

Geographic accessibility of healthcare services and health seeking behaviours of rural communities in Kudat and Pitas areas of Sabah

Naing Oo Tha*, Wendy Diana Shoesmith, Chrystalle B. Y. Tan, Mohd Yusof Ibrahim, Syed Shajee Hussein

Abstract

Introduction: One of the aims outlined in Malaysia's Health Vision 2020 is to be a nation of healthy individuals, families, and communities through an equitable, affordable, efficient, environmentally adaptable, and consumer friendly healthcare system. Sabah faces tremendous challenges to provide the best care for patients. For example, Sabah's unique geographical location and landscape, such as steep hills and rivers, is one of the challenges that health staff faces. Objectives of this study aimed to examine the prevalence of geographical accessibility, types of healthcare services, and the types of health seeking behaviour in 2 northern rural areas of Sabah to assess the geographic accessibility and availability of healthcare services.

Materials and Methods: A community-based cross-sectional study was conducted in two rural areas in Sabah—Kudat and Pitas. Data collection was done by using questionnaire and face-to-face interviews.

Results: It was found that 48% of the study population sought healthcare and they mainly chose healthcare services from hospitals and health clinics.

Conclusion: Half of the population in the areas studied used healthcare in the last year. The choice of using a public hospital or community health clinics was determined by distance from residence.

Keywords: geographic accessibility, health seeking behaviour, Sabah, Malaysia

Correspondence Email: naing_ot@ums.edu.my

Department of Community and Family Medicine, Faculty of Medicine and Health Sciences, Universiti Malaysia Sabah, 88400 Kota Kinabalu, Sabah, Malaysia

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Introduction

A resolution to improve accessibility of healthcare and provide universal coverage defined as ‘access for all to appropriate promotive, preventive, curative and rehabilitative services at an affordable cost’ was endorsed by World Health Organisation (WHO) member states in 2005 (Jacobs B, 2012). Malaysia has a population of 30.5 million, of which 44% reside in rural areas. The Ministry of Health is the main healthcare provider for rural communities with private general practitioners playing a complimentary role (Ariff KM & Teng CL, 2002). Since the 1970s, the Ministry of Health Malaysia has emphasised accessibility to healthcare and built a network of primary healthcare clinics around the country. 92% of the Malaysian population now have access to health services within 3km (Safurah, 2013) of where they live and in East Malaysia, more than 50% of the rural population have access to health services within a 5 km radius from their residence (Inche Zainal Abidin S, 2014). However, differences in health status continue to exist between urban and rural populations. Sabah faces tremendous challenges to provide the best care to patients. For example, Sabah's unique geographical location and landscape, such as steep hills and rivers, are some of the challenges that health staff face (Inche Zainal Abidin S, 2014). One of the aims outlined in Malaysia’s Health Vision 2020 is to be a nation of healthy individuals, families, and communities through an equitable, affordable, efficient, environmentally adaptable, and consumer friendly healthcare system with emphasis on quality, innovation, health promotion and community participation. Health or care seeking behaviour has been defined as any action undertaken by individuals who perceive themselves to have a health problem or to be ill for the purpose of finding an appropriate remedy (Ward H, 1997). Health seeking behaviour is determined by a decision-making process which is further governed by individuals or household behaviour, community norms, expectations as well as provider-related characteristics and behaviour (J. Olenja, 2003). According to the sociology literature, healthcare seeking behaviour is influenced by the individual self, disease, and the availability and accessibility of health services (Dos Anjos Luis A, Cabral P, 2016). There are four types of accessibility to healthcare services: 1. Geographical accessibility which is based on distance between services and service users; 2. Organisational accessibility, for example due to clinic opening times and waiting times; 3. Social accessibility, which includes the compatibility between the services offered and the cultural and social characteristics of the people that they serve; 4. Economic accessibility which includes the costs of care (Ngugi AK, 2017).

This study aimed to examine the prevalence of utilisation of healthcare services and the types of health seeking behaviour in two northern rural areas of Sabah to explore and improve the geographical accessibility of healthcare services and enhance quality of life. The study explored the prevalence of health seeking in a one-year period and compared the types of health seeking behaviour in two rural communities as well as the reasons of different types of healthcare services chosen and hence exploring the geographic accessibility of healthcare services in these two areas of Sabah.

Materials and Methods

A community-based cross-sectional analytical study was conducted. Study population is the rural communities in Kudat area and Pitas area in northern Sabah. The study period was two years, from May 2015 to Aug 2017.

A brainstorming session was conducted among public health specialists to create the questionnaire items. After the development of the questionnaire, it was translated into Malay and back translated into English. Face validity was tested by giving the questionnaire to three other public health specialists. A pilot study was conducted in a village in Kudat to check the understanding. The researchers were responsible for developing the questionnaire, framing the research methodology, monitoring and coordinating the project progress, planning for statistical analysis and providing administrative support and logistic arrangements. The field team was responsible for the management of data collection as well as quality control. Training of research assistants for data collection was done. Ethical clearance was obtained from the ethical committee of UMS.

The Kudat and Pitas areas of Sabah were selected due to logistic convenience since a rural medical education centre is located there. A multistage sampling method was used for the selection of villages from two areas. Three remote rural villages from the Pitas area and two remote rural villages in the Kudat area were randomly selected. The required sample size was 197, assuming the utilisation rate of healthcare services was around 50%, giving an 80% power to detect a difference from a reference value of 40%, with $\alpha=0.05$. We used systematic sampling methods to select households and participants in households. A random starting point for each pair of interviewers was selected and households were selected systematically, at every second house along a street. A household form was filled in for each household member who stayed in the house for more than one night per week. Research assistants filled in the Kish category column, according to the Kish Table. Data was then collected by face-to-face interview.

Data was analysed using SPSS IBM 23, while data checking and data cleaning were done for possible errors. The range was checked, and outliers were identified using histograms. Possible errors were checked against original records and questionnaires. Descriptive analysis was conducted to meet the objectives of the study and characteristics of the study population by using frequencies, graphs and diagrams and Chi-square test analysis was done for comparisons between the areas. The final analysis was checked to make sure that conclusions were not affected unduly by extreme values.

Results

A total of 200 households were approached and each household had at least one respondent. A total of 200 people was interviewed, giving a response rate of 100%. The demographics of both areas are shown in Table 1.

Forty-eight percent of the study population had sought healthcare in the last year. Health seeking practice according to gender, religion, ethnic group and area were almost the same and there was no significant difference. It was found that the health clinics and the hospital are the main healthcare facilities for the study population. Private clinics, pharmacies, other villagers and Klinik 1Malaysia (Table 2) were also used.

It was found that people in the Pitas area were significantly more likely to attend the hospital, rather than the health clinic ($p < 0.001$) (Table 3). The villages selected in Kudat are 38km or 39min drive away from Kudat hospital and health clinics are nearer with an average 5 km away. The villages selected in Pitas are closer to the Pitas hospital which is 12 km and 11 min drive away but far from the health clinic at 48 km and 46 min drive away. Common problems in respondents were fever (20% of people that sought help), flu (11%), high blood pressure (8%) and cough (6%). From the respondents that sought help, 54% of them thought that their illness was due to weather followed by diet (6%) and age (5%). Of the respondents that sought help, 17% discussed their problem with someone else first and only 2% looked for information about their problem first, for example on the internet. The main reasons for choosing the healthcare service that they had attended was proximity to their residence (cited by 63.83% of respondents), speed of service (4%) and reliability (4%).

Positive experiences of healthcare services are shown in (Table 4), with the most common positive experience in Kudat as being “more informative” whereas for Pitas, the most common positive experience was “getting better” ($p = 0.002$). Few negative experiences were described, with three patients describing slow service and one describing slow healing (Table 5). The majority of the respondents felt better after their healthcare service visit in both areas, with 83% describing their condition as ‘better’ or ‘controlled’ after seeking healthcare services.

Discussion

The prevalence of utilisation of healthcare services within the last year is 48% in the study population in rural Sabah. This is less than the prevalence of health seeking in a study done in 2017 (Lim K. K. & Sivasampu, 2017) on the west coast of Peninsula Malaysia, which showed that 67.7% had visited a doctor in the past 6 months. The types of healthcare service utilised are public community health clinics and public hospitals. Health clinic K1, Pitas hospital and Health clinic K2 are the main healthcare facilities for the study population. People from the villages studied in the Kudat area usually utilise the respective health clinics (health clinics K1 and K2) rather than the hospital in Kudat, whereas those residing in the three villages studied in the Pitas area usually go to Pitas hospital than the health clinics of Pitas. Because of the location being nearer to primary care services in Kudat villages, the people choose to go to the

community health clinics which are nearest to them. The three villages in Pitas are nearer to the hospital and their choice is mostly the hospital.

The World Health Organisation (WHO) suggests the use of travel time, instead of distance, to assess healthcare services because this method takes into consideration the conditions of the roads and the means of transport (Huerta Munoz U, 2012). There is no universally accepted range of time for allowing people to travel for medical care. Some studies state that more than 30 min is considered reduced access (Roováli L, 2006). Others state that people living at more than 45 min away from healthcare facilities are more likely to be marginalised (Kara F, Egresi I, 2013). Consideration also needs to be given to whether people are walking or driving. A study in Mozambique showed that many areas are considered underserved if this is measured by walking time to the nearest clinic but are not considered underserved if this is measured by driving time (Dos Anjos Luis A , 2016). In our study areas in the north of Sabah, the majority of rural villages have road access to healthcare facilities with at least a gravel road. The driving distances to the nearest healthcare facility are relatively short, but walking distance is several hours. Some rural populations may not have their own transport and the distance and geographic as well as economic accessibility to healthcare services are their main problems.

Conclusion

Half of the population in the areas studied used healthcare in the last year. The choice of using a public hospital or community health clinics was determined by distance from residence.

Conflict of Interest

There is no conflict of interest in this study.

Recommendation

Sabah Healthcare services should be more accessible and available with innovative ways of engaging with communities and making healthcare more accessible and available to achieve quality healthcare for rural communities living in rural areas of Sabah with the following suggestions:

1. Geographical accessibility- Developing telemedicine and mobile clinic services.
2. Organisational accessibility – Strengthening primary healthcare services next to the hospital services.
3. Social accessibility –Strengthening culturally appropriate services.
4. Economic accessibility –Considering financial plans and mechanism for transportation cost in rural healthcare.

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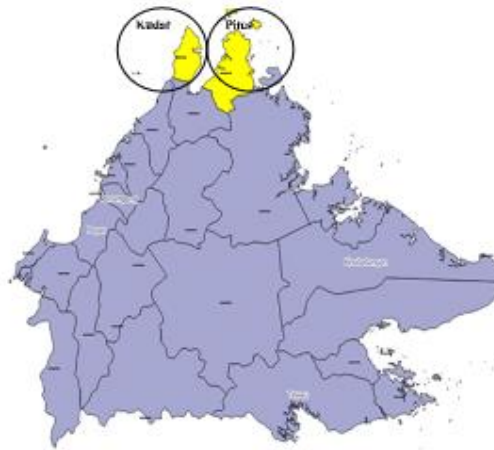


Figure 1: Study areas (Kudat and Pitas) in northern area of Sabah

Table 1: Demography of study population

		n	%
Gender	Male	109	54.5
	Female	91	45.5
Ethnic group	Bajau	25	12.5
	China	2	1.0
	Dusun	3	1.5
	Melayu	2	1.0
	Rungus	106	53.0
	Sungai	55	27.5
	Suluk	1	0.5
	Others	6	3.0
Religion	Christian	101	50.5
	Islam	98	49.0
	Buddha	1	0.5
Marital	Married	143	71.5
	Single	46	23.0
	Divorced	2	1.0
	Widow	9	4.5
Occupation	Self employed	80	40.0
	Salaried	31	15.5

Education	Unemployed	23	11.5
	Housewife	48	24.0
	Student	18	9.0
	None	29	14.5
	Primary	47	23.5
	Secondary	115	57.5
	University	9	4.5
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Seek health care within one year	No	104	52.0
	Yes	96	48.0

Table 2: Types of health care services using in study population

Types of health care	n	%
Health clinic	39	19.5
1 Malaysia	11	5.5
Pharmacy	6	3
Private	12	6
Hospital	36	18
Herbalist	4	2
Ahli	0	0
Bombo	0	0
Orapandai	0	0
Bidan	0	0
Ketua Kg	0	0

Table 3: Different types of health seeking to health services in 2 areas(p<0.001)

Health care location	n	%
Health Clinic K1	11	5.5
Health Clinic K2	30	15.0
Klinik 1 Malaysia	2	1.0
Km Pharmacy	1	0.5
Kota Kinabalu	1	0.5
Health Clinic P1	6	3.0
Kudat Hospital	6	3.0
Health Clinic P2	6	3.0
Pitas Hospital	29	14.5
Pitas Village	1	0.5
Pitas Private Clinic	3	1.5
Villager	1	0.5

Table 4: Patient experiences on their chosen health care services in different villages (p=0.002)

	Pitas			Kudat		Total
	Village P1	Village P2	Village P3	Village K1	Village K2	
Fast	1(9.1%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	1(1.5%)
Getting better	7(63.6%)	14(87.5%)	2(15.4%)	5(100.0%)	0(0.0%)	28(41.2%)
Good medicine	0(0.0%)	1(6.3%)	0(0.0%)	0(0.0%)	0(0.0%)	1(1.5%)
Helpful	0(0.0%)	0(0.0%)	1(7.7%)	0(0.0%)	0(0.0%)	1(1.5%)
More info	3(27.3%)	1(6.3%)	8(61.5%)	0(0.0%)	23(100.0%)	35(51.5%)
Not really	0(0.0%)	0(0.0%)	1(7.7%)	0(0.0%)	0(0.0%)	1(1.5%)
Reliable	0(0.0%)	0(0.0%)	1(7.7%)	0(0.0%)	0(0.0%)	1(1.5%)
Total	11(100%)	16(100%)	13(100%)	5(100%)	23(100%)	68(100%)

Table 5: Reasons of health care choices among respondents comparing in 2 areas

Reasons	Kudat	Pitas	Total
Appointment	3(6.0%)	4(9.1%)	7(7.4%)
Easy & can ask info	0(0.0%)	2(4.5%)	2(2.1%)
Fast service	0(0.0%)	1(2.3%)	1(1.1%)
Faster	3(6.0%)	1(2.3%)	4(4.3%)
Follow up	4(8.0%)	1(2.3%)	5(5.3%)
Free	0(0.0%)	1(2.3%)	1(1.1%)
Good	0(0.0%)	1(2.3%)	1(1.1%)
Location	1(2.0%)	0(0.0%)	1(1.1%)
More reliable	0(0.0%)	2(4.5%)	2(2.1%)
No choice on public holiday	0(0.0%)	1(2.3%)	1(1.1%)
No choice on sat	0(0.0%)	1(2.3%)	1(1.1%)
Not serious	0(0.0%)	1(2.3%)	1(1.1%)
Prefer private	0(0.0%)	2(4.5%)	2(2.1%)
Reliable	4(8.0%)	0(0.0%)	4(4.3%)
The closest	35(70.0%)	25(56.8%)	60(63.8%)
The medicine is effective	0(0.0%)	1(2.3%)	1(1.1%)

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