure. But I continuously strive, work, and make efforts toward real change and improvement. I aim to contribute to a healthier society in line with my beliefs. How others perceive me, I really do not know (5).

Me in the mirror

The way society views medicine as a highly respected and prestigious occupation strongly shapes how physicians see themselves. Doctors can exercise influence partly through the social respect they receive. Interviewer 5 stated:

"When someone is a physician, it enhances both their personal standing and the way society evaluates them. Being a doctor is a major advantage, and it can also support one's role as a leader."

Interviewer 13 further noted:
"A doctor holds respect and authority within the community and has the capacity to persuade and drive change. This should not be underestimated."

Micro (intrapersonal) level

The causes of leadership growth

Participants emphasized that upbringing, early education, internalized values, and a commitment to serving the community play a central role in shaping leadership development. As Interviewer 3 explained:
"There are many physicians who choose to dedicate themselves to improving their population. If leadership does not originate within the community itself, it will not emerge from outside. Even from my early upbringing, I was taught values that emphasized asking what I could contribute before thinking about what I deserved or received. I am generally optimistic, but it will still take a very long time—many, many years—before a prominent leader emerges within the Bedouin population who can truly inspire this generation and bring about the long-awaited transformation. It is painful, but that is the reality."
Interviewer 4 reinforced this perspective:
"I was raised in a household where my parents constantly reminded us not to forget our origins and to always prioritize family. My parents themselves followed this principle—they left to study and then returned to serve their community."

Meso level

Leaving the village versus staying

All participants left their home villages for medical education, whether within Israel or abroad. Among the 15 interviewees, 9 returned to live in their place of origin (60%), while 6 relocated to Jewish communities or foreign countries (40%). A recurring tension emerged between the desire to drive change from within the community and the reality of physically distancing oneself from it. Those who left often felt the need to justify or "apologize" for their decision.
For instance, Interviewer 1 explained:
"When people ask where I come from, I avoid saying Beersheba [a Jewish city], because I identify more with Lakiya [a Bedouin village]. I try to live near the hospital with the intention of eventually returning to my village. Nowadays, many educated individuals move out and settle in nearby Jewish towns, and this is often criticized. The educated improve their own circumstances rather than staying to develop their villages and instead relocate to Jewish towns. I understand why people criticize this."
Interviewer 10 described the difficulty of returning to village life:
"I have lived in Europe, Tel Aviv, Beersheba, the United States, and later Lehavim. Living in the 'diaspora' [a term used in Hebrew to describe Bedouin communities that are not officially recognized by the state and are referred to as 'unrecognized villages'] (40) becomes challenging after experiencing all these places. If you remain connected to your roots, people will respect and accept you as you are. I see myself as part of the community and maintain regular contact, visiting my parents every weekend. My parents are very modest people, and I am fully aware of my origins and direction in life. At a certain point, you reach a limit and ask yourself how much you can endure, especially when you have the financial ability to move. Some physicians continue to live in the 'diaspora', and that is their choice. For me personally, it is difficult."
In contrast, those who returned expressed pride in their decision and stressed the importance of remaining in their communities of origin. Interviewer 7 stated:
"A population cannot progress if all its educated or successful members leave. Today, it is easier for a doctor to live in a Jewish town—it is more comfortable. But is that comfort beneficial for your community? In my view, it is not. One should return and act as a light within a community facing many challenges, illuminating and improving it. There must be a sense of responsibility toward one's society; you cannot abandon the community that raised you. Many of my colleagues moved to Jewish towns, and as a result, both they and their children experience identity conflicts. My own children lived in Beersheba for a time, but they speak Arabic fluently. At home, I ensure they speak only Arabic, understand their religion through regular instruction, and are well-versed in tradition. Because of this, I do not experience such conflicts."
Interviewer 3 summarized this sentiment succinctly:
"I do not want to leave reality; I want to transform it."

Theme 2: motivating/encouraging factors for activity in the community

This theme captures both intrinsic motivations rooted in the physicians themselves and extrinsic influences stemming from their social surroundings and community context.

Micro (personal) level

Perceptions of the doctor's role and professional ethics

Being a physician was described as a key motivator for advancing health within Bedouin society:
As the Lebanese author Khalil Gibran wrote, giving material possessions is not true generosity; giving from oneself is genuine giving. During medical training and residency, physicians learn the meaning of giving, how to connect with the most vulnerable groups in society, and how to offer support through listening and compassion. This includes care for those who are weak and in need (3).
Interviewer 4 further explained:
"My understanding of the medical profession—even if not shared by many of my colleagues—is that choosing medicine inherently means choosing leadership. Our responsibility is to improve people's lives, which places us in the role of public figures. This became especially evident during the COVID-19 pandemic, when society expected physicians to publicly express opinions on issues such as lockdowns and vaccination policies."

Desire to make a difference and sense of mission
All participants reported a strong motivation to initiate change as a driving force behind their work, and approximately half described a deep sense of purpose and fulfillment. Interviewer 7 noted:
"We began working with mothers and young girls, hoping that in the future we could look back and feel we contributed something meaningful, even if small, to the next generation. Even the most beautiful plant cannot survive in the desert without care and irrigation. I recognize that our efforts are only a drop in the ocean, but this is still our responsibility. I am in nearly daily communication with local council heads and religious leaders in Bedouin communities because I believe collaboration with local leadership is essential for change."
Interviewer 4 added:
"Instead of constantly complaining that nothing is being done for us or that progress is lacking, we should take the initiative ourselves. For instance, genetic disorders often result from consanguineous marriages. Although Bedouin society is aware of this issue, such marriages continue. It makes you ask: if prevention is possible, why is it not being implemented?"

Micro (interpersonal) level
Personal and professional experiences
Interviewer 9 reflected on their background:
"I grew up in Kuseife [a Bedouin village], where there was no permanent pediatrician—only an occasional visiting physician, and even accessing care was extremely difficult. I witnessed the lack of awareness in the community regarding treatment and healthcare practices. For example, when a child develops a fever, a Jewish mother typically knows the warning signs that require medical attention. In contrast, a Bedouin mother may tend to rely on antibiotics instead. During my pediatric training, I encountered many cases of congenital conditions that could have been prevented, which led me to ask how I could contribute to change. These experiences deeply shaped my motivation."
Interviewer 4 also shared a personal experience:
"During my internship, a 19-year-old Bedouin girl from the 'diaspora' came in with chest pain. It quickly became clear that anxiety played a major role. After completing the medical examinations, we asked a psychiatrist to evaluate her. Since she did not speak Hebrew, I translated. We asked her parents to leave the room, and she began crying, explaining that her dream was to study medicine, but her father refused to allow it, to the point that she had suicidal thoughts. This experience stayed with me. When we left the room, the psychiatrist asked what my parents had said about my decision to study medicine. I told him they celebrated. At that moment, I realized how vastly different our realities were. She felt like a reflection of a life I could have lived. I understood that I could easily have been in her position. From then on, I felt that the advantages I had in life should be used to help those who were less fortunate."

Meso level
Responsibility, commitment, and belonging to the community
Interviewer 8 stated:
"The community provided you with all the conditions needed to succeed. You were born into it, and therefore you are expected to return at least part of what you received."
Interviewer 7 reinforced this view:
"I believe that anyone who grows up in a given society and does not return to contribute to that same society has a problem, in my opinion. Such a person is only taking from the community without giving back."

Cultural understanding
Participants emphasized that belonging to the community provides significant advantages in terms of cultural and linguistic familiarity, which in turn facilitates better patient engagement, treatment adherence, and community collaboration. It also reflects a deeper understanding of the living conditions and social determinants shaping community health:

"In Israel, there is a willingness to support the Bedouin population, and there is also a real need within the Bedouin community itself; what is missing is the connecting bridge. Many highly skilled professionals are willing to help. Still, individuals like me have an advantage because we come from within the community and understand it not only professionally but also culturally." (1) "To be a health leader, one must understand the population, its needs, and its barriers. Being part of that population provides additional tools—it adds value beyond medical expertise alone. During the COVID-19 vaccination campaign, the involvement of Arab physicians made a noticeable difference, and vaccination uptake improved." (5).

Interviewer 15 illustrated this through practical experience:

"There are different cultural norms—for example, sensitive cases where unmarried women become pregnant and may face severe consequences, even violence, if the family finds out. As a Bedouin physician, I have a responsibility toward cultural norms of honor, but at the same time, as a doctor, my priority is to help the patient. Another example is health education sessions on diabetes: women tended to sit in the front rows because they arrived earlier, while men sat in the back. A sheikh objected, saying it was disrespectful for men to sit behind women. I learned from this experience and, in the next session, arranged seating in separate but parallel rows for men and women. That adjustment improved cooperation because I took cultural sensitivities into account. We adapted ourselves to local leaders and traditions—it is not easy, but necessary. Today, Bedouin patients often prefer Bedouin physicians because they understand their mindset and act in accordance with cultural expectations."

Health disparities

Interviewer 13 expressed concern:

"We are witnessing long-standing neglect across multiple domains. Ultimately, everything comes down to awareness—raising awareness in the Bedouin population about new treatments, diseases, and rights."

Theme 3: Barriers/challenges in leading projects in the community

Participants' efforts to advance Bedouin society in the Negev take place within a broader context of social transformation, which generates multiple tensions, as Interviewer 2 explained:

"The ongoing transition toward modern life creates numerous conflicts. It is an extreme shift—from a very traditional existence in tents and relying on wells for water to living in permanent settlements with electricity and running water. At the same time, the tribal system is weakening, while state laws are being imposed, and these two systems constantly clash."

Micro (personal) level

Lack of time and stress

Participants reported that time constraints significantly limit their ability to contribute to community initiatives at the level they would prefer:

"This situation places us under a very heavy sense of responsibility that I personally do not always feel comfortable with. On one hand, it is a duty; on the other hand, we are volunteers and do not have enough time. The workload is overwhelming. Both I and others are extremely busy and under constant pressure, while time remains limited and responsibilities continue to accumulate." (6).

Meso level

Barriers related to bedouin culture

Cultural norms, traditional practices, and belief systems within Bedouin society strongly shape individual behaviors and play a central role in determining health-related decisions. Interviewer 4 noted:

"It is estimated that approximately 25%–30% of women, and slightly fewer men, are illiterate. They are unable to read or write. So when all health information is provided in written form, it creates a major barrier."

Interviewer 2 further explained:

"The issue of consanguineous marriage is well known—people are aware that marrying within the family increases the risk of disease, yet it continues due to cultural and traditional norms. I know a school principal, an educated individual, whose daughters have a rare genetic syndrome. He refuses monitoring or treatment because, in his view, it is an attempt to protect them from social stigma. This illustrates how tradition strongly shapes perceptions of women's health and its implications."

"In some cases where medical treatment is clearly available, people still refuse care, believing that death is predetermined by Allah (God). They feel treatment is irrelevant because life and death are already decided." (15).

Social/community barriers

This sub-theme includes limited trust in the healthcare system:

"I believe there is a broader issue of mistrust toward government institutions, and this extends to the healthcare system as well. I struggle to understand it. When you go to Soroka Hospital [in Beersheba] as a Bedouin patient, I do not believe you receive lower-quality care than Jewish patients. In fact, I think everyone receives the highest possible standard of treatment there. In my view, it is one of the few places in Israel where care is delivered equally regardless of background." (10).

Socioeconomic status

"We are referring to a population with extremely low socioeconomic status, living well below the poverty line in informal settlements with almost no infrastructure or basic services. A child returns from school, having walked 4 kilometers, completely exhausted. At home, there is no electricity, no refrigerator, no cold drinking water, and often no running water. What kind of future can such a child have? They are likely to end up either in low-skilled labor or criminal activity. With limited income, they cannot support their children, and poverty is passed on to the next generation. This cycle must be broken. Basic needs must be met before individuals can pursue higher life aspirations." (3).

Lack of education and awareness

"There is a lack of proper education, and as a result, people often show passivity and do not take responsibility or initiative for their own lives. This is one of the main challenges we currently face. For instance, regarding COVID-19 vaccination, many people in Bedouin society do not come forward—not because vaccines are unavailable or inaccessible, and not because they are actively opposed, but due to indifference. One of the key factors that distinguishes leadership in Bedouin society is the extremely weak education system. A strong education system produces leaders and enables societal development. Bedouin society is currently in a transitional stage. I remember that in my childhood, when the sheikh spoke, everyone listened. There was no crime, no delinquency, no violence, because authority and leadership were respected and effective." (3).

Influence of tribalism

"The existence of tribal and clan structures, along with conflicts between families, limits the ability to implement initiatives universally. Changes can only be promoted within one's own family or within families that are socially compatible or acceptable. This is a deeply rooted issue that will take a long time to resolve." (9).

"It is not appropriate to blame only the state. In my view, Arab leadership does not sufficiently prioritize the Bedouin population; they seem more focused on their own interests. At the same time, our society itself faces significant internal challenges. Tribalism is strong, and violence is often normalized or even glorified. The situation in the Arab community is, unfortunately, very concerning." (10).

Cultural and gender barriers

The marginalized position of women within Bedouin society constitutes a major obstacle to improving community health outcomes. Bedouin women are often deprived of formal education and are subject to restrictive social norms that limit their freedom of movement. For example,

"The mothers are unable to read or write, they lack basic knowledge about child feeding, and this leads to household accidents, nutritional deficiencies, and neglect. Since the mother is the primary caregiver and educator, an uneducated and disempowered mother makes it impossible to raise a resilient future generation capable of overcoming adversity." (14).

Gender-related challenges also emerged in relation to medical education. In this study, four female physicians were interviewed, all of whom had overcome cultural and gender-based obstacles to pursue medical studies. They described both past and ongoing difficulties associated with their career path. Interviewer 5 stated:

"There are very few women in medicine. Our society is traditional and does not easily permit women to leave the home, work independently, or live elsewhere in Israel. Only certain families allow this, and not everyone supports their daughters attending school. It is a complex reality with many restrictions placed on women."

Interviewer 8 added:

"When I left my village, no girls had ever gone to Europe. That was the biggest barrier—everyone opposed it. At that time, only three or four girls were allowed to go to Jordan. I was the first Bedouin girl to travel alone to Europe, and people found it very difficult to accept. Even now, some Bedouin physicians question why I am on duty at certain hours."

Interviewer 1 explained:

"This is an extremely complex population. As a woman, it is especially difficult to speak out in a patriarchal environment. Even when I communicate professionally, men may perceive it as threatening. They question who this woman is who is speaking to them, especially since I do not cover my head."

Macro level

Health disparities and inequality

The majority of participants (n = 11, 73.3%) identified inequality and health disparities as key barriers to progress. They also emphasized limited accessibility as a major challenge in improving health within Bedouin society:

"There is a lack of access and a mismatch between health services and the cultural needs of the Bedouin population. Many Bedouins live in unrecognized settlements in the south, comprising nearly half of the southern Bedouin population. In these communities, basic infrastructure such as clean water and electricity is absent, which directly affects health indicators. In addition, access to clinics is limited, and transportation barriers prevent people from reaching physicians when needed. There is also limited awareness of entitlement to healthcare rights, resulting in underutilization of available services." (1).

Policy

Participants also raised concerns regarding funding reductions and systemic discrimination:

"The healthcare system functions like a large ship that is difficult to redirect, especially when personnel have worked in the same system for decades. In the past, a substantial budget and strategic plan were approved to improve healthcare services for Arab populations in Israel, including Bedouins. However, when financial cuts were required, this program was among the first to be reduced. Ultimately, this reflects policy decisions." (4).

Interviewer 1 further added:

"I aim to influence change at the policy level. The current situation of the Bedouin population has largely resulted from structural racism within administrative systems and from the way Bedouins and unrecognized villages are perceived and treated. Even the terminology used remains unchanged; terms such as 'diaspora' and narratives of lack of responsiveness are still commonly used."

This is the first investigation to explore perceptions of public health leadership within the Negev Bedouin community, focusing specifically on indigenous Bedouin physicians in Israel. As such, the findings provide original and distinctive insights into the lived experiences of physicians originating from—and working within—this understudied, socioeconomically disadvantaged minority group. The study extends previous research on leadership among educated Bedouins by highlighting the complexities individuals face as they navigate a society undergoing rapid transition. It underscores the relevance of social identity theory in understanding the competing expectations placed on these physicians. Accordingly, our findings illustrate how Bedouin social identity, as reflected in interviews with physicians who pursued medical education and practice, intersects with cognitive and behavioral complexities in their lived experiences, ultimately yielding flexible, adaptive leadership approaches in practice [18].

At the micro level, the majority of participants perceived themselves as leaders responsible for enhancing public health within their communities. At the interpersonal level, they emphasized the need for health leadership in Negev Bedouin society, given its disadvantaged status. They also described a strong motivation to initiate change from within the community, while simultaneously facing practical and social constraints rooted in both their professional roles and their embedded social identities.

At the meso level, all participants reported leaving their villages to pursue medical education. They acknowledged that exposure to different environments and higher standards of living had reshaped their expectations, making reintegration into their communities more challenging. Prior research has similarly documented the migration of young physicians from developing to developed countries, driven by higher salaries, expanded career opportunities, and improved living conditions [19]. A similar pattern was observed among young Bedouin physicians, who also aspire to improved socioeconomic conditions and a higher quality of life. The findings reveal a strong internal tension between maintaining a connection to their cultural roots, pursuing better living standards, and securing enhanced educational opportunities for their children. However, geographic residence did not ultimately determine their willingness to engage in public health promotion within Bedouin society. In some cases, living outside their community may have further motivated their involvement, potentially as a means of reducing internal conflict or avoiding perceptions of disloyalty within their community.

When examining motivational factors for engaging in public health work, participants emphasized their professional responsibility to improve health outcomes within their own community. Recent research similarly suggests that physicians consider reducing health disparities an integral part of their professional role, and that the defining characteristic of a "good doctor" is often linked to humanitarian values and patient-centered care [20]. Earlier evidence also indicates that physicians involved in health equity initiatives are 2.5 times more likely to engage in socially beneficial activities and community involvement. This sense of professional mission is further amplified when physicians originate from disadvantaged communities and are motivated to contribute to their well-being [21].

All participants expressed a strong sense of belonging and commitment to their community, identifying this as a key factor motivating their engagement in community health promotion. According to Snyder and Omoto [22], volunteering fosters the development and strengthening of relationships between volunteers and community members, thereby enhancing social cohesion and interpersonal connectedness. Participants also reported that their community-focused work generated feelings of fulfillment and self-actualization, particularly when their efforts led to tangible improvements in community health outcomes. Cultural characteristics of Negev Bedouin society emerged as both a barrier and a motivating force in their efforts to promote public health. When implementing health improvement initiatives in marginalized and minority populations,

ensuring cultural and linguistic appropriateness is essential, along with necessary adaptations to facilitate collaboration and improve effectiveness [23, 24]. Several studies further highlight the importance of engaging community members and local leaders when designing and implementing interventions to foster change within target populations [25–27].

Public trust, or lack of trust, in the health system has a great impact on responsiveness to public health messages [27–29]. Accordingly, there is a clear need for individuals within the community who can serve as trusted intermediaries between health authorities and the population. Evidence indicates that greater ethnic diversity among healthcare professionals can help reduce health disparities and strengthen patient trust [30] by providing culturally and linguistically aligned care, thereby improving communication, comprehension, and cooperation [31, 32]. Moreover, when patients and physicians share language and cultural norms, the therapeutic relationship is enhanced, which increases adherence to follow-up care and continuity of treatment [33]. The Bedouin physicians interviewed in this study described a complex lived experience shaped by movement between multiple social worlds: growing up in Bedouin villages, studying medicine in Israel or abroad (including fellowship training), relocating to non-Bedouin environments, while still maintaining close ties with families who largely remain in traditional settings.

The participants identified health disparities in the Negev as both an obstacle hindering physicians' efforts to improve community health and a motivating force driving their commitment to advancing public health. They pointed to poor population health status, their personal responses to these conditions, and their aspiration to lead change as key drivers of their engagement in improving health outcomes among Negev Bedouins. However, they also emphasized that complex cultural and infrastructural barriers, along with limited access to healthcare services, pose significant challenges to public health improvement, and that such programs are unlikely to succeed unless these structural issues are addressed.

At the micro level, personal barriers and challenges to public health engagement were frequently linked to a lack of time. Many participants reported a desire to engage more in voluntary or community-oriented activities. Still, they were constrained by heavy workloads, professional demands, and a desire to spend more time with their families.

At the meso level, participants identified four major categories of barriers: mistrust in the healthcare system, limited education and awareness, tribal influences, and socioeconomic disadvantage. Distrust in the health system among the Negev Bedouin population was repeatedly highlighted in interviews. Satran *et al*. [34] investigated stress levels among Arab minorities in Israel (Bedouins, non-Bedouin Muslims, and Christians) during the first COVID-19 wave. They found that Bedouins experienced significantly higher stress compared to other groups. They also reported moderate-to-high perceived discrimination, moderate trust in the healthcare system, and relatively low adherence to public health guidelines. According to Bacher *et al.*, cultural differences may generate tension between healthcare providers and patients [35], which may partly explain why some Bedouins turn to traditional healing practices. Similarly, trust in healthcare providers is considerably lower among Bedouin parents compared to Jewish parents in Israel [36]. Therefore, enhancing cultural competence and increasing the number of healthcare professionals from within the community are essential strategies for strengthening trust in the health system among Negev Bedouins.

Regarding socioeconomic conditions, all Bedouin settlements in the Negev are classified within the lowest socioeconomic tier in Israel. Interviewees described how these conditions negatively influence population health both through inadequate infrastructure and poor living standards, as well as by reducing individuals' willingness to seek healthcare, since immediate economic survival and family needs often take precedence. Existing literature supports this observation, demonstrating that low socioeconomic status is strongly associated with higher morbidity rates and premature mortality, with substantial economic consequences for both individuals and society [37].

The Bedouin community also faces significant educational challenges. School dropout rates among Arab citizens of Israel are among the highest nationally, reaching up to 25% in some cases, with even higher rates reported in the southern region [38]. Frimt, Goldberger, and Hakai found that educational attainment is strongly associated with mortality outcomes, including respiratory diseases, diabetes, infectious illnesses, and even homicide.39 Higher education levels are linked to healthier lifestyles and reduced risk factors, likely due to greater health literacy and improved financial capacity to make healthier choices. Educated individuals tend to smoke less, maintain healthier diets, consume fewer sugary beverages, and engage in more physical activity, which contributes to lower rates of preventable conditions such as type 2 diabetes and cardiovascular disease. Furthermore, education influences socioeconomic outcomes: higher educational attainment improves employment opportunities, which, in turn, affects income, housing conditions, and access to healthcare services [39].

The influence of tribalism on public health is evident mainly from lifestyles, decision-making patterns, and commitment to the tribe.

The impact of tribal structures on public health is reflected in everyday living habits, decision-making, and the degree of loyalty to tribal affiliation. In addition, religion is a central element of Bedouin culture, and religious beliefs, along with religious leaders, significantly shape the daily lives of the Negev Bedouin population. Religious frameworks guide tribal norms and are essential for understanding identity formation, decision-making processes, and the extent of cooperation with state-driven initiatives among Negev Bedouins [40]. Tribal regulations governing daily life include long-established behavioral codes and customary practices that define acceptable and unacceptable conduct within the tribal system. These

include norms related to intra- and inter-family relations, hospitality practices, weddings, and funeral traditions [41, 42]. Such cultural frameworks can create significant obstacles when attempting to introduce change or implement initiatives that even partially deviate from established traditional, religious, or cultural expectations. According to participants, tribalism is manifested through power dynamics between families, the influence of tribal and religious authorities across all aspects of life, and limited proactive engagement by tribal leadership. Key authority figures within the tribe include sheikhs, imams, and senior members of traditional tribal judicial structures [43]. Resistance or opposition to these influential figures can substantially reduce cooperation from the broader Bedouin society, whereas engaging or enlisting their support—as was seen during the COVID-19 pandemic—can greatly facilitate collective action [44].

Gender-related barriers are rooted in the subordinate position of women within Bedouin society, which directly affects both their own health and that of their children. Many Bedouin women have limited or no formal education and, in some cases, are illiterate. They are also subject to strict social regulations that restrict their movement outside the home. In certain situations, women experience low social status, which can hinder their access to healthcare or delay their ability to obtain medical services. These patterns identified in the interviews align with existing literature, which indicates that gender segregation in Bedouin society restricts women's access to education, training opportunities, and healthcare services [24].

Gender-related challenges also emerged regarding female participants' experiences during medical education and their professional interactions with both patients and colleagues. This aligns with Abu-Rabia-Queder's findings, which highlight the dual pressures faced by Bedouin women when leaving their homes to pursue higher education, encountering challenges both within the family sphere and in broader society [45]. According to Rudnicki and Abu Ras, women's education has received increasing recognition within official institutions and civil society in Bedouin communities, with the number of female higher-education graduates rising from 12 in 1995 to 303 in 2010 [46]. Nevertheless, disagreement persists within some tribes regarding women's participation in the labor market or their ability to study beyond tribal boundaries. This tension reflects a broader conflict between preserving traditional gender roles centered on family responsibilities and acknowledging women's potential to contribute to societal improvement and act as agents of change in public life [45]. This evolving shift is reflected in the growing number of Bedouin women attaining higher education, entering the workforce, holding influential positions, and gaining increased mobility, despite ongoing concerns about cultural erosion and unwanted social consequences [38]. At the same time, patriarchal control mechanisms remain prevalent, including practices related to polygyny, family honor, and male authority over women's educational and professional choices [12, 47–49]. As a result, women who pursue higher education or academic careers sometimes relocate with their families to mixed cities to reduce restrictive oversight and achieve greater personal and professional autonomy [49].

At the macro level, participants emphasized that the state plays a central role in shaping public health policy, resource allocation, budgeting, infrastructure development, and efforts to reduce inequalities within Negev Bedouin society. They argued that the state often fails to adequately address the needs of Negev Bedouins, citing budget reductions, insufficient funding, neglect of Bedouin communities and unrecognized villages, and limited investment in education and youth development. At the same time, existing studies indicate that the state has made efforts and expressed intentions to improve conditions for the Arab population in general and the Negev Bedouin population in particular across multiple domains, including healthcare [46]. During the COVID-19 pandemic, significant efforts were undertaken by governmental bodies, municipalities, healthcare institutions, and civil society organizations to implement culturally and linguistically tailored interventions through media campaigns, social networks, and public billboards, often featuring religious leaders and influential figures from the Negev Bedouin community.

The study sample is relatively small, comprising only 15 physicians from the Negev Bedouin population. Variations may exist among physicians from different minority groups or from other regions of the country. In addition, the study included only medical doctors, while professionals from other healthcare disciplines were not represented or interviewed.

Conclusion

This study offers an original perspective on how physicians from the Negev Bedouin community perceive their role in grassroots leadership to address health disparities within their community. Within the Bedouin community, the medical profession is regarded as highly prestigious, and physicians from this background tend to view themselves as community leaders. This self-perception enhances public trust and improves community responsiveness to health messages delivered by these physicians.

The interviewed Bedouin physicians described how both personal and professional experiences have left a lasting impact on them. They highlighted a complex interaction between multiple domains of life—personal, familial, community-based, and professional—which frequently generated tensions in their social identity. Participants reported that the presence of health inequalities within their community served as a strong motivating force for their involvement in public health initiatives and reinforced their aspiration to lead change and improve health outcomes. The study also revealed that these overlapping life

domains often produce identity-related conflicts due to competing expectations across personal, family, community, and professional roles.

Participants identified a lack of time as a major barrier to engaging in public health activities. They also emphasized that limited education and low levels of health awareness within the community significantly hinder public health progress. Furthermore, tribal structures and systems of authority were described as key determinants of behavior and decision-making processes. Gender-related barriers were also highlighted, stemming from the disadvantaged status of women, which negatively affects women's and children's health outcomes as well as women's educational and personal development opportunities. Despite ongoing governmental efforts to promote change, participants stressed the need for greater funding, resources, and budget allocation to advance Negev Bedouin society.

Based on these findings, it is recommended that structured training programs in leadership and public health be developed specifically for Bedouin physicians. Such programs could be incorporated into medical specialization training and continuing professional education. Cultural competence, familiarity with community-specific characteristics, and knowledge of the local language were identified as important assets for physicians aiming to implement public health initiatives within their communities. Bedouin physicians are uniquely positioned to represent their communities effectively and to elevate community concerns onto broader political and health policy agendas.

At the same time, efforts should focus on improving health awareness among the Negev Bedouin population. Incentive structures should be introduced to encourage Bedouin physicians to dedicate part of their professional responsibilities to promoting healthy lifestyles and health education within the community. Additionally, similar studies should be conducted among other Bedouin healthcare professionals, including nurses and pharmacists. Future research involving members of the Bedouin community itself could further explore how different stakeholders perceive health leaders, as well as the barriers and enabling factors that influence cooperation in public health initiatives.

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Written informed consent for publication was obtained.

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