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EQUITY AND UTILISATION OF HEALTH CARE SERVICES AMONG THE MAVILAN TRIBE OF PULLUR PERIYA PANCHAYATH OF KASARGOD DISTRICT

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ABSTRACT

Background : Equity is about fairness and justice, implying that everyone should have an equal opportunity to attain their full health potential and access healthcare. Isolation from mainstream activities, coupled with poverty and lack of access to health facilities, makes tribal communities particularly vulnerable to various health problems. The pursuit of equity in health and healthcare has been a key feature of health policy in India, with a commitment to improving access to quality healthcare for the poor and disadvantaged. This study focuses on the equity and utilization of healthcare services among the Mavilan tribe in the Pullur Periya panchayat of Kasaragod district.

Materials and methods: A cross-sectional descriptive study was conducted between July and August 2020 in the Pullur Periya panchayat. Each household was enumerated based on their address. Random numbers from a random number table were selected and matched with the numbers allocated to each household, resulting in the selection of specific households. Data was collected through face-to-face interviews at the selected household addresses using a pre-prepared and pre-tested questionnaire.

Results : The questionnaire was administered to 345 participants. Among those who reported an illness in the previous 30 days, 154 (44.6%) utilized outpatient services. Of all the hospitalization episodes in the previous 365 days, 99 (28.7%) utilized inpatient services. Significant socio-demographic factors associated with healthcare

utilization included age, gender, education, marital status, and monthly income. These differences in healthcare utilization due to varying socio-demographic variables provided evidence of inequity. Access was assessed by the time taken to reach the healthcare provider. The chi-square test showed a significant association between healthcare utilization and the time taken to reach the healthcare provider, indicating a need for equitable access.

Conclusion: The study revealed that longer travel times to health services hinder their use, highlighting the need for equitable access, achievable through an efficient transport system. Similarly, the utilization of health services is influenced by sociodemographic variables such as age, gender, education, marital status, and monthly income. These differences in utilization can be seen as inequities. To achieve equity in healthcare utilization, it is essential to understand the community. Equity and utilization can only go hand in hand through the overall socioeconomic development of the Mavilan community.

Key words : equity,health care utilization,OP care,IP care

INTRODUCTION

According to the 2011 census, the tribal population in India was 104 million, constituting 8.6 percent of country's population, up from 8.2 percent in 2001 census. Belonging to some 705 different ethnic groups, they are scattered across 30 states and union territories of India and having diverse cultural and life practices [1]. Mavilan is the third largest community among the Scheduled Tribes in Kerala. Mavilan community is distributed in Kasaragod and Kannur Districts only. There are a number of versions regarding the etymology of the term Mavilan. Some say that they used 'Mavila', i.e. leaves of the mango tree to cover their body. Some others say 'Mavila' is medicinal herb used by them and a few others say 'Malayilae Velan' (Forest Velan) came to be known as Mavilan. They speak Tulu and have a good talking knowledge of Malayalam. Earlier the headman was known as 'Kiran' appointed by their landlord mainly to control the workforce and also to settle disputes. Now 'Taravadkarnavar' acts as the headman and officiates the religious rites and rituals too. They have been experts in 'PunamKothu' which involves clearing of virgin forests and converting the same for wet land paddy cultivation owned by their landlords. They were experts in shifting cultivation. Collecting medicinal herbs, non timber forest produces and bamboo provide many with employment. Basket making is also found among them. An overwhelming majority of them subsist on agricultural labour. A few of them are marginal farmers. They have switched over to nonagricultural labour too.

Their cultural identity and political awareness have increased and formed organizations to empower themselves. As such the community is ready to adopt innovations brought through planned development. Mavilan is the third largest community among the Scheduled Tribes in Kerala which has 7736 families with the total population of 31166. Their population include 15229 males and 15937 females. As such the family size is 4.02 and the sex ratio works out to 1000:1049. Mavilan population is divided in the two districts, at the rate of 26554 (85.20%) in Kasaragod and 4612 (14.80%) in Kannur. Mavilans are settled in 36 local bodies in the State, including Mattannur and Kanhangad

Municipalities, 18 Grama Panchayats in Kannur and 16 Grama Panchayats in Kasaragod. Madikkai, PullurPeriya, Kuttikol, Bedaduka, Balal, Kallar, Kodombelur, Panathady, West Eleri and Kinanoor-Karinthalam (all in Kasaragod District) are the Grama Panchayats which have sizable population of Mavilan community.[2]

Despite the wealth of studies on other tribes relatively few studies have focused specifically on the equity and utilization of health care services among this tribe. Equality in general and health equity in particular are key themes in the Sustainable Development Goals (SDG) agenda for 2030[3]. Equality in the SDGs refers to the right to not be discriminated. In the context of health, health equity is the desired goal because inequalities in health may arise from genetic, biological or random factors. According to WHO Equity is the absence of avoidable, unfair, or remediable differences among groups of people, whether those groups are defined socially, economically, demographically or geographically or by other means of stratification. "Health equity" or "equity in health" implies that ideally everyone should have a fair opportunity to attain their full health potential and that no one should be disadvantaged from achieving this[4]. Principles of equity are commonly discussed in relation to three principles of health care (1) Equal access to health care for those in equal need of health care; (2) Equal utilization of health care for those in equal need of health care; (3) Equal (or, rather, equitable) health outcomes those in equal need of care[5].

This study analyses inequity issues among the mavilan tribal community that affect the utilization of IP and OP care services with reference to access and sociodemograhic variables. From the historical point of view, scheduled tribes in Kerala have been subjected to the worst type of exploitation or social exclusion[6,7,8]. The isolation from the mainstream development activities together with poverty made this community specifically vulnerable to various health problems. For the effective planning of health services and improving the health of this community it is very important to identify and assess the degree of inequity in utilization of health care services based on social, economic, demographical and geographic means. Ideally need should be the major determinant of health care utilization, understanding the equity based on utilization of health services by taking time to the nearest health care provider and sociodemographic variables into consideration will help to identify the major factors that determine the equity in utilization of health services.

METHODOLOGY

- **Study Design**

  Cross-sectional study design

  Cross-sectional study design is the one which researcher collects data at particular point of time (one period of data collection).The defining characteristics of cross-sectional studies are the exposure and out- come measured at the same point of time. This design equipped to identify factors that are associated with the health phenomenon.

- **Setting of the Study**

  - Pullur Periya Panchayath, Kasargod District, Kerala from July – August 2020.

  Pullur Periya is a panchayath in Kasargod district with maximum number of Mavilan tribal group people. It is having 2516 mavilan population with 860 households as per Population Census 2011.

- **Hypotheses**

  H01: There is no significant relationship between selected socio- demographic variables and utilization of health care services.

  H02: There is no significant relationship between access and utilization of health care services.

- **Sampling**

  Sample size: 345

  The required sample size was selected by Yamane's formula for calculating sample size. **Sampling Technique**

  Simple Random Sampling

  Simple Random Sampling is the most pure and basic probability sampling design. In this type of sampling design, every population member has a similar chance of being picked as the subject.

  Random number table method

  There are varieties of methods to go on with simple random sampling. A random number table is a table of digits. The digits are arranged randomly. Each household was enumerated on the basis of their address. Random numbers from the random number table was selected and matched with the numbers allocated to each household and it is selected.

- **Inclusion Criteria**

  - Members who are willing to participate.
  - Members aged 15 years or older

- **Exclusion Criteria**

  - Family members who are ill and unable to provide the consent.
  - Those who are not willing to participate.

- **Methods of Data Collection**

Primary data collection: Data was collected from 345 individuals aged 15 years and above from 118 households which were sampled from a population of 2516 with 860 households by face to face method using a pre prepared and pre tested questionnaire. Questionnaire composed of 3 sections. Section A consists of questions regarding sociodemographic variables. Section B consists of questions regarding access to health care services and section C consists of questions regarding utilization of health care services.

Secondary data collection: Research papers, Journals, Magazines, online portals and News related to topic under study were collected.

- **Statistical Analysis**

The data were analysed using SPSS Version 22. Simple descriptive statistics such as frequencies and percentage were used to present the data. Chi square was used to test the association. A statistical significance level was set at $p<0.05$ for all tests.

- **Methodology**

A cross-sectional descriptive study was conducted between July – august 2020 at Pullur Periya Grama Panchayath. The study was conducted among the mavilan tribal community of the panchayath. Data was collected by face to face method using a pre prepared and pre tested questionnaire.

Significant efforts have been made to find a relationship between equity and utilization of health care services. Regarding equity and utilization of health services, equity is the part of inequality that is considered unjustified, where factors related to health are considered unfair due to inability to access an equal amount of care based on need regardless of socioeconomic status.

- **Measurement of utilization of Health Care Services**

Health care utilization was measured by using doctor consultation or visits (OP care) and inpatient stays (IP care). The respondents were asked if they have had visited a doctor, in the past one month before the interview to measure the op care. IP Care was measured based on the hospital admission over a 12-month period.

- **Measurement of Access**

Access was measured by using time taken to the nearest health care provider.

- **Sociodemographic Variables**

Sociodemographic profile was assessed using 5 basic demography related variables age, gender, marital status, education and monthly income.

RESULTS

TABLE 1.

FREQUENCY DISTRIBUTION ACCORDING TO SOCIODEMOGRAPHIC CHARACTERSTICS INCLUDING AGE,GENDER,EDUATION,MARITAL STATUS AND MONTHLY INCOME

Variables	Frequency	Percentages(%)
AGE		
15 to 24	66	19.1
25 to 34	79	22.9
35 to 44	55	15.9
45 to 54	49	14.2
55 to 64	45	13.0
65 to 74	34	9.9
75 years or older	17	4.9
GENDER		
Male	151	43.8
Female	194	56.2
EDUCATION		
Illiterate	61	17.7
Primary	80	23.2
High school	29	8.4
SSLC	84	24.3
Higher secondary	50	14.5
technical/vocational training	9	2.6
Graduation and above	32	9.3
MARITAL STATUS		
Unmarried	86	24.9
Married	208	60.2
Widowed	41	11.9
Divorced	10	2.9
MONTHLY INCOME		
less than 10000	211	61.2
10000 to 15000	57	16.5
15000 and above	77	22.3

TABLE 2.

FREQUENCY DISTRIBUTION ACCORDING TO UTILIZATION OF OP CARE,IP CARE AND TIME TAKEN TO THE HEALTH CARE FACILITY

VARIABLES	FREQUENCY	PERCENTAGE
OP CARE		
YES	154	44.6
NO	191	55.4
IP CARE		
YES	99	28.7
NO	246	71.3
TIME		
Below 30 minutes	260	75.4
30 - 60 minutes	70	20.3
more than 60 minutes	15	4.3

RELATIONSHIP BETWEEN SOCIODEMOGRAPHIC VARIABLES AND UTILIZATION OF HEALTH CARE SERVICES

TABLE 3.

RELATIONSHIP BETWEEN SOIODEMOGRAPHIC VARIABLES AND UTILIZATION OF OP CARE SERVICES

Sociodemographic variable		UTILIZATION OF OP CARE		Total	Chi square value	P value
		Yes	No			
AGE	15 to 24	13 8.4%	53 27.7 %	66 19.13%	40.536	P<0.001
	25 to 34	31 20.1%	48 25.13 %	79 22.89%		
	35 to 44	25 16.2%	30 15.70 %	55 15.94%		
	45 to 54	21 13.6%	28 14.65 %	49 14.20%		

	55 to 64	27 17.5%	18 9.42 %	45 13.04%		
	65 to 74	22 14.2%	12 6.28 %	34 9.85%		
	75 Years or older	15 9.7%	2 1.04 %	17 4.9%		
GENDER	Male	79 51.2%	72 37.6 %	151 55.3%	6.409	P=.011
	Female	75 48.7%	119 62.3%	194 56.2%		
Marital_status	Unmarried	21 13.6%	65 34.03 %	86 24.9%	39.61	P<.001
	Married	96 62.3%	112 58.6 %	208 60.3%		
	Widowed	34 22.07%	7 3.6%	41 11.8%		
	Divorced	3 1.94%	7 3.6%	10 2.8%		
Education	Illiterate	43 27.9%	18 9.42 %	61 17.6%	29.53	P=.00004
	Primary	41 26.6%	39 20.4 %	80 23.18%		
	High school	11 7.14%	18 9.42 %	29 8.40%		
	SSLC	29 18.8%	55 28.79 %	84 24.34%		

	higher secondary	20 12.9%	30 15.70 %	50 14.49%		
	trade/technical/vocational training	3 1.9%	6 3.14 %	9 2.60%		
	Graduation and above	7 4.5%	25 13.1 %	32 9.3%		
Monthly income	less than 10000	59 38.3%	152 79.6%	211 61.2%	61.171	P<.001
	10000 to 15000	41 26.6%	16 8.4%	57 16.5%		
	more than 15000	54 35.1%	23 12.0%	77 22.3%		

TABLE 4.

RELATIONSHIP BETWEEN SOCIODEMOGRAPHIC VARIABLES AND UTILIZATION OF IP CARE SERVICES

Sociodemographic variable		UTILIZATION OF IP CARE		Total	Chi square value	P value
		Yes	No			
AGE	15 to 24	13 13.1%	53 21.5 %	66 19.1%	25.583	P =.0002
	25 to 34	16 16.2%	63 25.6 %	79 22.9%		
	35 to 44	12 12.1%	43 17.5 %	55 15.9%		
	45 to 54	18 18.2%	31 12.6 %	49 14.2%		
	55 to 64	12 12.1%	33 13.4 %	45 13.0%		
	65 to 74	18 18.2%	16 6.5%	34 9.9%		

	75 Years or older	10 10.1%	7 2.8%	17 4.9%		
GENDER	Male	52 52.5%	99 40.2 %	151 43.8%	4.326	P=.03
	Female	47 47.5%	147 59.8%	194 56.2%		
Marital_status	Unmarried	16 16.2%	70 28.5 %	86 24.9%	14.46	P=.002
	Married	59 59.6%	149 60.6 %	208 60.3%		
	Widowed	21 21.2%	20 8.1%	41 11.9%		
	Divorced	3 3.0%	7 2.8%	10 2.9%		
Education	Illiterate	25 25.3%	36 14.6 %	61 17.7%	15.66	P= .01
	Primary	31 31.3%	49 19.9 %	80 23.2%		
	High school	5 5.1%	24 9.8%	29 8.4%		
	SSLC	20 20.2%	64 26.0 %	84 24.3%		
	higher secondary	9 9.1%	41 16.7 %	50 14.5%		
	trade/technical/vocational training	1 1.0%	8 3.3%	9 2.6%		
	Graduation and above	8 8.1%	24 9.8%	32 9.3%		

Monthly income	less than 10000	51 51.5%	160 65.0 %	211 61.2%	8.349	P=.01
	10000 to 15000	16 16.2%	41 16.7 %	57 16.5%		
	more than 15000	32 32.3%	45 18.3 %	77 22.3%		

RELATIONSHIP BETWEEN GEOGRAPHIC ACCESS AND UTILIZATION OF HEALTH CARE SERVICES

TABLE 5.

RELATIONSHIP BETWEEN ACCESS AND UTILIZATION OF OP CARE AND IP CARE

Access		OP care utilization		Total	Chi square value	P value
		Yes	No			
Timeliness	Below 30 minutes	127 82.5%	133 69.6%	260 75.4%	7.581	P=.02
	30 to 60 minutes	22 14.3%	48 25.1%	70 20.3%		
	more than 60 minutes	5 3.2%	10 5.2%	15 4.3%		
Access		IP care utilization				
		Yes	No	Total	Chi square value	
Timeliness	Below 30 minutes	87 87.9%	173 70.3%	47 13.6%	11.72	
	30 to 60 minutes	10 10.1%	60 24.4%	70 20.3%		
	more than 60 minutes	2 2.0%	13 5.3%	15 4.3%		

Results

The following data are obtained from the survey, which was conducted from July 2020 to August 2020. The questionnaire was administered to 345 participants. Majority of the participants belong to the age group 25 to 34 ,79 (22.9%). There was more of female population 194 (56.2%) than male population. Among the total number of

participants 61(17.7%) were illiterate. The monthly income was found to be less than 10,000 in 211(61.2%) of the participants. 260 (75.4 %) of the participants took less than 30 minutes to reach nearest healthcare provider.

Factors influencing health care utilization

Among those reporting an illness in the previous 30 days, 154 (44.6%) reported utilization of Out Patient services. Of all the hospitalization episodes during the previous 365 days, 99 (28.7%) reported utilization of In-Patient services . Socio-demographic factors those are significantly associated with utilization of health care services are age, gender, education, marital status and monthly income. Chi square test was used to find out the association between sociodemographic variables and utilization of health care services. The P-value which was obtained in all these cases were less than 0.05 so the null hypothesis was rejected that is, there is significant relation between selected sociodemographic variables and utilization of health care services at 5% level of significance.

Equity in access

Access was assessed using time taken to the health care provider. The chi square test showed significant association between health care utilization and access. Participants who have told more than 60 minutes to the health care provider were less likely to use OP care (p=.02) and IP care (p=.003). This indicates a need for equitable access.

Effect of sociodemographic variables on equity in health care utilization

Difference in utilization was associated with sociodemographic variables such as age, gender, education, marital status and monthly income. Greater utilization of health services was observed among illiterate people. Married people utilized health care services more than unmarried respondents. Higher income was associated with reduced use of health services. Males utilized health care services more than females. Age group between 65 to 74 have greater utilization of health care services. These sociodemographic differences can be considered as inequity.

DISCUSSION

Studies have shown that, equity and utilization is interlinked and affected by a multitude of factors and many studies have tried to identify factors that are responsible for the inequity in utilization of health services. Literature available across the world suggests that major factors can be identified as socio demographic factors and physical accessibility. In this study population surveyed was from 118 households consisting of 43.8% male and 56.2% of females. The impact of distance factor on the utilization has been studied by many. Buor D in his study in analyzing the primacy of distance in utilization of health services in the Ahafo-Ano south district, Gnana found that the respondents were prepared to cover an average distance of 5kms to access health care[17]. Also a study by Samual RGE et a1 has found that good proportion of people prefer to have an health care facility nearer to their villages (within 2km) [18]. In the present study the utilization of health care services varied according to the distance. Nearly 57.1% of the participants have utilized the OP care and nearly 56.6% have utilized the IP care services when the time taken to the health care provider was less than 15 minutes . The impact of the education on utilization of health care services has been found in many studies. Grossman M in his

study found that education has a positive relationship with the use of health services[19]. Similarly in the present study, the education show significant relationship with the utilization of health care services. Greater utilization of health services was observed among married people. The finding among married people may be due to the fact that most unmarried respondents in this study were young and in better health than married respondents. Higher income was associated with reduced use of health services in this study; however, many previous studies found that poor people utilized such services less often than people with higher incomes[20]. Also the findings of this study shows that gender and age were also statistically associated with utilization of IP and OP care services ,this findings were supported by many studies which have found age and gender influence the utilization of health care services.

Limitations

I acknowledge that the current study has a few limitations. First, the data originated only from the Mavilan tribe of kasargod district and the results of the paper may not be fully applicable to other tribal groups in Kerala. Second, the data on household consumption expenditure and health services utilization were all self-reported, which may be prone to potential reporting biases.

CONCLUSION

The study revealed that an increase in time taken to the health services hinders the use of health care services. This indicates a need for the equitable access which can be achieved only through efficient transport system .

Similiarly utilization of health services have been associated with the sociodemographic variables such as age, gender, education, marital status and monthly income. These differences in utilization can be considered as inequity. This indicates that to bring the equity in utilization of health care services it is important to understand the community. The equity and utilization can go hand in hand only by overall socioeconomic development of the Mavilan community.

The study also emphasizes the need for more effort in improving the access and utilization of health care services by focusing on health equity.

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