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ORIGINAL RESEARCH

Equate access to primary health care in rural Kalimantan: What basic health services should be available locally?

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Abstract
Indigenous and remote ethnic populations experience poorer health status than metropolitan populations due to unequal access to essential healthcare services (Primary healthcare). This study aims to assess which essential health services are best provided by health workers and describe the service needs problem from the patient's perspective. The Delphi method consists of informants represented by rural and remote health centers. Using open-ended questions, they represent the population for each health center service. Each question must identify a problem based on the core of essential health services. The results of the study show that the criteria that must be met include the importance of equality in health services; consideration of social determinants of health; flexibility, effective resource budgeting, adjusting the type of health services according to patient needs, and providing services as close to home as possible. The conclusions of this study can help policymakers and service planners to determine what types of service needs should be provided by health workers in remote areas, to allocate resources and provide services more equitably, and to inform patients about healthcare services that they expect to be able to access fairly within the community.

Keywords: Health care system; community nursing; nursing care; delphi study; health population

Introduction

Indonesia is the largest country in Southeast Asia, with relatively stable economic growth and a global health resilience index. Indonesia ranks 13th among the G20 countries, scoring 50.4 points in 2021. Unfortunately, many residents of rural and remote communities experience worse health problems than many in urban areas (Haque, 2018). Disease rates can be reduced by increasing location access to goods and services so that there are no isolated areas (Bywood et al., 2011). One of the areas in East Kalimantan that is still isolated is the Mahakam Ulu (Mahulu) Regency, which is a new autonomous region in the border area which is a group of regions that is underdeveloped in many respects so that strategic steps are needed to advance it (Putera and Rhussary, 2018). The mortality rates for men and women, fundamental indicators of population health, are significantly higher in remote areas than in big cities (Wang et al., 2021). The mortality rate reflects the proportion of indigenous/inland tribal people who are socioeconomically disadvantaged in accessing primary health services, which is uneven, causing a high disease burden (Wulandari et al., 2021). In Kalimantan, the highest mortality rate is a chronic disease, with an average stroke of 236.4 per 100.000 population. In contrast, the death rate due to infection is dengue fever. The highest rate in 2017 was in the Mahakam Ulu district, with four people (Kaltim, 2019).

Not only does Indonesia have the problem of disparity in health services, but several countries such as Australia, America, and Canada have the same problem in fighting for equal access to health services with its vast landscape and scattered rural and remote communities, experiencing similar health disparities related to social determinants of poor access to essential health services (Corso et al., 2022; Cacari Stone et al., 2021; O'Brien et al., 2021). Addressing these health disparities and inequalities in access to health services requires a systematic national response. One way is that good health centers are associated with better health outcomes, lower costs, and more

significant equity in health services (Nundy et al., 2022). In 2021, the World Health Organization (WHO) urged countries to use national funding mechanisms to accelerate access to comprehensive healthcare services that are equitable, efficient and sustainable (Jowett et al., 2020). Policymakers face significant problems ensuring equitable access to sustainable health services in rural and remote areas, including insufficient health workforce services such as doctors, pharmacists, and physiotherapists, inadequate infrastructure, high costs, and long distances. far away (Wulandari et al., 2021). In the process, policymakers in government must ensure that health services, in this case, primary healthcare, can be accessed by as many local/native Kalimantan residents as possible and according to the needs of these residents in the context of perceptions of health service users. Recent research shows that it is hoped that all Indonesian citizens can access health services/primary healthcare wherever they are (Laugen et al., 2018).

The second health service strategy is in line with the mission of the Ministry of Health, which is to improve public health status through community empowerment, including the private sector and civil society. Protecting public health by ensuring the availability of comprehensive, equitable, quality, and just health efforts; Guaranteeing the availability and equity of health resources; and creating good governance (Pembangunan and Nasional, 2019). Equal access to healthcare in remote areas is essential for several reasons. It is a fundamental human right that can improve health outcomes and reduce healthcare disparities. It also promotes productivity and is critical in emergencies (Widyasari et al., 2021). Overall, it promotes health equity and ensures that all individuals have the opportunity to lead healthy and productive lives. So, it is necessary to assess which types of essential health services are best provided by health workers and describe the problem of service needs from the perspective of the indigenous people of Kalimantan.

Method

This study uses a phenomenological case study research method with a Delphi approach. The Delphi method is a structured communication technique to seek and synthesize expert opinions on a particular topic. Suppose we were to interpret the above statement using the Delphi method. In that case, we could approach it in the following way to identify a group of health or health policy experts who have knowledge and experience in addressing healthcare access in remote areas. Pose the question to the experts and ask for their opinions on the importance of equal access to healthcare in remote areas. Collect and synthesize their responses using a structured process aggregating individual responses into a consensus view. Review and refine the results, considering the range of opinions expressed by the experts and using that information to conclude. Present the findings to a broader audience, including policymakers, healthcare providers, and other stakeholders, to help inform decision-making and improve healthcare access in remote areas. The Delphi method can help synthesize expert opinions and reach a consensus on complex issues, such as healthcare access in remote areas. Moreover, the Delphi method allows researchers to understand the essence of human experience sequentially from the participant's perspective as the first informant (Gallagher, 2012).

Data was collected from one of the health centers in the Mahulu district, East Kalimantan Province. Data collection was carried out from September to October 2022. Panelists recruited based on research objectives involving male and female participants with the criteria of having had access to health services at primary healthcare are native residents of the area (Dayak). The data collection process was assisted by a team of researchers who were primary healthcare officers in the Mahakam Ulu area (Pembangunan and Nasional, 2019). A confirmatory factor analysis (CFA) employing structural equation modeling will be used to examine the construct validity. Assessing the construct validity of a suggested measurement theory is one of the critical advantages of CFA. Measured by construct validity, an indicator's capacity to reflect its theoretical latent constructs is assessed (Ghozali, 2017). The psychological distress scale model was tested to see how closely it matched field-based actual data. A confirmatory factor analysis (CFA) employing structural equation modeling will be used to examine the construct validity. Assessing the construct validity of a suggested measurement theory is one of the critical advantages of CFA. Measured by construct validity, an indicator's capacity to reflect its theoretical latent constructs is assessed (Ghozali, 2017). The psychological distress scale model was tested to see how closely it matched field-based actual data—the Goodness of Fit Index (GFI), which is greater than or equal to 0.9. The Root Mean Square Error of Approximation (RMSEA), which is in the range of 0.05 to 0.08. The Tucker-Lewis Index (TLI), which is equal to or above 0.9, and the Adjusted Goodness Fit Index (AFGI), which is greater than or equal to 0.9, are used to evaluate the fit of the model.

The Delphi method was used, which consisted of informants from rural and remote health centers. Each question must identify a problem based on the core of essential health services **(Table 1).** Informants were selected

based on their knowledge and experience in accessing remote health services **(Table 2)**. Five-point locations reflecting the diversity of rural and remote geography have been designed. Open questions represent the population for each health center service **(Table 3)**. Each informant was asked to consider essential health services for remote areas and choose their answers based on what is fair and reasonable in fulfilling the health services they currently need, for example, related to service distance, health costs, access to referrals, the right to equal service, access to health information.

Table 1. Health Center Basic Health Services

General Examination	
Dental and Oral Health Services	Nutrition Services
Maternal and Child Health Services	Immunization Services
Family Planning Services	Pharmaceutical Services
Emergency Service	Laboratory Services
Maternity Inpatient Services	Maternity Services
Essential Public Health Efforts (UKM)	
Health Promotion Services	Environmental Health Service
Healthy School Services	Community Nutrition Services
Public Health Nursing Services	Disease Prevention and Control Services
Public Health Efforts (UKM) Development	
Community Dental Health Service	Mental Health Services
Elderly Health Services	Toddler Posyandu services
Pregnant Women Class Service	Elderly Program Services (Prolanis)
Administrative Services	
Certificate of health	Sick letter

Table 2. Informant Category

Occupation	Education	Location
Lawyer	Master	Laham
Farmer	Primary school	Long apari
Teacher	Bachelor	Tiong ohang
Freelance worker	Not Graduated	Noha Silat
Temporary employees	High School	Naha tivab

Table 3.

Open Question Types
Flexibility, local social culture
Budgeting right
Distance to the health center
Shuttle service
Referral services to advanced services
Waiting time
Availability of doctors/Health workers
Appropriate drugs

Results

Five informants were interviewed in-depth and gathered to participate in reaching an agreement or consensus. The time needed for three weeks starts from September to October 2022. First, the informants discuss the assumptions of the type of service at the primary healthcare, which is a priority in providing health services based on what is fair and reasonable amidst existing limitations. Regarding the basic needs of primary healthcare, what needs to be provided **(Table 4)**. The principles must be met by considering the social determinants of health, including flexibility (cultural elements, demographics). An interesting finding is that informants need more health workers at primary healthcare who understand their culture, especially the local informant's language.

In addition to how financial resources can be used efficiently, the results of the discussion of the informants considered that access to primary healthcare was quite far, even though, according to regulations, the distance to primary healthcare had met the requirements (maximum 10 KM). Still, the lack of patient pick-up facilities exacerbated the geographical conditions. Informants thought advanced referral services were not well facilitated because the distance to advanced health services is quite far and must be reached by ship or airplane, where the patient must bear the costs of transportation and accompanying health workers. The National Health Insurance guarantees maintenance costs at the advanced service level but not transportation costs, fees for accompanying health workers, or accommodation costs for companions. Waiting time is not a point of discussion. Still, an essential point in the discussion is the availability of health workers when needed, as well as medicines following the integrity of the treatment. The informants hope that all medical personnel in border areas have general skills, which challenges health workers, especially doctors in remote areas with limited supporting tools and information **(Table 4)**.

Table 4. Primary Healthcare basic needs

General Examination	
Dental and Oral Health Services	consensus
Nutrition Services	-
Maternal and Child Health Services	consensus
Immunization Services	consensus
Family Planning Services	-
Pharmaceutical Services	consensus
Emergency Service	consensus
Laboratory Services	-
Maternity Inpatient Services	consensus
Maternity Services	consensus
Essential Public Health Efforts (UKM)	
Health Promotion Services	consensus
Environmental Health Service	-
UKS Services	consensus
Community Nutrition Services	consensus
Disease Prevention and Control Services	consensus
Public Health Nursing Services	-
Public Health Efforts (UKM) Development	
Community Dental Health Service	-
Mental Health Services	-
Elderly Health Services	consensus
Toddler Posyandu services	consensus
Pregnant Women Class Service	consensus
Prolanist Services	-
Administrative Services	
Certificate of health	-
Sick letter	-

Discussion

The results of this study are views from the perspective of health service users, which have been agreed upon by each informant. The basic needs that must be received optimally for remote communities are related to the care of sick people and emergency services that need immediate help. This study focuses on dental and oral health services, maternal and child health, immunization services, hospitalization, and childbirth. The community directly enjoys these services. Following government programs for sustainable strategies, they should add medical personnel who will later enter remote areas (Laksono, 2019). The government then established cross-sector cooperation and focused on the budget; in 2016, funds sourced from the central government's Special Allocation Fund (DAK) were launched (Kemenpan, 2021). The program was formed to realize the 3rd Nawacita, which is to build Indonesia from the periphery by strengthening regions and villages within the framework of a unitary state (Kemenpan, 2021). Hopefully, these activities can positively affect the community, especially regarding improving health services.

The essential health services in question are basic routine health services whose needs will continue to exist in the community (World Health, 2021; Zakoji and Sundararaman, 2021). Essential health services are carried out to support achieving minimum service standards (SPM) in the health sector through essential Public Health Efforts and Primary Health Efforts (Rahman, 2019). The school health unit service is a point in this study that forms the basis for students in schools as an inculcation of health values. In addition, prevention and control of disease as essential health services need to be implemented sustainably during pandemic. Therefore, it is necessary to adopt new habits in providing essential health services at primary health facilities during this pandemic (Ardan et al., 2020). The government has issued several regulations to support the continuity of essential health services during a pandemic (Kemekes, 2020). Essential health services synonymous with community health service efforts are operationalized with such a strategy while still paying attention to the principles of the disease control program (PPI) so that activities remain safe during the pandemic (Purba et al., 2021).

Public Health Efforts Development are public health efforts whose activities require innovative efforts and service extensification and intensification in nature, adapted to health priority priorities, specific work areas, and potentially available resources (Werni et al., 2017). In remote areas, the need for services for the elderly, toddlers, and pregnant women is a joint agreement regarding the urgency of these vulnerable groups and administrative services supporting health service goals. Patients in remote areas want access to doctors with expertise in their particular disease, but what is needed is a doctor who understands the general public (Moslehpour et al., 2022). Future training models for physicians might result in specialists having greater generalist skills, which would be welcomed by patients (Oldham, 2016). The implications of this study admittedly, implementing a tiered referral system has not run optimally in remote areas in East Kalimantan. Still, in terms of management procedures, this system has been good. Regarding the implementation, there are still problems. Therefore, improvements need to be made in primary healthcare. The high rate of patient visits to remote health centers must be balanced with improved human resources and service infrastructure. The government needs to improve human resources and infrastructure in primary healthcare centers. The improvement is not only in quantity but also in quality. So that the service can be better and the level of community satisfaction is high.

Conclusion

This research can help policymakers and service planners to determine what types of service needs should be provided by health workers in remote areas, to allocate resources and provide services more equitably, and to inform patients about the Primary healthcare services they expect to be able to access in their community reasonably. This framework assists in developing a systematic approach to strategies that address the existing rural-urban maldistribution of the health workforce, including generalist as opposed to specialist training and providing necessary infrastructure facilities in the community. Last but not least, recommendations for future studies to improve healthcare access in remote areas include exploring the specific healthcare needs and challenges faced by different types of remote areas, investigating the impact of technological advancements, analyzing the role of social determinants of health, evaluating the effectiveness of existing policies and programs, and examining the impact of climate change and environmental factors. Continued research is needed to understand remote areas' unique healthcare needs and challenges and identify effective strategies for improving healthcare access and outcomes.

Author's declaration

The authors made substantial contributions to the conception and design of the study and took responsibility for data analysis, interpretation, and discussion of results. For manuscript preparation, all the authors read and approved the final version of the paper.

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Availability of data and materials

All data are available from the authors.

Competing interests

The authors declare no competing interest.

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