

Assessing the Impact of a Community-Based Health Education Program Led by Nursing Technicians on Health Literacy and Chronic Disease Management in Hafr Al-Batin: A Qualitative Study

Khulud Salman Ruwaq Aldhafeeri¹, Dalal Abdullah Abdulrahman Almutairi¹, Taghreed Ayed Alkhawwi Alhurayji¹, Fulayhah Abdullah Olayan Almuthaybiri¹, Refah Nazal Aqeel Aldhafeeri¹, Fajr Hadi Inad Alanazi¹

¹Nursing Technician

ABSTRACT

Background: Health education programs led by community health workers, such as nursing technicians, have shown promise in improving health literacy and chronic disease management in various settings. However, there is limited research on the impact of such programs in the context of Hafr Al-Batin, Saudi Arabia. This qualitative study aimed to explore the experiences and perspectives of participants in a community-based health education program led by nursing technicians, focusing on its impact on health literacy and chronic disease management.

Methods: A qualitative descriptive design was employed. Semi-structured interviews were conducted with 30 purposively sampled participants who had attended a community-based health education program led by nursing technicians in Hafr Al-Batin. The interviews explored participants' experiences, perceived impact on health literacy and chronic disease management, and factors influencing program effectiveness. Thematic analysis was used to analyze the data.

Results: Four main themes emerged: 1) Increased health knowledge and awareness, 2) Improved self-management skills and practices, 3) Enhanced social support and motivation, and 4) Barriers and facilitators to program effectiveness. Participants reported gaining a better understanding of their chronic conditions, adopting healthier lifestyles, and feeling more confident in managing their health. The program's group format and the nursing technicians' supportive approach were identified as key facilitators. However, some participants also highlighted challenges, such as conflicting health information and socioeconomic barriers to implementing lifestyle changes.

Conclusion: Community-based health education programs led by nursing

technicians can positively impact health literacy and chronic disease management in Hafr Al-Batin. The findings highlight the importance of culturally relevant, participatory approaches and the role of nursing technicians in providing accessible and effective health education. Addressing identified barriers and building on facilitators can further enhance the impact of such programs in this context.

Introduction

Chronic diseases, such as diabetes, cardiovascular diseases, and respiratory conditions, pose significant public health challenges globally, and Saudi Arabia is no exception (Almalki et al., 2011). Effective management of these conditions requires not only medical intervention but also patient education and empowerment (Alhaiti et al., 2019). Health literacy, defined as the ability to access, understand, and use health information to make informed decisions, is a key determinant of health outcomes and chronic disease management (Sørensen et al., 2012).

Community-based health education programs, particularly those led by community health workers such as nursing technicians, have shown promise in improving health literacy and chronic disease management in various settings (Jafar et al., 2018; Khetan et al., 2017). These programs often adopt participatory and culturally relevant approaches, making health information more accessible and relatable to the target population (Kim et al., 2016).

In Saudi Arabia, there is growing recognition of the need to strengthen community-based health promotion efforts and engage healthcare professionals, including nursing technicians, in these initiatives (Almalki et al., 2011; Aljuaid et al., 2016). However, there is limited research on the impact of community-based health education programs led by nursing technicians in the specific context of Hafr Al-Batin, a city in the Eastern Province of Saudi Arabia.

This qualitative study aimed to explore the experiences and perspectives of participants in a community-based health education program led by nursing technicians in Hafr Al-Batin, focusing on its impact on health literacy and chronic disease management. The findings can inform the design and implementation of future programs and contribute to the growing body of knowledge on community-based health promotion in Saudi Arabia.

Literature Review

Chronic Disease Burden in Saudi Arabia

Chronic diseases are a major public health concern in Saudi Arabia, with high prevalence rates of conditions such as diabetes, hypertension, and cardiovascular diseases (Almalki et al., 2011). The country's rapid economic development, urbanization, and lifestyle changes have contributed to the increasing burden of these conditions (Aljuaid et al., 2016). Effective management of chronic diseases requires a comprehensive approach that encompasses prevention, early detection, and ongoing care (Alhaiti et al., 2019).

Health Literacy and Chronic Disease Management

Health literacy plays a crucial role in chronic disease management, as it influences individuals' ability to navigate the healthcare system, understand health information, and make informed decisions about their health (Sørensen et al., 2012). Low health literacy has been associated with poorer health outcomes, higher healthcare costs, and increased hospitalization rates among individuals with chronic conditions (Berkman et al., 2011).

Improving health literacy requires targeted interventions that address the specific needs and contexts of different populations (Kim et al., 2016). Health education programs that adopt participatory and culturally relevant approaches have shown promise in enhancing health literacy and promoting better chronic disease management (Jafar et al., 2018; Khetan et al., 2017).

Role of Nursing Technicians in Community-Based Health Education

Nursing technicians, also known as community health workers or lay health educators, play an important role in bridging the gap between healthcare systems and communities (Olaniran et al., 2017). They are often members of the communities they serve and have a deep understanding of local contexts, cultures, and languages (Kim et al., 2016).

Studies have highlighted the effectiveness of community-based health education programs led by nursing technicians in various settings. For example, a systematic review by Jafar et al. (2018) found that community health worker-led interventions improved health literacy, self-management practices, and health outcomes among individuals with chronic diseases in low- and middle-income countries. Similarly, a study by Khetan et al. (2017) demonstrated the positive impact of a lay health educator-led program on diabetes management in a rural Indian population.

Community-Based Health Promotion in Saudi Arabia

In Saudi Arabia, there is growing recognition of the need to strengthen community-based health promotion efforts to address the rising burden of chronic diseases (Almalki et al., 2011; Aljuaid et al., 2016). The Ministry of Health has emphasized the importance of engaging healthcare professionals, including nursing technicians, in these initiatives (Aljuaid et al., 2016).

However, there is limited research on the impact of community-based health education programs led by nursing technicians in the specific context of Saudi Arabia, particularly in the city of Hafr Al-Batin. This study aims to address this gap by exploring the experiences and perspectives of participants in such a program, focusing on its impact on health literacy and chronic disease management.

Methods

Study Design

A qualitative descriptive design was employed to explore the experiences and perspectives of participants in a community-based health education program led by nursing technicians in Hafr Al-Batin, Saudi Arabia. This approach allows for a comprehensive understanding of the participants' views and experiences, providing

insights into the impact of the program on health literacy and chronic disease management (Sandelowski, 2000).

Setting and Participants

The study was conducted in Hafr Al-Batin, a city in the Eastern Province of Saudi Arabia. Purposive sampling was used to recruit 30 participants who had attended a community-based health education program led by nursing technicians within the past six months. The program focused on providing education and support for individuals with chronic diseases, such as diabetes, hypertension, and cardiovascular conditions.

Inclusion criteria for participants were: (1) aged 18 years or older, (2) diagnosed with a chronic disease, (3) attended at least three sessions of the community-based health education program, and (4) able to provide informed consent. Participants were recruited through the program's database and referrals from nursing technicians.

Data Collection

Semi-structured interviews were conducted with the participants to explore their experiences and perspectives on the impact of the community-based health education program on health literacy and chronic disease management. The interviews were conducted in Arabic by trained researchers and lasted approximately 45-60 minutes each. The interview guide was developed based on a review of the literature and the study's objectives. It included questions on participants' experiences in the program, perceived impact on health literacy and chronic disease management, and factors influencing program effectiveness.

The interviews were audio-recorded with the participants' permission and transcribed verbatim. Field notes were also taken during the interviews to capture non-verbal cues and contextual information.

Data Analysis

Thematic analysis was used to analyze the data, following the six-phase approach outlined by Braun and Clarke (2006). The transcripts were read and re-read to gain familiarity with the data. Initial codes were generated based on the participants' responses, and similar codes were grouped into potential themes. The themes were reviewed and refined to ensure they accurately represented the data and addressed the study's objectives. The final themes were defined and named, and representative quotes were selected to illustrate each theme.

To ensure the trustworthiness of the findings, several strategies were employed, including member checking, peer debriefing, and maintaining an audit trail (Lincoln & Guba, 1985). Member checking involved sharing a summary of the findings with a subset of participants to confirm the accuracy of the interpretation. Peer debriefing was conducted with two experienced qualitative researchers to review the analysis process and findings. An audit trail was maintained to document the research process, including raw data, analysis notes, and theme development.

Results

Four main themes emerged from the data analysis: (1) Increased health knowledge and awareness, (2) Improved self-management skills and practices, (3) Enhanced social

support and motivation, and (4) Barriers and facilitators to program effectiveness.

Theme 1: Increased Health Knowledge and Awareness

Participants reported gaining a better understanding of their chronic conditions, risk factors, and the importance of self-management through the health education program. They appreciated the clear and practical information provided by the nursing technicians, which was tailored to their specific needs and contexts. For example, one participant stated:

"Before attending the program, I had limited knowledge about diabetes and its complications. The nursing technicians explained everything in a way that was easy to understand, using examples from our daily lives. I now have a much better grasp of how to manage my condition." (Participant 12)

Another participant highlighted the importance of learning about the long-term consequences of uncontrolled chronic diseases:

"I never realized how serious hypertension could be if left untreated. The program opened my eyes to the potential complications and motivated me to take better care of my health." (Participant 23)

Theme 2: Improved Self-Management Skills and Practices

Participants described how the program equipped them with practical skills and strategies to manage their chronic conditions effectively. They reported making positive lifestyle changes, such as adopting healthier diets, increasing physical activity, and adhering to medication regimens. One participant shared:

"The nursing technicians taught us how to read food labels, plan healthy meals, and make smart choices when eating out. I have started cooking more at home and incorporating more fruits and vegetables into my diet." (Participant 8)

Another participant discussed the impact of the program on their medication management:

"I used to struggle with remembering to take my medications on time. The program taught me simple strategies, like setting reminders on my phone and using a pill organizer. I now feel more in control of my treatment plan." (Participant 19)

Theme 3: Enhanced Social Support and Motivation

Participants valued the social support and motivation they received from the program's group format and the nursing technicians' caring approach. They described feeling a sense of camaraderie with other participants who shared similar experiences and challenges. One participant expressed:

"It was comforting to know that I wasn't alone in my struggles. Hearing other participants' stories and sharing my own experiences made me feel supported and motivated to make positive changes." (Participant 5)

Participants also appreciated the nursing technicians' empathy, encouragement, and availability to address their concerns. For example:

"The nursing technicians were always patient and understanding. They took the time to listen to our questions and provided practical advice. Their support made a big difference in my motivation to stick with the program." (Participant 28)

Theme 4: Barriers and Facilitators to Program Effectiveness

While participants generally reported positive experiences, they also identified some barriers and facilitators to the program's effectiveness. Some participants mentioned challenges in implementing lifestyle changes due to time constraints, financial limitations, or family obligations. For instance:

"As a working mother, it can be difficult to find time to exercise or prepare healthy meals. The program gave me some ideas on how to make small changes, but it's still a struggle to fit everything in." (Participant 14)

Other participants highlighted the importance of ongoing support and follow-up after the program ended:

"I found the program very helpful, but I worry about maintaining the changes long-term. It would be great to have some kind of follow-up or refresher sessions to keep us on track." (Participant 22)

Participants also identified facilitators to program effectiveness, such as the use of culturally relevant examples, interactive learning methods, and the accessibility of the program in terms of location and timing.

Table 1: Summary of Themes and Sub-Themes

Themes	Sub-Themes
Increased Health Knowledge and Awareness	- Understanding of chronic conditions and risk factors - Importance of self-management - Long-term consequences of uncontrolled chronic diseases
Improved Self-Management Skills and Practices	- Adoption of healthier diets - Increasing physical activity - Adherence to medication regimens - Practical strategies for lifestyle changes
Enhanced Social Support and Motivation	- Sense of camaraderie with other participants - Nursing technicians' empathy, encouragement, and availability - Sharing experiences and learning from others
Barriers and Facilitators to Program Effectiveness	- Challenges in implementing lifestyle changes (time, financial, family obligations) - Need for ongoing support and follow-up - Culturally relevant examples and interactive

Themes

Sub-Themes

learning methods

- Accessibility of the program (location and timing)

Discussion

This qualitative study explored the experiences and perspectives of participants in a community-based health education program led by nursing technicians in Hafr Al-Batin, Saudi Arabia, focusing on its impact on health literacy and chronic disease management. The findings highlight the program's positive influence on participants' health knowledge, self-management skills, and social support, while also identifying barriers and facilitators to its effectiveness.

The theme of increased health knowledge and awareness aligns with previous research demonstrating the effectiveness of community-based health education programs in improving health literacy among individuals with chronic diseases (Jafar et al., 2018; Kim et al., 2016). Participants in this study valued the clear, practical, and culturally relevant information provided by the nursing technicians, which enhanced their understanding of their conditions and the importance of self-management.

The findings also underscore the program's impact on improving self-management skills and practices, such as adopting healthier lifestyles and adhering to medication regimens. This is consistent with prior studies showing the positive influence of community health worker-led interventions on chronic disease management (Khetan et al., 2017; Olaniran et al., 2017). The practical strategies and skills taught by the nursing technicians empowered participants to take an active role in managing their health.

The theme of enhanced social support and motivation highlights the value of the program's group format and the nursing technicians' caring approach. The sense of camaraderie and shared experiences among participants, along with the support and encouragement from the nursing technicians, fostered a motivating environment for positive change. This finding resonates with the literature emphasizing the importance of social support in chronic disease management (Fisher et al., 2017).

However, participants also identified barriers to program effectiveness, such as challenges in implementing lifestyle changes due to time, financial, or family constraints. This underscores the need for programs to consider the broader social determinants of health and provide strategies to address these barriers (Cockerham et al., 2017). Participants also expressed the desire for ongoing support and follow-up, suggesting that sustained engagement may be necessary for long-term behavior change and disease management (Khetan et al., 2017).

The facilitators to program effectiveness identified by participants, such as culturally relevant examples, interactive learning methods, and accessibility, align with best practices in community-based health promotion (Kim et al., 2016). These findings emphasize the importance of designing programs that are tailored to the specific needs, preferences, and contexts of the target population.

This study's findings have implications for the design and implementation of future

community-based health education programs in Saudi Arabia and similar contexts. They highlight the potential of nursing technicians to serve as effective facilitators of health literacy and chronic disease management, given their ability to provide culturally relevant and accessible health information and support. The findings also underscore the importance of incorporating participatory and interactive learning methods, fostering social support, and addressing barriers to lifestyle changes.

However, the study has some limitations that should be considered. The qualitative nature of the study and the purposive sampling method may limit the generalizability of the findings to other settings or populations. Additionally, the study relied on self-reported data, which may be subject to social desirability bias. Future research could employ a mixed-methods approach, incorporating quantitative measures of health literacy and chronic disease management, to provide a more comprehensive assessment of program impact.

In conclusion, this qualitative study provides valuable insights into the experiences and perspectives of participants in a community-based health education program led by nursing technicians in Hafr Al-Batin, Saudi Arabia. The findings highlight the program's positive impact on health literacy and chronic disease management, while also identifying areas for improvement and considerations for future program design and implementation. Continued research and evaluation of such programs are necessary to inform evidence-based practices and policies that promote health equity and improve health outcomes for individuals with chronic diseases in Saudi Arabia and beyond.

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