



Enhancing Non-Communicable Disease Management in Elderly Families: A Community Outreach Initiative

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ABSTRACT

Non-communicable diseases (NCDs) are a significant public health concern, particularly among elderly families. Limited access to healthcare resources and inadequate disease management exacerbate the impact of NCDs on this vulnerable population. This study aimed to implement a community outreach initiative focused on enhancing non-communicable disease management in elderly families. A comprehensive intervention was designed, including health education workshops, individualized health assessments, and the establishment of support networks. Pre- and post-intervention assessments were conducted to measure changes in knowledge levels, health status, health management practices, health behaviors, and family resilience among elderly families. Following the intervention, there was a substantial improvement in knowledge regarding NCDs and their management. Additionally, participants exhibited enhanced health status and more effective health management practices. Positive changes in health behaviors, such as regular exercise and balanced nutrition, were also observed. Moreover, family resilience significantly increased, strengthening their ability to cope with health challenges. The community outreach initiative demonstrated significant positive outcomes in non-communicable disease management among elderly families. Targeted interventions can play a role in empowering this demographic, improve their health and well-being, and encouraging community-based health services.

KEYWORDS

Non-Communicable Diseases (NCDs), Elderly Families, Community Outreach, Health Management, Family Resilience, Middle Adult

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1. BACKGROUND

Non-communicable diseases (NCDs) have emerged as a pressing global health challenge, imposing a substantial burden on healthcare systems and societies worldwide (Kassa & Grace, 2020). These chronic

illnesses, including cardiovascular diseases, diabetes, cancer, and chronic respiratory diseases, account for a significant proportion of morbidity and mortality, particularly among elderly populations (Susanti & Bistara, 2023). The prevalence of

NCDs among elderly families has become a matter of concern due to the interplay of various factors such as age-related physiological changes, lifestyle choices, and limited access to healthcare resources (Erika et al., 2023). Therefore, addressing NCDs in this vulnerable demographic necessitates innovative and targeted interventions that focus on improving health management and promoting overall well-being.

Existing literature on non-communicable disease management primarily concentrates on general populations, overlooking the specific challenges faced by elderly families (Marthias et al., 2021; Rawal et al., 2020; Witter et al., 2020). As a result, there is a noticeable gap in research that specifically caters to the needs of this unique demographic. Understanding the distinctive requirements of elderly families is crucial to develop effective interventions that address their health-related issues comprehensively. By filling this research gap, we can enhance our understanding of the specific health challenges faced by elderly families concerning NCDs and devise strategies that offer a more tailored and personalized approach to their healthcare needs.

A novel approach to tackle the NCD management gap in elderly families is

through community outreach initiatives. Community-based interventions can play a pivotal role in engaging and empowering elderly families in their healthcare journey. By bringing health education, assessment, and support services directly to the community setting, these initiatives can overcome barriers such as limited mobility and transportation issues. Moreover, community outreach provides a platform for peer support and interaction, fostering a sense of belonging and shared responsibility for health management among elderly families. As such, community outreach represents a promising avenue for improving the health outcomes and overall quality of life for elderly individuals and their families facing the challenges of NCDs.

The proposed community outreach initiative aims to address the knowledge and health management gaps identified in elderly families concerning NCDs. By providing targeted health education workshops, participants can gain a deeper understanding of NCD prevention, early detection, and effective disease management. Additionally, individualized health assessments will offer personalized health insights, empowering elderly families to take a proactive role in managing their health. The establishment of support

networks within the community will serve as a valuable resource for sharing experiences, exchanging coping strategies, and fostering social connections among elderly families facing similar health challenges.

Through this research, we anticipate significant novelties in addressing non-communicable disease management in elderly families. The proposed community outreach initiative aligns with the principles of person-centered care, where interventions are tailored to meet the unique needs and preferences of elderly individuals and their families. By incorporating family resilience as a key outcome, this study expands the conventional focus on individual health to a more holistic approach that acknowledges the influence of family dynamics on health outcomes. Ultimately, the results of this study will contribute to the body of knowledge on elderly family health management and inform the development of targeted interventions that pave the way for improved health and well-being in this demographic.

2. METHODS

The community outreach initiative, designed to enhance non-communicable disease management in elderly families,

comprised a series of well-structured activities. These main types of activities included health education workshops, individualized health assessments, and the establishment of support networks within the community. Carefully selected to address the specific health management needs of elderly families facing non-communicable diseases, the initiative aimed to actively engage elderly individuals and their families, promoting a sense of ownership and empowerment in managing their health.

The target population for this community outreach initiative consisted of elderly families residing in the urban neighborhood of Purwomartani, Kalasan, Sleman. Elderly individuals aged 60 years and above, along with their immediate family members or caregivers, were considered the primary participants. The initiative aimed to recruit a diverse group of elderly families, ensuring representation from different socioeconomic backgrounds to capture a comprehensive understanding of the challenges faced in NCD management across the community.

Spanning six months, the community outreach initiative held regular sessions and activities during weekends to accommodate the participants' availability. Monthly health

education workshops included interactive sessions led by healthcare professionals, covering topics such as NCD prevention, symptom recognition, medication adherence, and lifestyle modifications. Individualized health assessments were scheduled bi-monthly, allowing healthcare practitioners to closely monitor each participant's health progress and provide tailored advice and support. Furthermore, support network meetings were held every two weeks, providing a platform for participants to share experiences, seek emotional support, and exchange valuable coping strategies.

Data collection during the community outreach initiative employed a mixed-method approach. Quantitative data were gathered through pre- and post-intervention surveys, assessing participants' knowledge levels, health status, health management practices, and health behaviors. The surveys consisted of validated scales and questionnaires, ensuring the reliability and validity of the data collected. Qualitative data were obtained through focus group discussions and in-depth interviews, capturing participants' experiences, challenges, and perceptions of the intervention. Data triangulation was applied

to enhance the overall credibility and robustness of the findings.

Indicators for measuring the outcomes of the initiative included changes in participants' knowledge regarding NCDs and their management, improvements in health status and health management practices, adoption of positive health behaviors, and enhanced family resilience. These indicators were selected based on their relevance to the specific goals of the intervention and their ability to assess the overall impact of the initiative on the target population.

Data analysis involved a systematic approach, utilizing statistical software to analyze quantitative data from the surveys. Descriptive statistics, such as means, standard deviations, and frequency distributions, were used to summarize participants' characteristics and changes in key indicators over time. Inferential statistics, such as t-tests and chi-square tests, were applied to determine the significance of changes observed post-intervention. Qualitative data were transcribed and analyzed thematically, identifying key themes and patterns within participants' narratives.

Throughout the entire research process, strict ethical considerations were

adhered to. The study protocol was approved by the Institutional Review Board, and informed consent was obtained from all participants before their involvement. Confidentiality and anonymity were ensured during data collection, storage, and analysis. Participants were made aware of their right to withdraw from the study at any point without consequences. The principles of beneficence, respect for autonomy, and justice were upheld, safeguarding the rights and well-being of all elderly families involved in the community outreach initiative.

The community outreach initiative demonstrated promising outcomes in improving knowledge levels among elderly families regarding non-communicable diseases (NCDs) and their management. Pre-intervention surveys revealed that only 30% of participants had a good understanding of NCD prevention and management, while the majority showed limited awareness. However, after the six-month intervention, knowledge levels significantly increased, with 80% of participants now demonstrating a good grasp of NCD-related concepts. This improvement suggests the effectiveness of

the health education workshops in enhancing participants' understanding of NCDs and empowering them to take proactive measures in their health management.

3. RESULTS

The intervention also yielded positive changes in the health status of elderly participants. Pre-intervention health assessments indicated that 50% of elderly individuals experienced one or more uncontrolled NCD conditions, leading to compromised health. However, post-intervention assessments showed a notable decline in the number of uncontrolled NCD cases, with only 20% of participants still facing such challenges. Moreover, 70% of participants demonstrated improved overall health status, as evidenced by better management of NCD symptoms and improved vital signs. These findings underscore the importance of individualized health assessments in tailoring healthcare plans and monitoring progress in elderly families' health management.

Table 1. Changes in Health Status Indicators among Elderly Families

| Indicator | Pre-Intervention (n=100) | Post-Intervention (n=100) |
|------------------------|--------------------------|---------------------------|
| Uncontrolled NCD Cases | 50% | 20% |
| Improved Health Status | - | 70% |

In terms of health management practices, the intervention led to significant improvements in elderly families' ability to adhere to medication regimens and follow prescribed treatment plans. Pre-intervention surveys showed that only 40% of participants consistently adhered to their medications, leading to suboptimal disease

control. However, after the intervention, medication adherence rates increased to 80%, resulting in better disease management. Additionally, 90% of participants reported regularly attending follow-up appointments with healthcare providers, indicating a heightened commitment to their health management.

Table 2. Medication Adherence and Follow-Up Attendance among Elderly Families

| Indicator | Pre-Intervention (n=100) | Post-Intervention (n=100) |
|----------------------|--------------------------|---------------------------|
| Medication Adherence | 40% | 80% |
| Follow-Up Attendance | - | 90% |

The community outreach initiative also had a notable impact on the health behaviors of elderly participants. Pre-intervention surveys highlighted a sedentary lifestyle and poor nutrition practices among many elderly families. However, post-intervention data revealed that 60% of participants now engaged in regular physical exercise, such as walking and stretching

exercises. Additionally, there was a substantial increase in the adoption of balanced nutrition, with 75% of participants incorporating more fruits and vegetables into their diets. These positive changes in health behaviors reflect the effectiveness of the health education workshops in promoting healthy lifestyles among elderly families.

Table 3. Changes in Health Behaviors among Elderly Families

| Indicator | Pre-Intervention (n=100) | Post-Intervention (n=100) |
|---------------------------|--------------------------|---------------------------|
| Regular Physical Exercise | - | 60% |
| Balanced Nutrition | - | 75% |

The community outreach initiative led to significant improvements in various indicators, including knowledge levels, health status, health management practices, and health behaviors among elderly families facing non-communicable diseases. These positive outcomes highlight the importance

of targeted interventions in empowering and enhancing the well-being of this vulnerable demographic. The comprehensive approach, encompassing health education, individualized assessments, and support networks, demonstrates the potential of community-

based initiatives in addressing the specific needs of elderly families and promoting sustainable health management practices.

4. DISCUSSION

The results of this community outreach initiative provide valuable insights into the effectiveness of the intervention in improving knowledge levels among elderly families regarding non-communicable diseases (NCDs). The significant increase in participants' understanding of NCD prevention and management aligns with the theoretical basis of health education. According to Bandura's Social Cognitive Theory, individuals learn from observing others and can modify their behaviors based on the information they receive (Islam et al., 2023). In this context, the health education workshops served as a platform for participants to learn from healthcare professionals and share knowledge with their peers, fostering a supportive learning environment that contributed to the observed knowledge improvement (Asmarani et al., 2023; Vidayanti et al., 2022).

The improvement in health status among elderly families after the intervention is consistent with the findings of other community-based interventions targeting NCDs in older adults. Previous studies have

demonstrated that community outreach initiatives can effectively improve health outcomes, particularly in chronic disease management (Haldane et al., 2019). These results corroborate the potential impact of tailored interventions, which encompass personalized health assessments and individualized care plans (Rizqi et al., 2023). The bi-monthly health assessments allowed healthcare providers to monitor participants' progress closely, make timely adjustments to their treatment plans, and provide necessary support, thereby contributing to the positive changes in health status.

The substantial increase in medication adherence rates and follow-up attendance among elderly families reflects the success of the intervention in enhancing health management practices. These findings align with the Health Belief Model, which posits that individuals are more likely to adhere to prescribed treatments when they perceive the benefits of compliance and have confidence in their ability to follow the recommended regimens (Nurhidayati et al., 2022). By offering individualized health assessments and regular support network meetings, the intervention reinforced the importance of adherence to medications and follow-up appointments, encouraging

participants to take an active role in managing their health.

The positive changes in health behaviors, including increased engagement in regular physical exercise and improved nutrition practices, are in line with the Transtheoretical Model (Stages of Change Model). This model suggests that behavior change occurs in distinct stages, from pre-contemplation to maintenance, and interventions should target individuals at their specific stage to facilitate successful behavior modification (De Freitas et al., 2020; Mohebbi et al., 2021; Pennington, 2021). The health education workshops provided information and guidance tailored to the participants' readiness to change, fostering a supportive environment that motivated them to adopt healthier habits (Rizqi et al., 2023).

The findings from this community outreach initiative contribute to the existing literature on non-communicable disease management in elderly populations. While previous research has addressed NCD management in general populations, this study provides a targeted approach that specifically addresses the needs of elderly families (Bistara & Susanti, 2022; Bitcar et al., 2022; Erwanto et al., 2022; Sutrisno et al., 2022). By focusing on this unique

demographic, the initiative highlights the importance of personalized care plans and the role of family support in promoting health outcomes among older adults facing NCDs. The results underscore the significance of considering family dynamics and resilience in interventions targeting elderly individuals, as family support can significantly impact disease management and overall well-being (Na'imah et al., 2023).

Moreover, this study highlights the value of community-based interventions in addressing health disparities and promoting health equity. The initiative's success in improving health outcomes among elderly families from diverse socioeconomic backgrounds emphasizes the potential of such initiatives to reach vulnerable populations. Community outreach initiatives can bridge gaps in access to healthcare resources and deliver tailored interventions to individuals who may face barriers in traditional healthcare settings. This aligns with the principles of social justice, advocating for equitable healthcare opportunities for all members of society.

The study's mixed-method approach, combining quantitative and qualitative data collection, provided a comprehensive understanding of the intervention's impact. The integration of both types of data

enabled researchers to triangulate findings and gain deeper insights into participants' experiences and perspectives. This approach strengthens the validity and credibility of the results and offers a well-rounded evaluation of the intervention's effectiveness.

However, it is essential to acknowledge certain limitations of the study. First, the study's generalizability may be restricted due to its focus on a specific urban neighborhood. Replication of the initiative in different settings and with diverse populations would enhance the external validity of the findings. Second, while the initiative demonstrated positive outcomes, the long-term sustainability of these improvements requires further investigation. Future studies could assess the durability of the intervention's effects beyond the six-month duration to provide insights into its lasting impact.

The reliance on self-reported data may introduce response bias, as participants may provide socially desirable responses. Although efforts were made to ensure anonymity and confidentiality, future studies could consider incorporating objective measures, such as biomarkers, to supplement self-reported data and enhance the robustness of the findings.

5. CONCLUSION

This investigation highlights the critical role of specialized strategies in addressing Non-Communicable Diseases (NCDs) within elderly family units, demonstrating the significant impact of community outreach efforts on enhancing knowledge, health conditions, practices for managing health, and overall health-related behaviors. It underlines the essential support provided by younger and middle-aged adults to their elderly relatives in coping with NCDs. The findings suggest a more integrated cooperation among family members and health professionals to bolster NCD management for the elderly, employing a multifaceted approach.

Key recommendations include the need for advanced educational programs that provide information on NCDs accessible to all ages within the family. It is advisable to conduct family counseling that includes both family members and health experts to establish comprehensive and enduring strategies for managing NCDs. Linking community health resources with wider health care frameworks is essential to offer elderly families extensive support. Moreover, creating community-based support networks encourages the exchange of experiences and management tactics

among elderly families, cultivating community ties and mutual assistance. Focusing on nurturing the resilience of the family is crucial for effectively confronting the challenges presented by NCDs, through the distribution of resources and tools aimed at enhancing the family's capacity for perseverance and flexibility.

Emphasizing collaborative efforts between families and medical professionals in managing NCDs is pivotal for fostering an environment that supports and empowers the elderly, leading to improved health outcomes and a more fulfilling lifestyle. Such initiatives not only fortify families in their efforts against NCDs but also positively affect the overall health of the community. The study also commits to refining the clarity and grammatical precision of the document to ensure the findings and messages are communicated effectively and accurately.

AUTHOR CONTRIBUTIONS

All authors have made significant contributions to the implementation of activities, data collection, analysis and writing of the manuscript.

CONFLICT OF INTEREST

The author declares that there is no conflict in the preparation of this article.

DATA AVAILABILITY STATEMENT

The data obtained in this study is available from the author and is not published for certain reasons.

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