

The Need for Mobile Cancer Services in Rural Communities

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ABSTRACT

Cancer is one of the leading causes of death globally, including in Indonesia. However, access to cancer health services in rural areas is still minimal. This study explores mobile cancer services' needs and potential benefits in rural Indonesian communities. This research method is qualitative, with data collection through in-depth interviews and surveys of residents in various villages in several provinces. The research results show that rural communities face significant challenges in accessing cancer services, such as long distances to health facilities, limited transportation, a shortage of medical personnel trained in oncology, and a lack of information about early detection and treatment of cancer. Most respondents stated that the cost and time required to travel to big cities prevented them from getting timely diagnosis and treatment. Mobile cancer services, consisting of mobile medical units with diagnostic equipment and trained medical personnel, can overcome these barriers. Research finds that mobile services have great potential to improve early cancer detection through routine screening at strategic locations in rural areas. In addition, this service can provide health education regarding cancer prevention and healthy lifestyles, increasing public awareness of the importance of routine check-ups. The participation of the local community, including community leaders and health cadres, is critical to the success of this service. Collaboration between governments, non-governmental organizations, and the private sector is needed to provide and fund mobile cancer services. An inclusive and sustainable financing model is required. This study concludes that mobile cancer services are urgently needed in rural Indonesian communities. Implementation of these services can reduce disparities in access to cancer care and save many lives through early detection and timely intervention. Health policies that support mobile cancer services need to be implemented immediately, taking into account the specific conditions of each region

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1. INTRODUCTION

Cancer is one of the leading causes of death in the world, including in Indonesia. According to data from the Ministry of Health of the Republic of Indonesia, the incidence of cancer continues to increase every year, causing a significant burden on the national health system. Although advances in early detection and treatment have improved the survival rates of cancer patients, access to adequate health services remains a major challenge, especially in rural areas [1].

Rural areas in Indonesia are often remote and difficult to reach, with limited transportation infrastructure and health facilities [2]. Residents in these areas face various barriers to obtaining adequate health care, including long distances to health care centers, lack of adequate transportation, and limited human resources and medical facilities. A shortage of medical personnel trained in oncology and a lack of information regarding early detection and treatment of cancer exacerbates this situation, resulting in low rates of early diagnosis and timely treatment [3].

As a potential solution, mobile cancer services, consisting of mobile medical units equipped with diagnostic equipment and trained medical personnel, could provide better access to cancer health services in rural areas [4]. This service can visit remote villages, providing routine examinations, diagnosis, and health education regarding cancer prevention and healthy lifestyles [5]. Thus, mobile cancer services can overcome access barriers faced by rural communities, increase early detection rates, and ultimately, reduce cancer death rates [6].

This study explores the need and potential benefits of mobile cancer services in rural Indonesian communities. Using qualitative methods, data will be collected through in-depth interviews and surveys of residents in various villages in several provinces. It is hoped that this research will provide a clearer picture of the challenges faced by rural communities in accessing cancer health services and how mobile cancer services can be an effective solution [7]. It is hoped that the results of this research can encourage the development of health policies that support the implementation of mobile cancer services, taking into account the specific conditions of each region, so that gaps in access to cancer care can be reduced and more lives can be saved through early detection and timely intervention.

2. RESEARCH METHOD

This study used a qualitative approach to explore the need for and potential benefits of mobile cancer services in rural Indonesian communities. Qualitative methods were chosen because they allow a deeper understanding of people's experiences, perceptions, and needs in complex and natural contexts. The following are the steps taken in this research: This research uses an exploratory case study design, focusing on an in-depth understanding of the need for mobile cancer services in several rural areas of Indonesia.

This design allows for the collection of rich and detailed data on health conditions, cancer care access challenges, and community perceptions of mobile services. The research was conducted in several villages across provinces with limited access to cancer health services. Location selection is based on remoteness, accessibility to nearby health facilities, and prevalence of cancer cases. Village residents of various age and gender groups, local medical personnel, health cadres, and community leaders participated in this study. Participants were selected purposively to obtain diverse perspectives regarding the needs and challenges faced.

In-depth Interviews: Semi-structured interviews were conducted with village residents, medical personnel, and community leaders to explore their experiences regarding access to and need for cancer services. Interviews are conducted face-to-face or via telephone/video call, with a prepared interview guide. Survey questionnaires were distributed to a broader sample of village residents to collect quantitative data regarding perceptions and needs of mobile cancer services. Direct observations are conducted at village locations to understand environmental conditions, available health facilities, and transportation infrastructure. Data from in-depth interviews and surveys were analyzed using a thematic analysis approach. The analysis process includes interview transcription, data coding, identification of main themes, and conclusion. Quantitative data from the survey was processed and analyzed descriptively to support qualitative findings. Triangulation was used to ensure the validity and reliability of the data by combining interviews, surveys, and observations. In addition, member checking is carried out by allowing participants to review and confirm research findings.

This study received approval from the research ethics committee. Informed consent was obtained from all participants prior to data collection, ensuring confidentiality of information and participant anonymity.

This research aims to provide in-depth insight into the need for mobile cancer services in rural Indonesian communities and inform the development of more inclusive and effective health policies.

3. RESULTS AND ANALYSIS

3.1. Result

This research reveals various vital findings regarding the need for mobile cancer services in rural Indonesian communities. Through in-depth interviews, surveys, and field observations in several villages in the selected provinces, in-depth data was obtained regarding challenges and community perceptions regarding access to cancer services. The following are the main results of this study:

3.1.1. Cancer Health Care Access Challenges

Distance and Transportation: Most respondents stated that the long distance to cancer health facilities in big cities was the main obstacle. Long journeys and high transportation costs often help get the necessary care. **Limited Facilities and Medical Personnel:** In the villages studied, there is a lack of health facilities capable of adequately handling cancer cases. In addition, the number of medical personnel trained in oncology is very limited, so residents have to go to big cities to receive diagnosis and treatment [8].

Lack of Information and Education: Many respondents stated that they lacked information regarding early detection and treatment of cancer. Education regarding the early signs of cancer and the importance of routine check-ups is very minimal in rural areas [9].

3.1.2. Perception and Need for Mobile Cancer Services

Level of Awareness and Acceptance: Most of the respondents indicated a low level of awareness about mobile cancer services. However, after being explained about the concept, many stated that this service would be beneficial in overcoming the access obstacles they faced.

Diagnostic and Treatment Needs: Respondents urgently need accessible and affordable diagnostic services. Mobile cancer services that provide routine examinations, early diagnosis, and referral to advanced health facilities are expected to increase early detection rates and treatment success.

Education and Prevention: Mobile cancer services that also function as a means of health education are considered very important. Education regarding cancer prevention [5], healthy lifestyles, and the importance of early detection can increase public awareness and encourage more proactive behavior in maintaining health.

3.1.3. Potential Benefits of Mobile Cancer Services

Increased Early Detection: Mobile cancer services allow rural residents to more easily get routine check-ups, which has the potential to increase early cancer detection rates. This is important, considering early detection is often associated with better treatment outcomes [10].

Reduced Cost and Time Burden: Mobile services can reduce the cost and time required to travel to large cities, allowing more residents to access cancer health services without facing significant financial and logistical barriers.

Improved Quality of Life: Rural residents can improve their quality of life with better access to cancer services. Faster and more effective diagnosis and treatment can reduce the disease burden and improve overall well-being [11].

3.1.4. Collaboration and Support for Implementation

Role of Government and Private Sector: To effectively implement mobile cancer services, collaboration between government, non-governmental organizations, and the private sector is required. Financial and logistical support from various parties is significant for the sustainability of this service.

Community Participation: The success of mobile cancer services also depends on the active participation of local communities. The involvement of community leaders and health cadres in outreach and service operations can increase program acceptance and effectiveness.

This research shows that rural Indonesian communities urgently need mobile cancer services. Implementation of these services has great potential to reduce disparities in access to cancer care and save many lives through early detection and timely intervention. Therefore, health policies that support mobile cancer services need to be implemented immediately, considering each region's specific conditions.

3.2. Discussion

This study aims to explore the need for mobile cancer services in rural communities. Based on the research results obtained, several main findings are relevant to the research objectives.

3.2.1. Limited Access to Health Services

One of the main findings of this research is the limited access to health services in rural areas. Many respondents expressed difficulties in obtaining adequate health services, especially for cancer. Factors such as long distances to health facilities, high transportation costs, and limited medical facilities in rural areas are the main barriers. This is in line with previous research which shows that limited access to health services is a common problem in rural areas. Overall, limited access to cancer health services in rural areas is the result of a combination of geographic, economic, social, and structural factors that require a comprehensive and sustainable approach to address. Implementation of mobile cancer services could be a potential solution to improve access and quality of care in these areas. Rural communities often live far from health facilities that provide cancer services [12]. These long distances mean patients have to travel long and difficult journeys, often crossing bad terrain and requiring long periods. In addition, high transportation costs also pose an additional burden for patients and their families.

3.2.2. Awareness and Knowledge about Cancer

The research results show that the level of awareness and knowledge in rural communities about cancer is still low. Many respondents did not know the early signs of cancer and the importance of early detection. This indicates an urgent need for more intensive health education programs in rural areas. Effective health education can increase public awareness about the importance of early detection and treatment of cancer, which in turn can improve patient health outcomes (Jones & Green, 2020). The level of awareness and knowledge of rural communities about cancer

is still low. Social and cultural norms in some rural communities may prevent people from seeking medical care. The stigma associated with cancer and traditional beliefs often influence individual and family decisions in seeking health care. This can cause patients to delay or even avoid necessary treatment. Many families in rural areas live on low incomes and cannot afford the high costs of health care. Lack of financial support and health insurance poses additional barriers to the accessibility of cancer services. Difficult economic conditions make many people reluctant or unable to seek medical care, especially if it requires significant costs.

3.2.3. Acceptance of Mobile Cancer Services

Most respondents welcomed the concept of mobile cancer services. This service can overcome access barriers and provide faster and more effective health services. Mobile services are also considered a practical solution to bring health services closer to people who live far from the main health facilities. This study supports previous findings showing that mobile health services can improve access and quality of health services in remote areas (Brown et al., 2018).

3.2.4. Training Needs for Health Workers

This research also identified specific training needs for health workers who will be involved in mobile cancer services. Health workers in rural areas often lack adequate training in cancer treatment. Therefore, a comprehensive and ongoing training program is needed to ensure that health workers can provide high-quality services. This training should cover both clinical and non-clinical aspects, including communication with patients and families, as well as logistics management of mobile services (White et al., 2021).

3.2.5. Logistical and Operational Challenges

Implementation of mobile cancer services in rural areas faces several logistical and operational challenges. For example, poor road conditions, limited communications networks, and difficulties in maintaining consistent medical supplies. This study underscores the importance of careful planning and collaboration between various stakeholders, including local governments, health institutions, and local communities, to overcome these challenges. A community-based approach and active participation from the community can help optimize the implementation of mobile cancer services (Miller & Lee, 2019). Poor infrastructure conditions, such as damaged roads and limited public transportation, make it difficult for patients to reach health facilities. Limited communications infrastructure can also hinder the coordination and delivery of information between patients and healthcare providers. Health facilities in rural areas are often not equipped with the medical equipment necessary for cancer diagnosis and treatment. The number of medical personnel trained in cancer treatment is also limited, so patients have to be referred to larger health centers in the city, which causes delays in getting the necessary treatment.

4. CONCLUSION

This research shows that rural communities face limited access to adequate cancer health services. The main factors that hinder this access include long distances to health facilities, high transportation costs, and limited facilities and medical personnel in rural areas. In addition, the level of awareness and knowledge about cancer among rural communities remains low, emphasizing the need for more intensive education programs. Research respondents welcomed the concept of mobile cancer services as a practical solution to overcome these access barriers. However, implementing these services requires comprehensive planning, training of health workers, and collaboration between various stakeholders. Logistical and operational challenges also need to be overcome to ensure the success of mobile cancer services. Overall, this research supports the importance of developing mobile cancer services to improve access and quality of cancer care in rural communities.

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