

A Qualitative Study of Patient Experiences in Non-Communicable Disease Management Within Jordan's Healthy Community Clinics Program

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Background: The Healthy Community Clinics Program, launched by the Royal Health Awareness Society in partnership with the Ministry of Health, aims to strengthen primary health centers' capacity for preventive care and support patients in managing non-communicable diseases.

Aim: This study explores patient experiences in improving self-management through education, counseling, and support provided by healthcare providers at Healthy Community Clinics.

Methods: A qualitative study design was used to conduct semi-structured telephone interviews with 100 patients living with Non-Communicable Diseases from three regions of Jordan (North, Central/middle, South), covering 12 governorates.

Results: Thematic analysis identified three themes: patients' perceptions of the program's impact on their lives; factors influencing engagement and adherence; and experiences with healthcare providers.

Conclusion: The findings suggest the Healthy Community Clinics program positively influenced patients' health behaviors, lifestyle choices, and satisfaction with care.

Keywords: non-communicable diseases, patient experience, qualitative study, health education, jordan, healthy community care

Introduction

Noncommunicable diseases (NCDs) killed at least 43 million people in 2021, equivalent to 75% of non-pandemic-related deaths globally.¹ In 2021, 18 million people died from an NCD before age 70 years; 82% of these premature deaths occur in low- and middle-income countries.¹ Of all NCD deaths, 73% are in low- and middle-income countries.¹ Cardiovascular diseases account for most NCD deaths, or at least 19 million deaths in 2021, followed by cancers (10 million), chronic respiratory diseases (4 million), and diabetes (over 2 million including kidney disease deaths caused by diabetes).¹ These four groups of diseases account for 80% of all premature NCD deaths. Tobacco use, physical inactivity, the harmful use of alcohol, unhealthy diets and air pollution all increase the risk of dying from an NCD. Detection, screening, and treatment of NCDs, as well as follow up, are key components of the response to NCDs.¹ On Hashemite Kingdom of Jordan NCDs are the leading cause of morbidity and mortality, accounting for 78% of the total deaths in 2021.²

According to ministry of health in Hashemite Kingdom of Jordan statistics in 2021 that cardiovascular diseases cause 37% of deaths, while all types of cancers cause 15% of deaths, followed by diabetes (7%), and chronic respiratory diseases



(3%).² Also, 15% of deaths are caused by other NCDs among Jordanians. Also, these statistics showed that 2% of the surveyed population smoke, 76% do not participate in any physical activity, while 27.7% are either overweight or obese.² The statistics also showed that the survey population indicated that they add elevated quantities of salt to their diet and consume less fresh fruit and vegetables.² Evidence indicates that premature deaths and economic losses from NCDs can be prevented by addressing these risk factors through effective, multi-sectoral interventions. Strategies include reducing tobacco and alcohol consumption, promoting physical activity, lowering obesity rates, decreasing salt intake, and controlling hypertension and diabetes.³ In response, the Royal Health Awareness Society, in collaboration with the Ministry of Health, Caritas Jordan, and Save the Children Jordan, established the Healthy Community Clinics program (HCCP).³

HCCP established hybrid education model on 15.04.2024 across 190 primary healthcare centers under the Ministry of Health in Jordan, eleven clinics managed by Caritas Jordan serving Syrian refugees living outside the camps, and three clinics located within Al-Zaatari Camp.³ Hybrid approach that combines both individual counseling and peer support group sessions to ensure comprehensive awareness and care.³ This integrated approach is designed to provide personalized support for each patient while also fostering a sense of community and shared learning.³ The individual sessions (one-on-one) focus on educating patients about their condition, lifestyle modifications, and self-management strategies, while the group sessions encourage peer support, the exchange of experiences, and collective motivation.³ Prior to initiating the program, baseline clinical assessments are conducted for all participants.³ These include measurements of blood glucose levels, blood pressure, and body weight, along with an evaluation of each patient's health status. Based on these initial readings, an individualized care plan is developed, including dietary and behavioral recommendations tailored to the patient's specific needs.³ At the beginning of each subsequent session, the same clinical indicators are re-measured and compared to the baseline data to monitor progress and assess the effectiveness of the intervention.³ This ongoing comparison allows healthcare providers to evaluate patient improvement and make necessary adjustments to the care plan.³ A structured number of sessions is conducted, with the first three sessions focusing on one-on-one interaction to enhance awareness and build trust, improve self-management which means improve ability of the patients to actively manage the symptoms, treatment, physical and psychological consequences, and lifestyle changes associated with living with a chronic condition,⁴ followed by group sessions that allow patients to engage in discussion and share their progress, challenges, and success stories.³

This is the first study in Jordan to implement the Hybrid Program.³ A pilot study was previously conducted in two centers affiliated with the Ministry of Health; however, its findings were not published. These sessions emphasize healthier diets, physical activity, and personalized guidance to support long-term self-management. Understanding patients' lived experiences helps evaluate the real-world impact of the program and can guide future improvements and policy adjustments. Therefore, this study aims to explore patient experiences in improving self-management through the education, counseling, and support provided by healthcare providers at Healthy Community Clinics.

Methods

Research Design

A qualitative phenomenological methodology was used to allow in-depth exploration of patients' views on the program's impact on their health, adherence factors, challenges faced, and interactions with healthcare staff. To improve the transparency, rigor and credibility of the study, researchers adopted consolidated criteria for reporting qualitative research (COREQ).

Instruments

A semi-structured telephone interview guide was developed specifically for this study. The interview guide included open-ended questions tailored to capture comprehensive information (see [Supplementary file 1](#)).

1. **Perceptions of the Healthy Community Clinics (HCC):** general satisfaction, perceived benefits, and specific services received.
2. **Experiences with individual and group sessions:** feedback on session effectiveness, engagement, and any observed outcomes.
3. **Adherence and success factors:** reasons for program adherence, motivational factors, and perceived facilitators.

4. **Challenges and barriers:** obstacles in program engagement, unmet needs, and suggested improvements.
5. **Interactions with healthcare staff:** experiences with healthcare providers, quality of communication, and perceived support.

The interview guide was piloted with a small sample of similar patients to ensure clarity and relevance of the questions. Based on this feedback, minor revisions were made to enhance question comprehensibility and flow. Interviews lasted between 30 and 45 minutes with average 39 min and were recorded with verbal or written consent from participants.

Participants

The study included a total of 100 participants from various regions across Jordan to ensure a diverse representation of experiences and perspectives. Initially, researchers approached 102 patients; however, two declined to participate, resulting in a final sample of 100 participants. Interviews continued until data saturation was reached, which occurred with these 100 patients.

Participants were distributed across three main regions: northern, southern, and central (middle) Jordan. This regional stratification aimed to capture geographical differences in experiences with the HCCP and to reflect a broad cross-section of Jordan's population. This approach facilitated a comprehensive understanding of the program's impact across different demographic and regional contexts. The inclusion criteria for participants were adults aged 18 years and older, individuals either at risk for NCDs or diagnosed with a chronic illness (eg, diabetes or hypertension), actively enrolled in the HCCP, residing in one of the three designated regions (north, south, or central) in Jordan, participants who had completed the hybrid model education program, able to provide verbal or written consent for participation and recording of the interview, willing to participate in a phone interview conducted in either Arabic or English. On the other hand, individuals were excluded from participation if they met any of the following criteria were under the age of 18, were not enrolled in the HCCP, were unable or unwilling to provide consent for recording, had hearing impairments or other conditions that would make a phone interview challenging without adequate support, had participated in similar studies recently to avoid response fatigue or bias.

Data Collection

Data were collected through structured Arabic telephone interviews with patients diagnosed with chronic illnesses. Patients' contact information was obtained with permission from the HCC assigned staff through Royal Health Awareness Society (RHAS), where they were identified as participants in the Healthy Community Clinics program. Participants were informed of the study's purpose, assured of their confidentiality, and told that the call would be recorded solely for research purposes. Verbal consent for participation and recording was obtained from each participant before beginning the interview. The telephone interviews were semi-structured, allowing for flexibility in responses while ensuring consistency across key questions. The use of telephone interviews allowed for accessibility and flexibility, particularly important for patients who may have mobility limitations or time constraints. The interviews were conducted in a private setting to ensure participant comfort and confidentiality, and recordings were securely stored in accordance with data protection policies. The data collection was conducted from January to March 2025.

Reflexivity

The research team comprised interdisciplinary members with expertise in public health, nursing, and clinical psychology, each bringing relevant perspectives to the study. Team members received training on qualitative interviewing techniques, as well as ethical considerations specific to phone-based interviews, to ensure consistency, sensitivity, and ethical rigor in data collection. Given the nature of phone-based interviews, the team-maintained reflexivity by engaging in regular discussions to acknowledge and address any personal assumptions or preconceptions that could influence data interpretation. To support this process, interviewers documented reflections after each phone interview, capturing their immediate reactions, perceived rapport with participants, and any factors that might shape their understanding of the responses. Additionally, the team held peer debriefing sessions to allow researchers to critically assess and challenge each other's perspectives, ensuring interpretations remained closely aligned with participants' authentic experiences. The

interviews were transcribed verbatim in Arabic and subsequently translated into English for analysis and reporting. To ensure accuracy and preserve meaning, the translation was cross checked by two expert researchers. Any discrepancies were discussed and resolved by consensus. This reflexive approach was fundamental in enhancing the credibility and trustworthiness of the study's findings, particularly in the context of remote data collection.

Analytic Strategy

Thematic analysis was used to analyze the qualitative data through the following steps: familiarization with the data, coding, developing the themes, reviewing the themes, and finally interpreting the results. The expert researchers broke down what patients told us using a method called thematic analysis. Basically, we started by really listening to their stories reading through all the interview transcripts multiple times to get a deep feel for what people were saying. It was important to us to let their experiences guide the analysis, not our own assumptions. Next, we began the detailed work of coding. The researcher went through the transcripts line by line, tagging anything that stood out: a frustration with cost, a compliment about a nurse, the relief of finding a support group. This gave us a long list of initial ideas. From there, started looking for patterns. We printed out all these codes, spread them out, and began grouping similar ideas together into bigger buckets like “financial barriers” or “the value of peer support.” This was a real team effort; we talked through these potential themes together to make sure they made sense and truly reflected the data, not just what we expected to find. Finally, we refined and named these themes, constantly checking them back against the original interviews to make sure we were not losing the patients' voices. The whole process was about staying true to what we heard and synthesizing it into clear, meaningful insights that could help shape better healthcare.⁵ All of this process was conducted manually by research team. To ensure reliability and rigor of data analysis. Two expert researchers independently coded all transcripts. After completing the initial coding separately, the researchers compared their codes, discussed any discrepancies, and reached consensus before developing the final themes. The team maintained a reflexive stance, avoid any biases during data analysis that may influence on interpretation of the results.

Results

The demographic data table presents key characteristics of the sample. The average age of participants is 49.6 years (SD = 6.2). Gender distribution shows 54% female and 46% male participants. Regarding income, 30% reported sufficient income, 15% more than sufficient, and 55% insufficient. In terms of residence, the sample is evenly distributed across four regions of Jordan, with 25% residing in the south, central, and north. Disease diagnosis duration reveals that 32% of participants have been diagnosed for less than 5 years, 33% for 5–10 years, and 35% for more than 10 years (Table 1).

The study results highlight three major aspects with eight subthemes of patient experiences in the Healthy Community Clinics program. First, patient perceptions and program impact showed that participants generally viewed

Table 1 Sociodemographic and Clinical Characteristics of Participants (n = 100)

Characteristic	n (%)
Age, years	49.6 (6.2)
Gender	
– Female	54 (54.0)
– Male	46 (46.0)
Income from patient perception*	
– Sufficient	30 (30.0)
– More than sufficient	15 (15.0)
– Insufficient	55 (55.0)

(Continued)

Table 1 (Continued).

Characteristic	n (%)
Nationality	
–Jordanian	69 (69.0)
–Syrian refugees	31 (31.0)
Residence	
– South of Jordan	33 (33.0)
– Middle of Jordan	34 (34.0)
– North of Jordan	33 (33.0)
Disease Diagnosis Duration	
– Less than 5 years	32 (32.0)
– 5–10 years	33 (33.0)
– More than 10 years	35 (35.0)
Disease Diagnosis **	
– Hypertension	49 (49.0)
– Diabetes Mellitus (DM)	51 (51.0)
– Obesity	60 (60.0)
– Hypertension & Obesity	45 (45.0)
– DM & Obesity	50 (50.0)

Note: * How a person feels about their financial situation (whether they feel enough or not). **The percentage exceed than 100% due to some patients reported more than one chronic disorder.

the program positively, noting improvements in health, lifestyle changes, and the quality of accessible services. Second, Engagement and Adherence Factors revealed key motivators, such as personal health goals and family support, while also identifying challenges like time constraints and limited follow-up. Lastly, experiences with healthcare staff emphasized the value of clear communication and empathetic support, with recommendations for better follow-up consistency and enhanced staff training to address patient diversity. In addition, the researchers selected participation patients to reflect diverse levels of program adherence, which allowed for the inclusion of varied experiences. These findings affirm the program's positive impact while highlighting areas for improvement (Figure 1).

First Theme: Patient Perceptions and Program Impact

All patients generally expressed positive sentiments toward the HCC program, highlighting significant gains in managing their chronic conditions. This theme consists of four subthemes (Satisfaction and Overall Experience, Health and Lifestyle Benefits, Service Quality and Accessibility, and Continuous Adaptation of the healthy lifestyle).

Satisfaction and Overall Experience Within the Healthcare System in Jordan

This subtheme captures patients' general feelings about the program, their perceptions of its effectiveness, and the degree of satisfaction they experience. It reflects how well the program meets their expectations, including their sense of improvement and confidence in the services provided. All patients in this category may comment on the program's helpfulness, any benefits they have felt in their daily lives, and any gaps or disappointments in their experience.

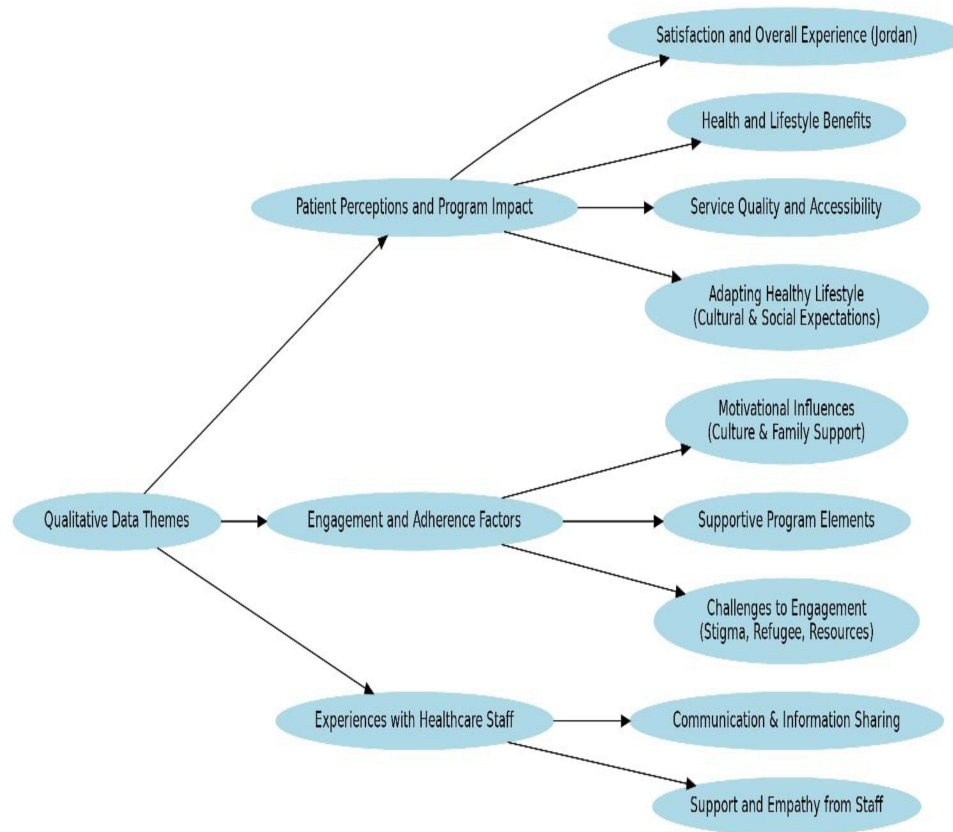


Figure 1 Themes of qualitative data themes of qualitative data.

Patient Statements explained:

Female patient, 51 years: The program has been a real help. I feel more informed and in control of my health than ever before. I was initially skeptical, but the sessions turned out to be exactly what I needed.

Another example:

Male Patient 47 years: Since starting the program, my blood pressure has been much more stable, and I feel healthier overall, all the advice and exercises suggested actually work! I have noticed a real difference.

Additional Male patient, 56 years: I feel very satisfied with the care I received. The team was attentive and responsive to my needs. Also, some things could be improved, but overall, I feel this program has been beneficial.

Health and Lifestyle Benefits

The subtheme Health and Lifestyle Benefits captures the positive changes patients experienced in their health and daily routines due to their participation in the HCC program. All patients discussed improvements in their ability to manage chronic conditions like diabetes and hypertension, as well as notable lifestyle changes. For many, this included adopting healthier eating habits, integrating regular physical activity, and making other behavior modifications that they felt directly improved their quality of life.

One patient expressed,

Female 45 years: Before joining the program, I had no idea how much my diet was impacting my condition. Now, I know what to avoid and what to eat, which has made a big difference in my life. I cannot believe I can keep up with exercise! The program and the instructions I learned from HCC taught me simple routines that I can actually do, and I feel better than before.

Service Quality and Accessibility

These subthemes reflect patients' views on the program's organization, accessibility, and overall quality of services provided by the HCC. All patients appreciated the program's services, as it made it easier for them to follow their health plans and attend all necessary sessions. The patients confirmed that the health plan was tailored to each case, helping them overcome most of their personal challenges. One patient described,

Female 58 years: The nurse scheduled the appointment time around my availability. All services were well organized. All healthcare providers supported and encouraged me to follow my healthy plan.

Another patient

Male 49 years reported: The HCC services were organized, and all staff were trained and focused on what I needed, which helped me stay on track with my health goals and follow my health plan.

Continuous Adaptation of the Healthy Lifestyle Within Cultural and Social Expectations

This subtheme focuses on how patients maintained healthy lifestyle modifications supported by the HCC program. All patients were guided to integrate healthy habits, such as regular exercise, a balanced diet, and frequent health monitoring indicators like blood pressure, among others. All of these processes were supported by trained healthcare providers.

One patient reported,

Male 55 years I am a 55-year-old diabetic who struggled to maintain a healthy lifestyle before joining the program. Through personalized counseling, I improved my diet, exercise regularly, and monitored my blood glucose levels. Despite challenges like cultural pressures during family gatherings, I adapted over time. This experience highlights the importance of ongoing support, personalized care, and culturally sensitive advice in effectively managing chronic diseases.

Second Theme: Engagement and Adherence Factors

The theme Engagement and Adherence Factors highlights the elements that contributed to patients' active participation and sustained commitment to the Healthy Community Clinics program. This theme encompasses both the motivators that kept patients engaged and the obstacles that challenged their ability to adhere to the program consistently. This theme consists of three subthemes.

Motivational Influences Shaped by Cultural Beliefs and Family Support

This subtheme describes the internal and external factors that encouraged patients to remain engaged and committed to the program, as well as the instructions provided by HCC. Most patients mentioned their individual health goals, alongside the support they received from friends, family and health care providers, as powerful motivators that encouraged them to adhere to the program's guidance. For example, one patient explained:

Female 61 years: The healthcare providers, such as doctors and nurses, are very kind. Their supportive words, like medicine, helped me follow the instructions. Also, if I was late for an appointment the next month, the nurse would call me and encourage me to come. The individual sessions were very useful. Besides that, the group sessions allowed us to support each other and learn from others' experiences.

Moreover, some patients felt a strong desire and sense of responsibility to follow and continue the program's instructions because they noticed improvements in their health. They became healthier and more capable of performing their work and family roles better than before. One patient reported

Male 45 years: I was satisfied when I started observing improvements in blood sugar level, decrease in my weight and a decrease in shortness of breath when climbing stairs or walking. This improvement gave me the motivation to continue following the health plan.

Supportive Program Elements

This subtheme describes the specific aspects that helped patient to engagement and commitment in the health program which provided form HCC. Most patients reported many supportive elements, such as individual counseling sessions,

a daily healthy plan, regular health monitoring and follow-up, group sessions, and practical advice. These supportive factors help patients apply the plan guidelines to achieve their goals.

One patient expressed:

Female 59 years The advice was fitted to what I needed and what I could do in the real. HCC staff advice was simple, and that made all the difference in sticking with it.

Another patient reported:

The staff in HCC taught me simple instructions in the health plan that fit my lifestyle.

This personalized plan made patients feel understood and easy to apply and give them the modification to continue in engagement in the HCC program. Furthermore, most patients thanked all the staff at HCC for their support during their journey.

One patient described

Male 47 years The most important factor that helped me continue my engagement in the HCC program was finding someone to guide me and answer my queries, so I didn't feel alone in the journey. They supported me and gave me the strength to achieve my goal. I really appreciated their work.

Challenges to Engagement, Including Stigma, Refugee Vulnerability, and Limited Resources

The subtheme Challenges to Engagement delves into the various barriers that hindered patients' full commitment to the HCC program. Most patients frequently mentioned obstacles that made it difficult to attend sessions regularly or adhere to the health guidelines consistently, citing both personal and program-related challenges. These difficulties were a common theme, revealing the complex realities patients faced in managing their chronic conditions within the constraints of their daily lives. A primary challenge noted by patients was time constraints. Balancing family, work, and other responsibilities made it challenging for many to prioritize regular appointments and implement health recommendations. As one patient explained,

Male 54 years With my job and kids, finding time for the sessions was tough. I wanted to go, but some days, it was just impossible to fit it in.

This struggle was echoed by others who felt the program's schedule did not always align with their personal routines, leading some to miss appointments or feel less connected to the program. Other challenge was mobility issues and physical limitations were also significant barriers, particularly for patients with conditions that affected their movement. For example, one patient shared,

Female, 55 years Some days, I just couldn't make it to the clinic because of the pain in my legs. I wanted to go, but the trip there felt like too much.

Another patient with similar challenges added,

I know the program is supposed to help me, but getting there sometimes felt like a mountain I couldn't climb.

These physical limitations made it hard for patients to fully engage, creating a sense of frustration and disconnection from the support they felt they needed. Moreover, some patients highlighted a lack of family support, which made it difficult to follow the program's recommendations effectively. For instance, one patient shared,

Male 60 years My wife does not prepare the right meals for me. I keep telling her what the doctor advised, but she cooks the same foods as always.

This lack of supportive home environment hindered patients' ability to stick to dietary guidelines, particularly when family members were not involved in the dietary adjustments.

Also, financial constraints were another significant challenge. Many patients mentioned that they struggled to afford the recommended foods due to their reliance on inexpensive carbohydrates, which conflicted with the program's goals. One participant expressed frustration, saying,

Female 49 years Most of the diet relies on foods I can't afford. I end up eating a lot of bread and rice because they're cheap, but it doesn't help me lose weight or control my blood sugar.

This reliance on cost-effective but high-carbohydrate foods created obstacles for patients aiming to maintain balanced nutrition and achieve health improvements. Additionally, some patients noted religious and cultural beliefs that affected their adherence to the program's health guidelines. They felt that making dietary sacrifices was unnecessary, viewing their health outcomes as predetermined. As one patient remarked,

Male 62 years Everything in life is already written by God; why should I deny myself food and drink? Life and death are already decided. This belief reduced some patients' motivation to adhere strictly to dietary or lifestyle recommendations, as they saw these as secondary to what they considered to be their destiny. Finally, co-existing health issues posed further barriers. Many patients had additional medical conditions alongside diabetes and hypertension, such as thyroid disorders and kidney problems, which complicated their ability to follow the HCC program's regimen. One patient explained,

Female 64 years It's not just the diabetes I have thyroid issues and kidney pain. Managing everything together is overwhelming.

Third Theme: Experiences with Healthcare Staff

The theme Experiences with Healthcare Staff reflects the essential role that healthcare providers played in shaping patients' overall engagement and satisfaction with the Healthy Community Clinics program. Most patients generally expressed appreciation for the support, attentiveness, and respect shown by the clinic's staff, which made them feel valued and understood. It consists of two subthemes (Communication and Information Sharing and Support and Empathy from Staff).

Effective Communication and Information Sharing

Effective Communication and Information Sharing was a key element, with most of patients noting that healthcare providers conveyed complex information in ways that were easy to understand and applicable to their lives. One patient shared, **Male 48 years** They explained my treatment plan in simple terms and answered all my questions, which gave me confidence in managing my condition.

Support and Empathy from Staff

Support and Empathy from Staff stood out as vital to the patient experience, as many patients felt the staff genuinely cared about their progress and well-being. For example, one patient mentioned, **Female 52 years** The nurses would check on me and ask how I was feeling, even on my bad days, and it felt like they were really there for me. However, some patients also offered Suggestions for Improvement, noting that more consistent follow-up and additional training on specific patient needs could enhance the support provided. These experiences underscore how compassionate, clear, and consistent healthcare staff interactions can empower patients to engage actively with the program, making healthcare providers indispensable to the success of patient-centered care.

On the other hand, a few patients expressed disappointment regarding the availability of services. A participant from the Southern Region **Male 60 years** stated, I really wanted to attend more workshops, but they were not offered frequently enough in my area. Such mixed experiences indicate that while the program has made strides in empowering patients, there are areas that require further development to enhance its effectiveness.

Discussion

This is the first qualitative study explored patients' lived experiences with the HCC program, highlighting how personalized counseling and empathetic support enhanced self-management, while practical and cultural barriers limited engagement. In addition, adds evidence from the Middle East where qualitative evaluations of NCD interventions are sparse and highlights culturally rooted barriers often overlooked in program design. Furthermore, the demographic composition of our sample particularly the diversity in age, disease duration, and comorbidity burden provides a crucial lens through which to interpret these findings. It became apparent that a patient's life context profoundly shaped their

engagement with the hybrid model. For instance, older adults with longer disease histories and multiple health conditions often spoke of the program as a vital, structured support system, placing a higher value on the clinical management and reliable advice from healthcare professionals.⁶ Conversely, younger patients and those more newly diagnosed frequently gravitated toward the community aspect, describing the peer support groups as an invaluable resource for reducing the isolation and anxiety that accompanied their diagnosis. This contrast suggests that while the hybrid model offers broad benefits, the weight assigned to its individual versus group components is not uniform; it is deeply personal, filtered through the patient's age, their journey with the disease, and the complexity of their overall health. Therefore, the program's feasibility and acceptability are not monolithic concepts but are instead experienced on a spectrum, influenced significantly by these demographic and experiential factors.

The results of this study underscore the satisfaction of patients who attended the HCC and the effectiveness of the health plan and education sessions in improving their health and maintaining continuous lifestyle modifications. Nonetheless, challenges such as time constraints, financial limitations, and insufficient family support were identified, indicating potential areas for program enhancement. Several studies support the effectiveness of structured, community-based interventions for chronic disease management.⁷⁻⁹ Similar to the findings in this study, a systematic review by Stelfox et al (2023) on chronic disease self-management programs found that patient-centered education and personalized counseling significantly improve health literacy, adherence to medical advice, and self-efficacy. Moreover, individualized coaching, as seen in the HCC program, has been linked to improved glycemic control in diabetes patients and better blood pressure regulation in hypertensive individuals.¹⁰ A key theme in this study was the role of healthcare staff in shaping patients' experiences. Participants emphasized that effective communication, empathy, and consistent follow-up were essential for adherence and satisfaction. The study results align with the findings of Drossman & Rudd, who found that a positive therapeutic patient-healthcare provider relationship may enhance engagement and motivation to continue in health programs.¹¹ Similarly, empathetic interactions have been shown to increase trust and encourage long-term commitment to lifestyle changes.¹² Despite the program's benefits, several barriers to adherence emerged. Time constraints and competing responsibilities prevented some participants from attending sessions regularly. This challenge has been widely documented, with studies indicating that flexible scheduling and digital health interventions can mitigate participation barriers.^{13,14} Additionally, financial constraints were a significant obstacle, as some patients struggled to afford recommended dietary changes.¹⁵ Research suggests that incorporating cost-effective nutritional guidance into chronic disease programs can help address the issue of dietary accessibility, ensuring recommendations are both practical and affordable. As one participant expressed that financial constraints prevent her from buying healthy food, which is why she often resorts to eating bread. This highlights the need for health care providers to clearly consider and address the financial barriers that patients may face when following dietary recommendations.¹⁶ Another notable challenge was cultural beliefs influencing health behaviors. Some participants viewed health outcomes as predetermined by fate, leading to reduced motivation for lifestyle modifications. This is consistent with studies on health beliefs in Middle Eastern populations, which indicate that culturally sensitive health interventions incorporating religious perspectives can improve adherence.^{17,18} Tailoring educational materials to align with cultural values and incorporating faith-based motivational strategies may enhance program effectiveness.

Patients reported significant improvements in their self-management skills, largely attributed to the education and counseling provided by healthcare providers. Many participants expressed gratitude for the support received, emphasizing how it empowered them to take control of their health. However, it is essential to acknowledge that not all experiences were uniformly positive. Some patients reported limited benefits from the program, citing factors such as inconsistent follow-up from healthcare providers and challenges in accessing resources.

Practice Implications

The findings of this study provide valuable insights for healthcare practitioners, policymakers, and program developers working to enhance chronic disease management strategies. Several practical implications emerge from the study. The Healthy Community Clinics program should continue emphasizing personalized counseling, ensuring that information is tailored to patients' unique circumstances. Implementing digital education tools, such as mobile applications and telehealth sessions, may improve accessibility for patients with time constraints. Given the importance of effective

communication and empathy, continuous training for healthcare providers in motivational interviewing and culturally competent care can enhance patient engagement and adherence. Expanding financial support mechanisms, such as subsidized nutritional plans or partnerships with local markets for affordable healthy food options, can help patients overcome economic constraints. Incorporating culturally relevant educational materials and engaging religious leaders in health promotion initiatives may help address health belief-related barriers and increase program adherence. Regular follow-up calls, text message reminders, and community peer support groups can reinforce engagement and provide ongoing encouragement for lifestyle changes. Finally, when considering who might benefit from these findings, it's important to look at the setting. Our results likely speak directly to other community-based health programs in middle income countries that share a similar landscape where public clinics are stretched thin, but community ties are strong. The parts of our program that patients valued most, like the mix of one-on-one attention and group support, are not unique to Jordan. They could be a blueprint for places facing similar challenges with chronic disease management and limited resources. We are not saying the findings are a perfect fit everywhere, but the core idea that blending professional healthcare with the power of community support can build trust and keep patients engaged feels like a universal principle for settings like ours. The key for others looking to adapt this model will be tailoring those two components to their own cultural and institutional fabric.

Strengths and Limitations

This study has a number of strong points. To our knowledge, it's the first in Jordan to really dive into the personal experiences of patients in the Hybrid Healthy Community Clinics Program, giving us a brand-new look at how workable and well-received this model is here. We used a rigorous qualitative approach (guided by COREQ standards) to make sure the process was credible and transparent. We also had a pretty large and diverse group of 100 participants from all over north, central, and southern Jordan which makes the findings more relatable to other similar settings. Another strength was the hybrid education model itself; because it mixed individual and group sessions, we got really rich, multi-dimensional data on both one-on-one care and the power of peer support. Having expert researchers code, the data in pairs and regularly challenge each other's assumptions (through reflexivity and peer debriefing) definitely strengthened the trustworthiness of our analysis. That said, we have to acknowledge a few limitations. Since we did the interviews over the phone, we might have missed out on some of the depth that comes from non-verbal cues and building a stronger connection in person. Also, all the interviews were done in Arabic and then translated, so even with our careful cross-checking, it's possible some subtle meanings were lost along the way. As with any qualitative study, these findings are not meant to be generalized to every single patient with NCDs in Jordan. Instead, they offer important, deep insights within this specific context. It's also worth noting that we only talked to people already enrolled in the Healthy Community Clinics program, so we are missing the perspectives of those who are not. Finally, there's a chance of selection bias, too, since the people who agreed to take part might have had very different experiences from those who declined.

Recommendations

Based on what we learned directly from patients, we have a few key suggestions for anyone looking to build on this program or create similar ones in the future. First, the hybrid model itself really worked. Patients loved having both the private, one-on-one time with a clinician and the chance to connect with others in a group. We strongly recommend that other clinics adopt this dual approach. It's not just about delivering information; it's about building a community of support. Second, we need to get smarter about communication. For a lot of our participants, especially older adults, a belief that illness was "God's will" made them feel like their own actions did not matter. We cannot just ignore this. Instead, we should work with trusted local faith leaders to help reframe healthy behaviors. The message should not be "you're wrong", but rather "taking care of yourself is a way of honoring the life you've been given." This respectful approach could turn a big barrier into a real strength. Finally, we have to remember that one size does not fit all. A patient who was just diagnosed has completely different needs from someone who's been managing their condition for twenty years. Our programs need to be flexible. Maybe that means creating different group sessions for 'newcomers' and "veterans", or tailoring the goals a patient set with their doctor. The technology is there to help us personalize care; we

just have to make it a priority. In short, the best future programs will be those that are flexible, culturally thoughtful, offer disabilities and built around the real, lived experiences of the people they are designed to serve.

Conclusion

This study sought to understand the real experiences of patients managing chronic diseases within Jordan's healthcare system. We learned that for many, the program was a lifeline offering not just medical care, but also hope, stability, and practical support for living a healthier life. Yet we also heard honest accounts of the obstacles that made adherence difficult: the cost of care, the lack of family understanding, and the challenge of balancing health needs with daily responsibilities. These stories remind us that behind every policy and program are people navigating complex lives. Their voices underscore the need for care that is not only clinically effective but also culturally compassionate, financially accessible, and personally meaningful. By centering their experiences, this research contributes to a more holistic and inclusive approach to chronic disease management one that truly serves patients, in Jordan and beyond.

Abbreviations

NCDs, Non-communicable diseases; HCCP, Healthy Community Clinics program; HCC, Healthy Community Clinics; RHAS, Royal Health Awareness Society.

Data Sharing Statement

Data availability: All data are available upon request from the corresponding authors.

Ethics Approval and Consent to Participate

The study was approved by the Ethical Committee of the Medical Research Ethics Committee, Ministry of Health, Jordan (No Education/ Information /400). Participants were assured of the confidentiality of the study. Anonymity was established through the use of codes, rather than participants' names. Written and verbal informed consent, which included permission for the publication of anonymized responses and direct quotes was obtained from participants after clear and detailed explanations about the objectives of the study. In addition, all informed consent, either verbal or written was reviewed and approved by the Medical Research Ethics Committee, Ministry of Health, Jordan. Also, ensured that all interview transcripts were anonymized by removing any identifying information and the researchers used code instead of their name during analysis. All transcripts were anonymized by codes instead of personal names. Audio files and transcripts were stored in password-protected files accessible only to the research team. No identifying information was included in the reports or publications. Confidentiality applied during data collection, analysis, and reporting. All methods involving human participants were carried out in accordance with relevant guidelines and regulations, including the principles set forth in the Declaration of Helsinki.

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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