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Awareness and preference in utilizing primary health-care services from rural health center as first point-of-care: A community-based cross-sectional study in South India

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Abstract:

BACKGROUND: First point-of-care (FPC) at the primary health care (PHC) level is an important public health issue at the global level. Patients directly come to tertiary health centers without a referral.

AIMS AND OBJECTIVES: Hence, the current study was done to assess the proportion of individuals availing health-care services from rural health center (RHC) as FPC and reasons for not availing it.

METHODS: A community-based cross-sectional study was conducted in Puducherry, coastal South India, among 367 households with 1510 individuals. Sociodemographic details, recent FPC during the past 6 months, morbidity profile, and reasons for not seeking were collected from all the individuals.

RESULTS: About 44.5% (672/1510) of individuals used any health facilities, of which 70.4% (473/672) used RHC as the FPC. About 33.2% of individuals had a respiratory illness, 22.3% had general signs and symptoms. About 24.6% (32/130) mentioned the reasons for not seeking care as lack of appropriate health facilities.

CONCLUSION: More than one-fourth of the study population not utilized services at PHC level. Improving the health facilities may help to increase these services.

Keywords:

First point-of-care, primary healthcare, rural health services, rural health

Introduction

First point-of-care (FPC) at the primary health care (PHC) level for an illness is an important public health issue, especially in developing countries. Ideally, the patient flow has to be from lower health-care level to the higher health-care level through the proper referral system. However, patients report directly to the tertiary health centers (THCs) without a referral at the PHC level. This leads to overcrowding in THC because of the huge burden of minor cases which can be handled at the PHC level.^[1] People seek care from THC, as it has more facilities in contrary to

primary and secondary care centers, which have limited availability of drugs, doctors, and other staffs.^[2] In addition, factors such as people's occupation, economic status, and knowledge and attitude toward health centers, waiting time, and quality of care also influence the people for seeking healthcare at THC as FPC.^[3,4] At THC level, highly skilled workforce and equipment are available, which is not required to treat minor illnesses and result in wasting of resources. There is a paucity of information at the global level to understand what proportion of patients goes to THC facilities without a referral at PHC level in the community.

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On the other side of the spectrum, individuals may take treatment as home remedies, self-medication practices, or preferred to visit traditional healers or Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy (AYUSH) system of medicine and thereby miss the FPC at the PHC level. Therefore, this also may be the reason for the underutilization of health services at the PHC level as FPC in developing countries. Most preferences for FPC in these health facilities were given for children for preventive services than adults and elderly. Hence, necessary steps should be in place to make clients utilize the primary health facilities at the PHC level as FPC. Access to basic health services is one of the important components to achieve universal health coverage which, in turn, will help in achieving sustainable development goals.^[5] There are no details available about FPC for this underutilization and reasons for not seeking care from developing countries. By knowing the proportion of people-seeking treatment at PHC level as FPC, appropriate strategies can be adopted by the public health experts to further increase the use of it as FPC. Thereby, the burden of the patients at tertiary care hospitals can be reduced, underutilization may be improved, and the best utility of different levels of healthcare can be achieved. Hence, the current study was done to assess the proportion of people availing PHC services from a rural health center (RHC) as FPC and reasons for not availing it.

Methods

Study setting

This community-based cross-sectional study was conducted in Puducherry, India, from July 2017 to February 2018. This city is situated about 160 km south of Chennai on the coast of India. Puducherry has been adjudged as one of the best in health-care service deliveries in the country. Accessibility to health-care services is within an average distance of <1.18 km.^[6]

The population residing in the RHC service area attached to a tertiary care medical institution was included in the study. Population residing in the rural field practice area of RHC is 10,074 km with 2451 households spread over four villages, namely Ramanathapuram, Thondamanatham, Pillaiyarkuppam, and Thuthipet. All the four villages were located within 4 km of the health center, which was located in Ramanathapuram village.

Sample size calculation

There was no reported study regarding the proportion of households opting RHC as the FPC. Considering the proportion of households in the study area opting RHC as FPC as 50% and absolute precision as 5%, the minimum sample size becomes 384. Hence, 384 households were selected for the study.

Sampling technique

Households were selected by proportionate to size sampling from four villages, namely Ramanathapuram, Thondamanatham, Pillaiyarkuppam, and Thuthipet. By systematic random sampling method, households were selected from each village and all the members of the household were included in the study. If the designated house was locked, further two visits will be made after contacting the head of the household. If the household could not meet even after two visits, then they will be considered as nonrespondents.

Study procedure

Approval from the Postgraduate Research Monitoring Committee and Institute Ethics Committee was obtained before the commencement of the study (ethical code: JIP/IEC/2017/0206). A semi-structured questionnaire was developed, and it was face validated with subject experts and pretested in the areas not included in the study. Then, the principle investigator visited the designated household. The main health decision-maker in the family was interviewed to assess on FPC. Individual's details including his/her decision-maker and sociodemographic factors such as age, gender, family type, total monthly income of the family, taking treatment in RHC as the FPC in recent last 6 months, and reasons for not seeking RHC were collected. Following predefined measures are used to collect the data on reasons for not preferring RHC: lack of appropriate health services, more distance to RHC, less waiting time in other health centers, referral, nature of medical condition, employee insurance, lack of transportation, private health center near to working area, preference for AYUSH, camps, emergency, influence to known person, presence of family physician, and no specific reason. These measures were determined and validated through an expert panel discussion, consisting of public health experts and primary health-care providers.

Disease and symptoms were classified based on the International Classification of Diseases and Related Health Problems (10th revision) (ICD-10) version 2010, that is, ICD-10 version for 2010.^[7]

Operational definition

- FPC: place where an individual in a family contacted for treatment for a health condition during the past 6-month period of the house visit
- Decision-maker: one who takes the main decision where to take treatment for an individual of their own family.

Statistical analysis

Data entry was done using EpiData version 3.1 (Armonk, NY: IBM Corp) and analysis by the Statistical Package for the Social Sciences version 19.0 (IBM PASW

Statistics, Country office Bangalore, Karnataka, India). Continuous variables were summarized as mean and standard deviation, whereas categorical variables were summarized as proportions. Proportion of the study participants receiving RHC as FPC was reported with a 95% confidence interval (CI).

Results

Overall response rate was 95.6% with 367 households (367/384). The data were collected from 1510 participants in these households. About 672 (44.5%) of patients used any health facilities during the past 6-month period, of which 70.4% (473/672) used at PHC level as the FPC. Table 1 shows the sociodemographic details, morbidity profile, and reasons for not seeking RHC as FPC among the study participants. About

Table 1: Sociodemographic and morbidity profile of the study participants and reasons for not seeking care in rural health center as first point-of-care (n=672)

| Characteristics | Frequencies, n (%) |
|-----------------------------------|--------------------|
| Age category (years) | |
| 0-5 | 74 (11.0) |
| 6-18 | 122 (18.2) |
| 19-40 | 226 (33.6) |
| 41-60 | 176 (26.2) |
| 61 and above | 74 (11.0) |
| Gender | |
| Female | 349 (51.9) |
| Male | 323 (48.1) |
| Education status | |
| No formal education | 200 (29.8) |
| 1-10 | 410 (61.0) |
| 11 and above | 62 (9.2) |
| Occupation | |
| Employed | 241 (35.9) |
| House wife/home maker | 164 (24.4) |
| Unemployed [#] | 267 (39.7) |
| Socioeconomic status [^] | |
| Upper class (≥ 6254) | 35 (5.2) |
| Upper middle class (3127-6253) | 117 (17.4) |
| Middle class (1876-3126) | 227 (33.8) |
| Lower middle class (938-1875) | 231 (34.4) |
| Lower class (<938) | 62 (9.2) |
| Morbidity profile | |
| Respiratory illness | 223 (33.2) |
| General signs and symptoms | 150 (22.3) |
| Musculoskeletal illness | 38 (5.6) |
| Diseases of nervous system | 37 (5.5) |
| Digestive system-related illness | 28 (4.2) |
| Injury and poisoning | 43 (6.4) |
| External causes | 35 (5.2) |
| Routine examination/investigation | 26 (3.9) |
| Other diseases [*] | 92 (13.7) |

[#]Pensioner and students, [^]According to the Modified B.G. Prasad's classification, January 2017, ^{*}Other diseases include infections and neoplasms

40.3% belonged to the age group of 19–40 years, males and females were equally distributed, only 16% did not have a formal education, about one-third (37.3%) were employed, and more than one-third belonged to lower-middle socioeconomic status. Of 199 participants not seeking treatment from RHC, 69 participants did not mention any reasons. Among those who responded, about one-fourth (24.6%) felt a lack of appropriate health facilities as the reason for not seeking care at RHC as FPC.

Table 2 depicts the preference and experience of the rural population in utilizing PHC services in RHC as FPC. In total, 44.5% (672/1510) of individuals visited any health facilities in the preceding 6 months of house visit. Of which, the proportion of people seeking care at RHC as their FPC was 70.4% (95% CI: 66.8–73.7). Distribution of participant's FPC according to health facilities among those who received treatment is described in Figure 1.

Discussion

This study aimed to determine the proportion of individuals seeking treatment in RHC as FPC and the reasons for not seeking the same. We found that almost half (44.5%) of the participants used any health facilities for the treatment of a health condition during preceding 6-month period of house visit. Of these, almost three-fourth (70.4%) utilized RHC as FPC. The previous study conducted in India showed that only 56.4% of participants used Government health-care facility for treatment.^[8] Studies conducted in other low- and middle-income countries such as South Africa showed findings similar to our study where almost three-fourth utilized PHC services.^[9] However, contrast findings were

Table 2: Preference and experience of rural population in utilizing primary health-care services in rural health center as first point-of-care (n=672)

| Characteristics | Frequencies, n (%) |
|--|--------------------|
| Preference of rural health center as first point-of-care | |
| Prefer RHC as FPC | 473 (70.4) |
| Prefers higher level facility as FPC | 199 (29.6) |
| Reasons for not seeking rural health center as first point-of-care (n=130) | |
| Lack of appropriate health-care services | 32 (24.6) |
| Nature of medical condition | 19 (14.6) |
| Lesser waiting time | 18 (13.8) |
| More distance to RHC | 17 (13.1) |
| Sought health facility near to workplace | 16 (12.3) |
| Other reasons [§] | 57 (43.8) |

[§]Employee insurance (7), feasibility (7), presence of family physician (4), not providing injection (6), AYUSH (6), camp conducted (6), emergency (5), influence to known person in other hospitals (5), no habit to take treatment in RHC (3), the patient is young age (4). AYUSH=Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy, RHC=Rural health center, FPC=First point-of-care

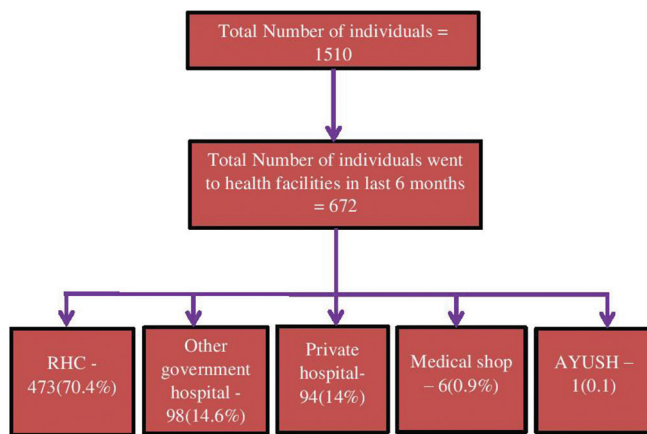


Figure 1: Distribution of participant's first point-of-care according to health facilities among those who received treatment

found in the study conducted in Nigeria, as only 7.5% of the people utilize primary health centers as FPC.^[10] Another study in Turkey showed that nearly 30% use the public primary health-care facilities as FPC.^[11] This variation may be due to the difference in access and availability of primary health facilities between the study groups.

About 14.6% of participants used government health-care facilities at higher care levels directly without a referral. Contrast findings were found in the study conducted in a tertiary care center in Durban and Southeast Nigeria, which showed that almost three-fourth of the people seeking care in higher center without referral.^[12,13] These might be because of the difference in the awareness level of the participants as mentioned in Nigeria study, in which participants felt that even headache needs to be treated at a tertiary care center.

Regarding the reasons for not seeking RHC as FPC, about one-fourth (24.6%) felt a lack of appropriate health facilities as major reason followed by the nature of their medical condition and lesser waiting time. A study conducted in Bihar also found lack of medical facilities and nature of medical conditions as major reasons for nonutilization of PHC as FPC.^[14] Studies conducted in other low- and middle-income countries such as Nigeria and South Africa and also described that lack of facilities as major reason for not seeking care at PHC.^[15,16] However, the study conducted in high-income countries like Sweden has mentioned that the quality of doctor-patient relationship determines the use of primary health-care services.^[17] This shows the difference in opinion regarding the nonutilization of PHC as FPC between high- and low-income countries.

To our knowledge, this is the first study which assessed why individuals in the community opt or not opt RHC as FPC. These findings have got important implications for understanding its use as FPC according to

sociodemographic characteristics and the necessary steps to be taken to strengthen its use as FPC. Community-based nature of the study, the use of valid tools to assess morbidities, lesser nonresponse rate, and inclusion of associated factors were other major strengths of the study.

However, there were certain limitations in our study. Recall bias may be there since the participants were asked to recall the health center opted in the recent visit during the past 6-month period. Recall period of 6 months may not be adequate to obtain a valid assessment of treatment seeking. It is quite possible that those who had severe diseases and higher expenditures recall the exact figures, whereas milder diseases and lower expenditures would have forgotten. There may be subjective bias due to the response given by decision-maker of the family. We should be careful while generalizing the results in other settings since this center is coming under the supervision of a tertiary care institution.

Our study has several programmatic implications. Our study shows that nonutilization of RHC as FPC is a major concern in low- and middle-income settings like India, which leads to overburdening of tertiary care facilities. We have also found possible reasons for nonutilization which can be rectified by placing appropriate health-care facilities at PHC level and creating awareness among the population regarding the existing facilities. However, further qualitative research needs to be done by involving various stakeholders to explore the various reasons for nonutilization and come up with possible suggestions and solutions to those problems. Our study results will be particularly helpful to other low- and middle-income countries, as the nonutilization rate was higher there, and the reasons for nonutilization were also similar to our study finding. Health and wellness center, a newer initiative in India to provide adequate health-care facilities for a wide range of medical conditions with easy accessibility is one of the strategies that help in increasing the utilization of primary health-care services as FPC.^[18] It requires quicker implementation throughout the country to provide affordable, available, and accessible health services without burdening the tertiary care facilities.

Conclusion

More than one-fourth of the study population not utilized RHC at PHC level as FPC. Majority mentioned that the lack of appropriate health facilities in the center as the reason for not seeking RHC as FPC. However, further qualitative studies may be recommended to explore the reasons in detail. Improving the quality of health facilities may help to increase FPC in RHC.

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Conflicts of interest

There are no conflicts of interest.

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