Health Service Utilisation and Out of Pocket Expenditure Pattern in a Defined Rural Population of Tumkur, India

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ABSTRACT

INTRODUCTION

Universal health coverage: The provision of, and access to, high-quality health services; and financial risk protection for people who need to use these services1. “Health services” means methods for promotion, prevention, treatment, rehabilitation and palliation, encompassing health care in communities, health centers and hospitals1.

In India availability of health services from public and private sectors taken together are quantitatively inadequate2. There is growing reliance on private providers which currently serves 78% of outpatients and 60% inpatients2.

Out of pocket expenditure is any direct outlay by households, including gratuities and in-kind payments, to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services whose primary intent is to contribute to the restoration or enhancement of the health status of individuals or population groups3.

In India health expenditure is largely out of pocket (70%) while Public expenditure on health is only 1.2% of the GDP. 70% of the health expenditure is out of pocket 70% of all household expenditure goes to buying medicines from the private market3.Over 65% of India’s population does not have access to essential medicines4. Drugs, diagnostic tests and medical appliances account for more than half of out-of-pocket expenditures7.

Indian health system has registered remarkable achievements since independence in various key health indicators4. However, many remains desired with major weaknesses in healthcare organization,
financing, and provision of health services. Through this study we want to assess where we stand in terms of universal health coverage.

This study aims at assessing the present situation regarding the health service utilization and out of pocket expenditure pattern in a defined rural population. His research was conducted to study socio demographic profile of the population; to know health service utilization pattern of the population; and to assess the out of pocket expenditure towards health.

**METHODOLOGY**

It is a Cross-sectional study. This study was done in Tumkur district of Karnataka. The study area is rural field practice area of Sri Siddhartha Medical College, Tumkur, consisting of 23 villages (total population of 8170) six villages were chosen randomly from 23 villages. Six villages were Ballagere, Cholapura, Gangonahalli, ThimmaSandra, Vaderapura, Ballagerekaval. Multi stage sampling method was used. Sampling units were households.

In the first stage 6 villages were selected by simple random sampling method in second stage. Households were selected from list of selected six villages by probability proportion to size and simple random sampling.

![Figure 1: Sampling methodology adopted in the study](image)

**Table 1: List of villages under the study**

<table>
<thead>
<tr>
<th>Village</th>
<th>Total number of households</th>
<th>Sampled houses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballagere</td>
<td>208</td>
<td>90</td>
</tr>
<tr>
<td>Cholapura</td>
<td>89</td>
<td>38</td>
</tr>
<tr>
<td>Gangonahalli</td>
<td>98</td>
<td>42</td>
</tr>
<tr>
<td>Thimmasandra</td>
<td>66</td>
<td>28</td>
</tr>
<tr>
<td>Vaderapura</td>
<td>95</td>
<td>42</td>
</tr>
<tr>
<td>Ballagere kaval</td>
<td>25</td>
<td>10</td>
</tr>
</tbody>
</table>

Ballagere: 208/581×250 = 90 households. Out of 208 houses 90 houses were chosen randomly using random number table. Though the sample size was 250 households, data collection from 305 households was done. All the selected households were included in the study. Households which were locked even after second visit were excluded. The study was conducted between November 2013 and April 2015. The Present study was approved by ethical committee of Sri Siddhartha medical college, Tumkur.

As a first step, selected houses were visited. Written Informed consent was taken. Interview was done using Structured open ended questionnaire. The data thus collected was entered in the Microsoft excel and was analysed using Epi Info™ 7.1.1.14 software.

**RESULTS**

80% of the study population were Hindus, 15% were Muslims, 5% Christians by religion.

Among Hindus 57% of the families belonged to OBC (other backward castes) which included Vokkaligas which is a major caste, followed by general category 23%, Scheduled caste 14% and Scheduled tribe 6%. Modified B.G. Prasad’s scale was used to determine the Socio economic status of the population under study. According to Modified B.G. Prasad’s classification (April 2013) Majority of them belong to class 4 (46%) and class 3 (32%) followed by class 1 (14%) and class 5 (8%). Majority of them studied up to PUC (36%) and illiterates were 27%. The major family type was joint family 62%, 20% belonged to nuclear family followed by three generation family which is 19%. Mean family size is 3.5 (SD±1.861)

Health service utilization patterns: Overall health service utilization included the OPD, IPD services including MCH services. Utilization of health services were from Private facilities (54%) for 164 House Holds, 132 households utilized Government health service(43%), 6(2%) House Holds utilized the services from both government and private services, 3(1%) households utilized the services from Medical college.
Table 2: Sociodemographic profile of the study population (N= Total number of House Holds Under the study= 305)

<table>
<thead>
<tr>
<th>Socio Demography</th>
<th>House Holds (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion</td>
<td></td>
</tr>
<tr>
<td>Hindu</td>
<td>244(80)</td>
</tr>
<tr>
<td>Muslim</td>
<td>46(15)</td>
</tr>
<tr>
<td>Christians</td>
<td>15(5)</td>
</tr>
<tr>
<td>Caste</td>
<td></td>
</tr>
<tr>
<td>Other Backward Castes</td>
<td>169(55)</td>
</tr>
<tr>
<td>Scheduled Caste</td>
<td>55(18)</td>
</tr>
<tr>
<td>General Category</td>
<td>54(18)</td>
</tr>
<tr>
<td>Scheduled Tribe</td>
<td>27(9)</td>
</tr>
<tr>
<td>Socio Economic Status*</td>
<td></td>
</tr>
<tr>
<td>Class 1</td>
<td>3(1.5)</td>
</tr>
<tr>
<td>Class 2</td>
<td>26(9)</td>
</tr>
<tr>
<td>Class 3</td>
<td>98(32)</td>
</tr>
<tr>
<td>Class 4</td>
<td>141(46)</td>
</tr>
<tr>
<td>Class 5</td>
<td>25(8)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Illiterates</td>
<td>82(27)</td>
</tr>
<tr>
<td>Middle School</td>
<td>45(15)</td>
</tr>
<tr>
<td>High School</td>
<td>32(12)</td>
</tr>
<tr>
<td>Pre University</td>
<td>109(36)</td>
</tr>
<tr>
<td>Graduates</td>
<td>25(6)</td>
</tr>
<tr>
<td>Post Graduates</td>
<td>6(2)</td>
</tr>
<tr>
<td>Type of Family</td>
<td></td>
</tr>
<tr>
<td>Joint Family</td>
<td>188(61)</td>
</tr>
<tr>
<td>Nuclear Family</td>
<td>60(20)</td>
</tr>
<tr>
<td>Three Generation</td>
<td>57(19)</td>
</tr>
</tbody>
</table>

*SAccording to Modified B.G. Prasad’s Classification*11

Table 3: Utilization of MCH services by the study population (N =52)*

<table>
<thead>
<tr>
<th>Type of service</th>
<th>Govt (%)</th>
<th>Private (%)</th>
<th>Med Coll (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenatal Care</td>
<td>32 (61)</td>
<td>15(29)</td>
<td>5 (10)</td>
</tr>
<tr>
<td>Place of delivery</td>
<td>30(58)</td>
<td>11(21)</td>
<td>6(11)</td>
</tr>
<tr>
<td>Post Natal care</td>
<td>25 (48)</td>
<td>15(29)</td>
<td>12 (23)</td>
</tr>
<tr>
<td>Child Immunization</td>
<td>39 (75)</td>
<td>13(23)</td>
<td>1(2)</td>
</tr>
</tbody>
</table>

Govt=Government; Med Coll=Medical College

*N = grand total= 52 = 10 home deliveries

Table 4: Out of pocket expenditure towards health care per episode of illness

<table>
<thead>
<tr>
<th>Expenditure head</th>
<th>Mean Expenditure n Rupees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acute illness</td>
</tr>
<tr>
<td>Medicine</td>
<td>134.1</td>
</tr>
<tr>
<td>Consultation</td>
<td>67</td>
</tr>
<tr>
<td>Diagnostics</td>
<td>51</td>
</tr>
<tr>
<td>Transport</td>
<td>37</td>
</tr>
</tbody>
</table>

*per Household per episode of illness in Rupees

Mean out of pocket expenditure was 744 Rs. The mean out of pocket expenditure for OPD care, for chronic illnesses, in patient care was 135, 44 and 117 rupees respectively. Medicines are the major component for the out of pocket expenditure followed by consultation, diagnostics and transport.

DISCUSSION

Religion: In this study Out of 305 households under the study 80% were Hindus, 15% were Muslims, 5% Christians which is similar to 2011 census report for India where 83% of the population were Hindu, 12% were Muslim, 3% are Christian, 1% are Jains, 1% are Buddhist, <0.1% are Sikhs, and remaining belong to other religions12.In Karnataka the population consists of 84.2% Hindu, 12.9% Muslims, 1.9% Christian and others 1%12.

Caste / Tribe: In this study 50% of the family belonged to OBC (other backward castes) which included vokkaligas which is a major caste, followed by general category 30%, Scheduled caste 12%, Scheduled tribe 8% which is similar to 2011 Census of India ,where Scheduled Castes and Scheduled Tribes constitute 23.5%according to district level data of census 2011 is 18.9% belong to Scheduled caste which is higher than this study finding where as scheduled tribe population constitutes 7.8% which is similar to our study findings12.

Educational status: In this study, the majority were studied up to PUC (36%) and followed by illiterates (27%). Primary and middle school education was attained by 15% of them, 12% of them studied up to high school .Only 8% were graduates and 2% were Post –graduates. The findings are consistent with the current literacy rate of India is 74%12.

In this study the mean house hold size is Mean = 3.5409 (SD±1.1861) .Mean house hold size according to NFHS-3 in rural areas was 4.910.

Type of family: In the present study the major family type was joint family 62%, 20% belonged to nuclear family followed by three generation family which is 19%.Nuclear families in the rural areas according to NFHS-3 is 59.3% 10.

Health care service utilization: In the study by Jayakrishnan et al 70 % of the people sought health care from private facilities similar to our study findings where the major provider of health care services was private 53%.13 According to NHSRC analysis from NSSO of 2014 the major health care provider is private both for OPD (71%) and IPD (73%).14According to one more study conducted in Tamil Nadu the major health care provider was
government health service which is contrary to our study finding\textsuperscript{15}.

Utilization of private facilities for MCH services varied from 73.2\% to 43.2\% in neighbouring state Andra Pradesh\textsuperscript{16} which is major source of MCH service unlike this study where government health services were the major service provider.

Out of pocket expenditure for health care: Expenditure for OP treatment in the other study was Rs. 509 and for IP in patient care the amount spent was Rs. 14,935. which is very high compared to the current study. In a study conducted in rural Puducherry by Archana R et al the out of pocket expenditure was comparatively less than the current study expenditure was 72±143.6 , 135.7 ± 196.2, 1340±1192.9 Rupees respectively for acute and chronic health problems followed by hospitalization.\textsuperscript{17}In a study by Debasis average cost of treating the minor illness was between 319 to 350\textsuperscript{18}Rs. Similar to the present study drugs accounted for 49\% of the total health care expenditure in the study conducted by Jaya Krishnan et al.\textsuperscript{13}

Limitations of the study: Purposive sampling, Information bias, Small study area.

CONCLUSION

Private health care services were the major service provider in this area. Out of pocket expenditure was incurred by people using government as well as private health services. Medicines were the major component for which the money was spent.

Acknowledgement

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