Health profile and health insurance coverage among a defined rural population of Tumkur, Karnataka: A cross sectional study

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Abstract

To study the health profile of the population under study 3. To assess the health insurance coverage and utilization patterns in the study population.

Materials and Methods: It is a Cross - sectional study. This study was undertaken in the rural field practice area of Sri Siddhartha Medical College, Tumkur, Karnataka .Six villages were chosen randomly. Multi stage sampling method was used. Sampling units were households. Oral questionnaire was used to collect the data and physiological parameters were measured.

Results: According to this study 80% were Hindus, 15% were Muslims, 5% Christians.57% of the families belonged to OBC (other backward castes). Average family size: = 3.5409 (SD±1.1861) Anaemia was present in 64.9% of the population. Major recent illness were URTI 53%, head ache 12% and myalgia 9%. Health insurance coverage is 20% in the study area.

Conclusion: The major illnesses in the population were anaemia 65%, 58% had dental caries, hypertension was 24%, 15% of them had diabetes mellitus. Health insurance coverage was around 20%. Majority of the households(93%) were not aware about any health insurance schemes Only 13% of the insured were aware about the benefits of health insurance scheme and 8% of those who insured utilised the health insurance scheme benefits

Keywords: Health Profile, Universal Health Coverage, Rural Population, India, Health Insurance.

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 services.[1] The idea of universal health care (UHC) took root at the landmark Alma Ata Conference in 1978, where countries resolved to provide "Health for all". Universal access, it is a concept, which implies, the absence of geographical, financial, organizational, socio-cultural and gender based barriers to care In India health expenditure is largely out of pocket (78%).Public expenditure on health is only 1.2%.[2] The Government of India's social insurance schemes (Central Government Health Scheme and Employee State Insurance Scheme) and voluntary insurance schemes (Mediclaim provided through the four Government Insurance Company subsidiaries) are geared towards workers in the organised sector, who comprise not more than ten per cent of all workers Despite the progress, the gap between the present coverage of health services and universal health coverage remains large for many conditions of ill-health in many settings[1]. 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 profile and health insurance coverage in a defined rural population.

Objectives

1. To study socio demographic pattern of the population covered under the study.
2. To study the health profile of the population under study.
3. To assess the health insurance coverage and utilization pattern in the study population.

Materials and Methods

It is a Cross - sectional study. This study was undertaken in Tumkur district of Karnataka in India. The rural field practice area of Sri Siddhartha Medical College, Tumkur, consists of 23villages (total population of 8170) .Six villages were chosen randomly from total of 23 villages. Six villages were Ballagere, Cholapura, Gangonahalli, Thimma Sandra,Vaderapura, Ballagere kaval.

Sampling Method

Multi stage sampling method was used. Sampling units were house holds

1. 1st stage: 6 villages were selected by simple random sampling method.
2. 2nd stage: Households were selected from list of selected six villages by probability proportion to size and simple random sampling.

Sample Size

Sample size was calculated by using the formula:
$n = 4pq/d^2$
Where in
n = sample size
z(at 95% confidence interval) = 1.96 ; $z^2 = 3.84$

P is proportion of utilization of services in rural area 65% (according to the NFHS3 Data)

q is 1-p i.e 35%

d is allowable error 10% of p = 6.5

$n = 4 \times 65 \times 35 / (6.5)^2$

Estimated sample size – 215Households, rounded off to 250 House holds

n = **250** house holds

Though the sample size was 250 households, data collection from 305 households was done.

Probability proportional to size was used for selecting the households from each village.

Example of **PPS** for each village was calculated by:

Total number of households in the village/ total number of households × sample size

Ballagere: 208/581×250 = 90 house holds

Out of 208 houses 90 houses were chosen randomly using random number table. The number of houses to be visited for each village was calculated and houses were chosen randomly using random number table. Table 1 shows the description of villages selected and number of households from each village. Data was collected from 305 households.

Table 1: Distribution of the study population

S. No	Village Total		Sampled Houses
1	Ballagere	208	90
2	Cholapura	89	38
3	Gangonahalli	98	42
4	Thimmasandra	66	28
5	Vaderapura	95	42
6	Ballagerekaval	25	10

Primary data was collected by interview method using a semi structured questionnaire and examination of individuals present in the households was done during household survey.

All the selected households were included in the study. Households which were locked even after second visit. The study was conducted between November 2013 and April 2015.

Present study was approved by ethical committee of Sri Siddhartha medical college, Tumkur

Steps followed in the study
1. As a first step, selected houses were visited.
2. Written Informed consent was taken.
3. The questionnaire was used to collect the data.
4. Measurement of Blood pressure, height, weight of the individuals of the households who were present at the time of data collection (760) was done.
5. Examined for pallor, cataract, caries, Deafness.
6. The data thus collected was entered in the Microsoft excel spread sheet.
7. Data analysed using using Epi Info™ 7.1.1.14. Software.

Results

Data regarding the socio demography was collected using a semi structured questionnaire. Out of 305 households under the study 80% were Hindus, 15% were Muslims, 5% Christians. 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%. According to modified B. G. Prasad's classification[3] (April 2013) Majority of them belonged to class 4 (46%) and class 3(32%) followed by class 1(14%) and class 5(8%) as shown in Table 2. Majority of them studied up to PUC (36%) and illiterates were 27%. Only 8% were graduates and 2% were Post –graduates. Average family size: Mean = 3.5409 (SD±1.1861).

Table 2: Sociodemographic profile of the study population

Socio Demography	Number of House Holds	Percentage
Religion		
Hindu	244	80
Muslim	46	15
Christians	15	5
Caste		
Other Backward Castes	169	55
Scheduled Caste	55	18
General Category	54	18
Scheduled Tribe	27	9
Socio Economic Status*		
Class 1	3	1.5
Class 2	26	9
Class 3	98	32
Class 4	141	46
Class 5	25	8
EDUCATION		
Illiterates	82	27
Middle school	45	15
High school	32	12
Pre University	109	36
Graduates	25	6
Post graduates	6	2
Type Of Family		
Joint family	188	61
Nuclear family	60	20
Three generation	57	19

(N= Total number of House Holds Under the study= 305)

Data regarding unhealthy habits was collected. Tobacco usage (33%) was the major form of unhealthy behaviour in the population followed by consumption of both alcohol and tobacco which is 18% (Table 3).

Table 3: Health related behaviour

Health related behaviour	Any member of the house hold	Percentage
Tobacco	101	33
Alcohol + Tobacco	54	18
Alcohol	4	1
Total	159	100

Data was collected regarding the chronic illness in the family, here we used the definition of chronic disease as the one lasting 3 months or more, by the definition of the U.S. National centre for Health Statistics[4]. Major chronic diseases were as follows (Table 4). 65% of the family had anaemia and 58% had dental caries. Prevalence of hypertension was 24% and Diabetes type 2 was 15%. Cataract and deafness were present in 2% of the household.

Table 4: Chronic illness in the house holds (N=305)

Disease	Any one member of the family	Percentage
Anemia	198	65
Dental caries	176	58
Hypertension	72	24
Diabetes Mellitus type 2	46	15
Cataract	6	2
Deafness	6	2

Data was collected regarding the recent illness, in this study we have defined it as minor illness in the study population in past six months which made them seek health care services. Major recent illness were URTI 53%, head ache 12% and myalgia 9%.Others conditions (10 other conditions) exacerbation of bronchial asthma, complications of diabetes mellitus like constituted 3% of the total recent illness as given in the Table 5. Other conditions were low back ache and pain abdomen.

Table 5: Recent illness in the study population

Acute Illness	Any person in the family	Percentage
URTI	160	52.7
Headache	37	11.1
Myalgia	27	8.5
Weakness	24	8
APD	19	6
Joint pain	12	4
LBA	6	2
Pain Abdomen	6	2
Others	13	3

Health insurance coverage: Only 20% of the study population were covered under some form of health insurance. More important finding is that 85% of those who are covered under some health insurance scheme were unaware of the benefits and the details of the health care service centres. Only 8% of them utilized the benefits of health insurance mainly for surgeries. Yeshaswini was the major health insurance scheme in this area which is a Co- operative society based health insurance scheme for agricultural, small scale industry workers like beedi rolling etc.

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 where 83% of the population are Hindu, 12.2% are Muslim, 3.1% are Christian, 0.8% are Jains, 0.7% are Buddhist, <0.1% are Sikhs, and remaining belong to other religions.[5] 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% of Karnataka's 61 million population SCs constitute 16.5% of population.[5]

Educational status: In this study, the majority were studied up to Pre University College (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 74.04%.[6]

Mean house hold size: 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 4.9[7].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%. In this study Tobacco usage was 33% mainly beedi, gutka and paan and 18% consumed both alcohol and tobacco. However in this study 50% of the study population didn't had any unhealthy practices which is similar to WHO data, according to the data 25% of the male and 5% of the females use tobacco and tobacco products and alcohol usage is present in 5% of the population.[8]

In this study anaemia was present in 64.9% of the population which is lower when compared to a study in India where up to 88% of pregnant and 74% of non-pregnant women are affected[9].An estimated 47% of women of reproductive age in developing countries are anemic.[10] According to NFHS3 data the prevalence anaemia among women ranged between 35 – 70% in different states in India.79.1% of India's children between the ages of three and six, and 56.2% of married women in the age-group 15-49 were found to be

anaemic in 2006.[11] Deafness :In this study the deafness was present in 2% of the population. The prevalence of deafness in Southeast Asia ranges from 4.6% to 8.8%. In India, 63 million people (6.3%) suffer from significant auditory loss.[12]

Dental caries: In this study caries was present in 58% of the study population. The prevalence of dental caries is approximately 60% − 65% in India1.[13,14]

Cataract: In this study 2% of the population had cataract which is higher than the cataract prevalence is 1% in Indian population according to NPCB data.[15] According to a study done in rural area prevalence of cataract alone was 12.10% in the whole population.[16]

Awareness about health insurance in our study was very low which is lower than in a study done by Patro et al only 22% of the study population were aware about the health insurance schemes.[17] According to one more study by Rashmi et al the awareness about the health insurance was 64% in South Indian population[18].

Limitations of the study

1. No confirmatory tests were used for the diagnosis of conditions like Anaemia, Deafness and other chronic illness
2. All members of the family were not present at the time of data collection in some of the households and hence could not be examined for the morbidity.
3. Recall bias
4. Social desirability bias

Conclusion

The major illnesses in the population were anaemia 65%, 58% had dental caries, hypertension was 24%, 15% of them had diabetes mellitus. Health insurance coverage was around 20%. Majority of the households(93%) were not aware about any health insurance schemes Only 13% of the insured were aware about the benefits of health insurance scheme and 8% of those who insured utilised the health insurance scheme benefit

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