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RESEARCH ARTICLE

# THE ACCESSIBILITY AND ACCEPTABILITY OF HEALTH SERVICES IN REMOTE RURAL AREAS

*Mutiara Ramadhani*[*1], *Sukri Palutturi*[2], *Amran Razak*[2], *Muhammad Yusran Amir*[2], *M. Tahir Abdullah*[3]

1. Master's Student in Health Administration and Policy, Faculty of Public Health, Hasanuddin University, Indonesia
2. Department of Health Administration and Policy, Faculty of Public Health, Hasanuddin University, Indonesia
3. Department of Biostatistics, Faculty of Public Health, Hasanuddin University, Indonesia

Correspondence: tiaradahlann@gmail.com

## ABSTRACT

Health services depend on community facilities and infrastructure, particularly in rural areas. If facilities and infrastructure are not improved, it is feared that equitable distribution, including accessibility and acceptability of health services, will be difficult. This challenge still exists in underdeveloped villages. The purpose of this study was to analyze the effect of accessibility and acceptability factors on the level of patient satisfaction in underdeveloped villages. A quantitative research type, analytical survey with cross-sectional approach was conducted. Sampling, using the Slovin formula, resulted in 287 respondents. Data were collected using a questionnaire. There was a significant relationship between accessibility (p=0.001) and acceptability (p=0.002) on the level of patient satisfaction in underdeveloped villages. However, accessibility was the most significant factor influencing patient satisfaction at the multivariate level (Exp(B)=3.639 95% CI=1.547-6.137, p=0.019). Health facilities in rural areas still need to be improved, especially in terms of accessibility, to attract the attention of the community to seek care.

**KEYWORDS**

acceptability, accessibility, health service, rural areas

## INTRODUCTION

According to Law No. 17 of 2023 (Indonesia), the development of public health requires health efforts, health resources and health management to improve the highest level of public health based on the principles of welfare, equity, non-discrimination, participation and sustainability in the context of developing quality and productive human resources, reducing inequality, strengthening quality health services, increasing health resilience, ensuring healthy lives and promoting the welfare of all citizens and the competitiveness of the nation for the achievement of national development goals [1].

Five dimensions of accessibility (i.e., proximity, receptivity, availability of health services, ability to pay, and appropriateness) and five corresponding population capabilities (i.e., ability to understand, ability to seek, ability to reach, ability to pay, ability to engage) [2]. In low-income countries such as Benin, most people have poor access to health services [3]. Access to health care aims to bring people closer to the facilities, treatments and expertise they need, when

they need them. The long distance and time required to reach health facilities is a problem that contributes to delays and inequities in the delivery of promotive, preventive, curative and rehabilitative services at an affordable cost [4]. The geography of Indonesia, which has different regions with different characteristics, poses challenges for any health service delivery. One of these is the problem of rapid access to treatment, which is hampered by poor road access and long travel times to reach health services. This geography is the main obstacle in the health sector, which is still limited access or affordability [5].

Villages are considered underdeveloped, with limited access to development, infrastructure, education, social, economic and cultural resources [6]. Health inequalities among rural and remote populations are a global problem that affects developing countries [7]. Remote rural areas face severe demographic and socioeconomic challenges due to their distance from cities, which can limit opportunities for social and economic interaction [8]. Rural populations are more vulnerable to health problems [9]. Rural areas are often defined using classifications based on topography, access or distance to urban facilities, and even population density [10].

Data from the Village Development Index Year 2023 showed that Ongulara Village is categorized as an underdeveloped village out of 19 villages in South Banawa Subdistrict, Donggala Regency, Indonesia. The people are rural communities who still maintain strong customs and belong to the Kaili Da'a ethnic group, which is one of the Kaili sub-tribes in Central Sulawesi. Thus, almost all the people in Ongulara village use the Kaili Da'a regional language and do not understand or speak Indonesian [11].

Ethnicity and faith are among the factors associated with the use of health services in rural communities. Most indigenous people do not always trust health workers for fear of mistreatment and embarrassment. They often refuse to seek health services because of the shame and stigma associated with disclosing their health problems [12]. Beliefs about the culture and traditions of traditional medicine that exist in the community can reduce people's interest in seeking health services [13]. In addition, belief in the supernatural powers of healers or shamans occupies almost every structure in society, not only as a profession associated with someone believed to have medical skills, but also as a figure who influences the community [14]. In traditional medicine, which aims to provide healing, both physical and mystical, most of which are not known to be the cause of the pain experienced [15].

Health problems are more prevalent in rural areas, where access to basic health services such as immunization, prenatal care, and emergency care is limited. The lack of community trust, which makes it difficult to receive medical care in remote areas, contributes to the overall deterioration and increased health risks [16]. The purpose of this study was to analyze the effect of accessibility and acceptability factors on the level of patient satisfaction in underdeveloped villages.

## METHODS

### STUDY DESIGN

The method used in this study was an analytical survey with a cross-sectional approach.

### SETTING

Ongulara Village, South Banawa Sub-district is an area categorized as underdeveloped and remote villages in Donggala Regency, Central Sulawesi Province, with the boundaries of Ongulara Village, namely bordering Pinembani Sub-district to the north, Banawa Tengah Sub-district to the south, Sigi Regency to the east, and Sigi Regency to the west. The area of Ongulara Village is ±48.6 km² and the distance from Ongulara Village to the sub-district capital is between Malino Village and Ongulara Village using bamboo rafts. The village is divided into 4 hamlets, Dusun 1 Ongulara, Dusun 2 Tindungu where, Dusun 3 Pompa, and Dusun 4 Bambawakona.

### POPULATION AND SAMPLING

The population in this study is the total population of Ongulara village, Donggala regency, which was 1,025 people. Based on the calculation using the Slovin formula as follows:

$$n = \frac{N}{1 + N(e)^2}$$

n = number of samples

N = number of population

e = estimated error (e=0.05; according to 95% CI)

The calculated number of respondents was therefore 287 people. The sampling technique used in this study was simple random sampling.

### INSTRUMENTS AND PROCEDURES

Data were collected using a self-administered questionnaire with a 100% response rate. Variables included accessibility and acceptability. Accessibility is defined as how easily people can reach health facilities (7 items, a=0.725, e.g., *Is the health center's location strategic?*). Acceptability is defined as the extent to which the community can trust medical health services over traditional health services such as traditional healers (7 items, a=0.778, e.g., *People trust medical services*). Patient satisfaction is measure of how successfully health facilities and professionals meet the needs and expectations of their patients (7 items, a=0.766, e.g., *Patients are satisfied with the access to or affordability of health care services*). The reliability of each variable of the questionnaire was tested using Cronbach's alpha test. Scoring was based on a Likert scale (strongly disagree=1 – strongly agree=5). All variables were grouped into binary categories: Accessibility and Acceptability (i.e. low and high) and Patient Satisfaction (i.e. not satisfied and satisfied) based on mean scores. Participants signed a written informed consent form before participating in the study. Participants were not coerced if they wished to withdraw during the study. There was no compensation given to the participants.

### DATA ANALYSIS

The data obtained were analyzed by univariate, bivariate and multivariate analysis. Univariate analysis was performed to obtain a descriptive description of respondent characteristics. Bivariate analysis was performed to analyze the association between the independent variables, including accessibility and acceptability, with patient satisfaction with health services using the chi-squared test. In addition, multivariate analysis was performed using logistic regression to identify the variables that have the most significant impact on patient satisfaction. Hosmer & Lemeshow and Negelkerke R-squared tests were used to test the fit and power of the model. All analyses were performed using IBM SPSS Version 22 with a 95% confidence level or 5% margin of error.

### ETHICS APPROVAL STATEMENT

This study was conducted with the recommendation and approval of the Research Ethics Committee of the Faculty of Public Health, Hasanuddin University, Makassar with the number 1286/UN4.14.1/TP.01.02/2024.

## RESULTS

Table 1 shows that the gender of the respondents in this study was predominantly female with 188 respondents (65.5%). Based on age group, it is dominated by the age group of 17-25 years (33.8%) with 156 respondents (54.4%) not attending school. Based on occupation, most of them were planters as many as 202 respondents (70.4%). Most of the respondents were not satisfied with the health services (81.9%). Accessibility and acceptability were also rated low by the respondents (81.9% and 82.9% respectively).

**TABLE 1. RESPONDENT CHARACTERISTICS**

| Characteristics | n | % |
|---|---|---|
| **Gender** | | |
| Male | 99 | 34.5 |
| Female | 188 | 65.5 |
| **Age** | | |
| 17 – 25 Years | 97 | 33.8 |
| 26 – 35 Years | 94 | 32.8 |

| | | |
|---|---|---|
| 36 – 45 Years | 65 | 22.6 |
| 46 – 55 Years | 13 | 4.5 |
| 56 – 65 Years | 18 | 6.3 |
| **Last Education** | | |
| None | 156 | 54.4 |
| Elementary | 100 | 34.8 |
| Junior High School | 25 | 8.7 |
| Senior High School | 6 | 2.1 |
| **Occupation** | | |
| Planters | 202 | 70.4 |
| Laborer | 59 | 20.6 |
| Self-employed | 26 | 9.0 |
| **Patient Satisfaction** | | |
| Low | 235 | 81.9 |
| High | 52 | 18.2 |
| **Accessibility** | | |
| Low | 235 | 81.9 |
| High | 52 | 18.1 |
| **Acceptability** | | |
| Low | 238 | 82.9 |
| High | 49 | 17.1 |

Respondents who answered low service access were more dissatisfied (85.5%) than those who were satisfied (14.5%). Meanwhile, more respondents who answered high service access were dissatisfied (65.4%) compared to those who were satisfied (34.6%). In addition, more respondents who answered low service acceptability were dissatisfied (85.3%) compared to those who were satisfied (14.7%). Meanwhile, more respondents who answered high acceptance ability felt dissatisfied (65.3%) compared to those who felt satisfied (34.7%). The results of chi-squared analysis showed that there was a significant relationship between accessibility (p=0.001) and acceptability (p=0.002) with patient satisfaction with health services (Table 2).

**TABLE 2. BIVARIATE ANALYSIS BETWEEN ACCESSIBILITY AND ACCEPTABILITY ON PATIENT SATISFICATION**

| Variables | Patient Satisfaction | | | | Total | | *p value* |
|---|---|---|---|---|---|---|---|
| | Not Satisfied | | Satisfied | | | | |
| | n | % | n | % | n | % | |
| **Accessibility** | | | | | | | |
| Low | 201 | 85.5 | 34 | 14.5 | 235 | 100 | 0.001 |
| High | 34 | 65.4 | 18 | 34.6 | 52 | 100 | |
| **Acceptability** | | | | | | | |
| Low | 203 | 85.3 | 35 | 14.7 | 238 | 100 | 0.002 |
| High | 32 | 65.3 | 17 | 34.7 | 49 | 100 | |

Table 3 shows that Hosmer and Lameshow test shows the p-value was not significant (p=0.301), which means the model was fit. The test of two variables at the multivariate level showed that only accessibility (Exp(B)=3.639 95% CI=1.547-6.137, p=0.019) had a significant impact on patient satisfaction.

**TABLE 3. MULTIVARIATE ANALYSIS BETWEEN ACCESSIBILITY AND ACCEPTABILITY ON PATIENT SATISFICATION**

| Variables | Hosmer & Lemeshow Test | Sig. | Exp (B) | 95% CI | Negelkerke R Square | Overall Percentage (%) |
|---|---|---|---|---|---|---|
| Accessibility | 0.301 | 0.019 | 3.639 | 1.590-6.160 | 0.149 | 82.9 |
| Acceptability | | 0.269 | 2.139 | 0.547-5.137 | | |

## DISCUSSION

Remote areas have high rates of injury and mortality compared to people living in urban areas. The geographic, economic, and social barriers faced by rural communities limit their access to appropriate medical care, which adversely affects their health outcomes [17]. Therefore, there is a need to improve access to and quality of primary health care [18]. Spatial accessibility can be defined as a measure of the ease with which a population can reach a service provider within a defined area. Rural populations in particular are vulnerable to limited access to primary health care due to challenges such as poor road infrastructure, long distances to primary health care providers, and inadequate availability of primary health care services [19]. Access to quality health care is a fundamental right of every individual, regardless of geographic location or socioeconomic status. Rural areas still face significant barriers to accessing quality health services [20]. People living in rural and remote areas often have to travel long distances to access health services [21]. While access to quality health services is a fundamental responsibility of public health systems worldwide, many health services in these areas face barriers to access and use [22].

Geographic and financial inaccessibility, inadequate funding, inconsistent drug supply, and shortages of equipment and personnel have severely limited the reach, availability, and impact of health services in many countries [23]. Access is an important concept in health policy and health service delivery. Access is an important part of health in terms of the right of individuals to receive health services when they need them [24,25]. Physical accessibility shows the relationship between the location of health services and the population seeking access, taking into account transport infrastructure, travel time, distance and cost [26].

Based on the results (Table 2), 85.5% of the respondents who were dissatisfied had experienced low accessibility to health care, and 65.4% who had experienced high accessibility to health care were still dissatisfied. This may be because the location and distance from the village to the public health center (*Puskesmas*) is quite far, as well as the inadequate road access, especially when using transportation. In addition, some people living along the river feel that they have easier access to health services and that the puskesmas has easier access to the community. However, the dissatisfaction is still higher in this community.

Public health in disadvantaged areas remains a public concern. This is related to the lack of community acceptability of existing health services [27]. Rural communities prefer to use non-medical treatment (*dukun*). Non-medical treatment (*dukun*) does not require a lot of materials, but depends on the severity of the patient's illness. The treatment itself usually only requires water to be applied or sprayed on the patient's diseased body parts, and the water can also be drunk until the patient's disease is completely cured. Although medical illnesses can be cured by medical treatment, people still use shamanic treatment because they believe that shamanic treatment is very effective [28].

Socio-cultural factors such as beliefs, myths, and local practices can influence health services such as immunization programs and parents' decisions to vaccinate their children. Most people have fears and concerns about the side effects of immunization or lack knowledge about its benefits [29]. One of the ancestral or cultural practices that still exist among ethnic groups in Indonesia is traditional medicine, which is not like medical treatment, but rather treatment that is used as an alternative or outside of medical action. Some people believe that if someone is sick, such as experiencing diarrhea or toothache, they will go to a shaman to be treated by bringing water as a medium of treatment [30].

Traditional medicine believes that various illnesses can be cured if the process is carried out in accordance with all the medical instructions, it is also believed that there is value in each process carried out and it is believed that health will improve and the illness will be removed [29]. A particular peculiarity in the search for treatment in remote indigenous communities is that they still have customary beliefs in curing illnesses with spells (*jampi-jampi*) and use objects that are considered capable of self-protection [30].

## CONCLUSIONS

This study concludes that there was a significant relationship between accessibility and acceptability on patient satisfaction in underdeveloped villages. However, accessibility was the most significant factor influencing patient satisfaction at the multivariate level. As recommendation, for the *Puskesmas* to pay more attention to the people who live in the village, especially those villages that are categorized as underdeveloped villages. Thus, health facilities in rural areas still need to be improved, especially in terms of accessibility, to attract the attention of the community to seek care.


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### CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.


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