Original Research Article

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20195468

Community diagnosis by conducting family health survey in the field practice area of a medical college

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Received: 24 September 2019 **Accepted:** 11 November 2019

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ABSTRACT

Background: In a developing country like India, with limited resources health needs of individuals and community are enormously increasing. Health related problems may be addressed amicably by community diagnosis. Assessment and prioritization of health issues followed by formulation of action plans with strategies and their implementation can be effectively achieved, by using family health surveys.

Methods: Using family health survey 500 families, constituting 2640 individuals were studied. Their health status and socio-demographic details were taken. Households and families were selected randomly. Data entry and analysis was done by appropriate use of statistical tools.

Results: Study showed 52.27% males and 47.73% females. Majority (51.5%) belonged to 16-45 years followed by 6-15 years of age (25%). Among 9.09% of the under-five, fully immunized were 90.4% and partially immunized were 9.6%. 6.06% were above 60 years. Nuclear families were 68%. Majority (36%) of the families belonged to socioeconomic class II (modified B.G. Prasad classification). 10.6% were illiterate and 11.3% were below seven years of age. Overcrowding was present in 24% of the families. Common morbidities were hypertension (32.2%), diabetes (26.9%), respiratory diseases (19.2%) eye problems (6.2%) and skin diseases (3.8%). Geriatric problems were present in one out of four individuals.

Conclusions: Family health survey can be used as an educational tool for undergraduate medical students to understand common morbidities and determinants of diseases in the community. Family health surveys are important for a community as necessary intervention can be done for illnesses and health-related problems.

Keywords: Community diagnosis, Family health survey, Morbidity profile

INTRODUCTION

Community diagnosis refers to the identification and assessment of the health problems in a community in terms of mortality and morbidity rates and to identify individuals at risk or those who need medical attention. It is the evaluation of the health of people in a community to the surrounding environment and follow appropriate intervention. The purpose of it is to define an existing problem and determine available resources and set priorities for planning, implementing and evaluating health action for the community. It is also used to

understand the changing patterns of population and its varying needs and also identify high-risk populations. Intervention that is disease prevention, health protection, and health protection can be done based on evidence from the survey.

In a country like India, this has the second largest population in the world after China. Rural areas constitute about 70% of India's population where facilities for health care are far behind their urban counterpart.² In a developing country like India, with limited resources, health needs of individuals and community are

enormously increasing which can be addressed amicably by community diagnosis. With passing years there is increasing in urbanization. People of all age groups are present in India so regular surveys are necessary. As a part of the Medical Council of India institutional goals, the undergraduate students before completing MBBS should have knowledge of basic management skills in the area of human resources, materials and resource management related to health care delivery. Exposure of medical students to field surveys helps them to understand and manage common diseases and nutritional problems that are present in a community. Assessment and prioritization of health issues followed by formulation of action plans with strategies and their implementation can be effectively achieved; by using family health surveys.

This paper describes a family health survey of 500 families constituting 2640 individuals. Their health status and socioeconomic status are considered. Their multiple factors are considered for example economic, social, cultural and environmental. Community surveys from different regions and various ethnic populations are important to formulate national consensus-driven policies to prevent the rising trend of non-communicable diseases. Community diagnosis is dependent on the collection and analysis of important information such as age and sex distribution, vital statistics rate and incidence and prevalence of the disease in an area. The focus is on the identification of basic health needs and health problems of the community.

Objectives

The objectives of the present study were to assess sociodemographic details and the economic status of the community, to assess immunization, environmental, sanitation status of the community and to assess the common morbidity patterns of the area and take appropriate preventive measures by health education.

METHODS

Study area

The study was carried out in the urban field practice areas of a private medical college, Hyderabad.

Study design

A cross-sectional study with a survey approach was done.

Study period

40 undergraduate medical students of second year of two batches (20 from each batch) did the survey along with the help of a post-graduate, an intern and a medico-social worker, under the supervision of faculty during May 2019 to June 2019. Two undergraduates were assigned, 25

families. Each day two undergraduate students visited 5 families so they were able to cover 25 families in 5 days.

Study samples

A total of 500 families constituting 2640 individuals were surveyed altogether.

Study tools

A pre-designed pre-tested questionnaire was used and personal interviews were conducted. Information regarding age, sex, work, education, illness, immunization status of under-five children and pregnant women, anthropometry, housing, lighting, socioeconomic status, water supply, and sanitation were taken. Houses and families were selected randomly.

Data analysis

Data was entered in MS Excel, analyzed and summarized.

RESULTS

A family health survey for 500 families constituting 2640 individuals was done. 52.27% were males and 47.73% were females in the population and the sex ratio was 913. The majority of individuals (51.5 %) belonged to 16-45 years, followed by 6-15 years of age constituting 25% of the population. 9.09% of individuals belonged to less than five age group and 6.06% were above 60 years. Among 9.09% of the under-five, fully immunized was 90.4% and immunized were 9.6%. partially None unimmunized. All 20 pregnant women in the population were immunized. 47.73% of individuals were married, 8.33% were unmarried, 3.79% were either widow or divorce and 40.15% were not eligible that is less than 21 years males and less than 18 years females. 10.6% of individuals were illiterate, 11.3% were below seven years of age, individuals who studied up to middle school constituted 29.54%, 32.57% individuals up to high school and 10.61% up to college. 1.52% of the population could only read or write some language and 3.79% population studied professional degree. 9.85% of individuals were skilled workers, 3.79% were unskilled workers, 7.57% were unemployed, 38.64% were not eligible, 2.27% were doing professional work, 12.12% of individuals were doing business and 1.52% were retired. 24.24% were housewives.

Nuclear families were 68% and joint 32%. 5 to 7 members were in 76% of families. Up to 4 individuals were present in 20% families and 4% of families had equal and more than 8 members. The majority of the families that is 36% belonged to socio-economic class II (modified B.G. Prasad classification) followed by socio-economic class I constituting 32% and 16% families belong to class V. 8% families were class III and remaining 8% were class IV.

Table 1: Socio-demographic characteristics of study population.

Variables	Categories	Male	Female	Total
variables		N (%)	N (%)	N (%)
	<5 and =5	140 (5.30)	100 (3.79)	240 (9.09)
	6-15	360 (13.64)	300 (11.36)	660 (25)
Age group	16-25	280 (10.61)	220 (8.34)	500 (18.95)
(in years)	26-45	479 (18.16)	380 (14.39)	859 (32.55)
	46-60	41 (1.53)	180 (6.82)	221 (8.35)
	>60	80 (3.03)	80 (3.03)	160 (6.06)
	Married	600 (22.73)	660 (25)	1260 (47.73)
Marital	Unmarried	160 (6.06)	60 (2.27)	220 (8.33)
status	Widow or divorce	0	100(3.79)	100 (3.79)
	Not eligible	620 (23.48)	440 (16.67)	1060 (40.15)
	Illiterate	120 (4.55)	160 (6.06)	280 (10.61)
	Primary and middle	380 (14.39)	400 (15.15)	780 (29.54)
	High school	460 (17.42)	400 (15.15)	860 (32.57)
Literacy	College	200 (7.58)	80 (3.03)	280 (10.61)
	Not applicable	160 (6.06)	140 (5.30)	300 (11.36)
	Read and write	0	40 (1.52)	40 (1.52)
	Professional	60 (2.27)	40 (1.52)	100 (3.79)
	Not eligible	540 (20.46)	480 (18.18)	1020 (38.64)
	Unemployed	140 (5.30)	60 (2.27)	200 (7.57)
	Unskilled	80 (3.03)	20 (0.76)	100 (3.79)
Occumation	Skilled	220 (8.33)	40 (1.52)	260 (9.85)
Occupation	Professional	60 (2.27)	00	60 (2.27)
	Business	320 (12.12)	00	320 (12.12)
	Housewife	0	640 (24.24)	640 (24.24)
	Retired	20 (0.76)	20 (0.76)	40 (1.52)
Total		1380 (52.27)	1260 (47.73)	2640 (100)

Table 2: Immunization status.

S. no.	Immunization status	Male children	Female children	Total N (%)	Pregnant women N (%)
1	Fully immunized	140 (58.33)	77 (32.07)	217 (90.4)	20 (100)
2	Partially immunized	00	23 (9.6)	23 (9.6)	00
	Total	140 (58.33)	100 (41.67)	240 (100)	20 (100)

Table 3: Type of family, family size and socioeconomic class.

	Number of families (%)	
Type of family		
Nuclear	340 (68)	
Joint	160 (32)	
Family size		
Up to 4	100 (20)	
5 to 7	380 (76)	
8 and more	20 (4)	
Socio economic class		
Class I	160 (32)	
Class II	180 (36)	
Class III	40 (8)	
Class IV	40 (8)	
Class V	80 (16)	

Table 4: Housing conditions of families.

Housing conditions	No. of families (%)
Type of house	No. of faillines (70)
Pucca	300 (60)
Mixed	200 (40)
Type of roof	200 (40)
Reinforced cement concrete	300 (60)
Asbestos	80 (16)
Tin	120 (24)
Number of rooms	120 (24)
1	40 (8)
2	120 (24)
3	220 (44)
4	60 (12)
5	60 (12)
Open space	00 (12)
Yes	300 (60)
No	200 (40)
Separate kitchen	200 (40)
Yes	460 (92)
No	40 (8)
Overcrowding	+0 (0)
Yes	120 (24)
No	380 (76)
Water supply	300 (70)
Own	160 (32)
Public	340 (68)
Source of water	340 (00)
Tap	340 (68)
Bore well	120 (24)
Sanitary well	40 (8)
Storage of drinking water	10 (0)
Earthen pots	340 (68)
Plastic pot	100 (20)
Stainless steel	60 (12)
Excreta disposal	00 (1 2)
Sewerage system	500 (100)
Solid waste disposal	
Public refuse bin	460 (92)
Open street	40 (8)
Latrine	. (3)
Present	500 (100)
Liquid waste disposal	
Sewerage system	500 (100)
Lighting	(***)
Artificial	500 (100)
Source of energy	
Kerosene	40 (8)
Coal	20 (4)
Gas	440 (88)
	(**/

60% of families were having a pucca house and the remaining 40% were having a mixed type of houses. The majority that is 60% of families had a reinforced cement concrete roof followed by a tin roof constituting 24% and 16% of families had an asbestos roof. Open spaces were

present in 60% of houses. A separate kitchen was present in 92% of families. A majority that is 44% of houses had three rooms followed by 24% had two rooms followed by 12% of houses had four rooms and 8% had one room. 12% had five rooms. Overcrowding was present in 24% of the families.

S. no.	Health status	Male	Female	Total
		N (%)	N (%)	N (%)
1	Hypertension	85 (16.32)	82 (15.88)	167 (32.2)
2	Diabetes	40 (7.69)	100 (19.21)	140 (26.9)
3	Respiratory diseases	20 (3.84)	80 (15.36)	100 (19.2)
4	Eye problems	16 (3.1)	16 (3.1)	32 (6.2)
5	Skin diseases	6 (1.2)	14 (2.6)	20 (3.8)
6	Geriatric problems	3 (0.61)	5 (0.9)	8 (1.51)
7	Others	10 (1.86)	43 (8.33)	53 (10.19)
	Total	180 (34 62)	340 (65 38)	520 (100)

Table 5: Common illnesses, communicable and non-communicable diseases.

Common morbidities were hypertension (32.2%), diabetes (26.9%), respiratory diseases (19.2%) eye problems (6.2%) and skin diseases (3.8%). Geriatric problems were present in one out of four (1.51%) and remaining other illnesses like genitourinary and gastrointestinal diseases constitute 10.19%.

DISCUSSION

The study done total male population is 52.27% and the total female population is 47.73% similar to a study done by Gandhi et al where the total male and female population were 54.7% and 45.3% respectively.⁶ The contrary study done by Pachori et al showed the total male population and female populations were 48.7% and 51.3% respectively and a study done by Ahmed et al showed the total female population was 50.6% and the total male population was 49.4%. 7,8 Sex ratio in the study was 913, whereas the ratio was 943 in 2011 in the country, India as per National Health profile 2018 and sex ratio of Telangana state was 977 in urban population for the year 2015-2016 as per National Family Health Survey 4, State Fact Sheet Telangana. 9,10 9.09% of individuals belong to <5 age group similar to Ahmed et al which showed 8.7% of individuals under-five age group.⁸ The majority of individuals that are 51.5 % belonged to 16-45 years similar to a study done by Pachori et al where 53% of individuals belong to 20 to 40 years of age group. 6.06% were above 60 years similar to a study done by Gandhi et al where 5% of the population was above 60 years. Literacy in the population is 78.03% similar to study done by Gandhi et al where it is 76.4%, whereas overall literacy rate of India is 73%, in urban population is 84.1% and Andhra Pradesh in urban population is 80.1% as per Census 2011 in National Health profile 2018.^{6,9} Among the under-five children, 90.4% were fully immunized, 9.6% were partially immunized and none were unimmunized similarly to a study done by a study by Punith et al where fully immunized children were 92.10% and partially immunized was 6.58%, and unimmunized children were 1.31%. 11

9.85% of individuals were skilled workers, 24.24% were housewives and 1.52% were retired in the study similar to a study done by Ahmed et al where skilled workers are

7.3%, housewife were 22.2% and retired individuals were 1.6%. Nuclear families were 68% and joint 32% in the study where as a study done by Gandhi et al; where nuclear families were 74% and joint families were 26% similarly even a study done by Shukla et al nuclear and joint families were 79.2 and 20.8 respectively. 6,12 The majority of the families that are 36% belonged to socioeconomic class II similar findings were present in a study done by Ahmed et al where 40% of families belong to socio-economic class II (modified B.G. Prasad classification).8 32% families belong to socio-economic class I followed by 16% families belong to class V similar findings were found in a study done by Pachori et al where 30% families belong to class I (upper class) and 18.7% belong to class V (lower class) socio-economic status.

60% families were having a pucca house and remaining 40% were having a mixed type of houses whereas a study was done by Shukla et al which shows 69.5% of families live in a pucca house and remaining 29.6% and 0.7% families live in semi pucca and kutcha house respectively. 12 The separate kitchen was present in 92% of families similar to a study done by Ahmed et al where a separate kitchen is present in 93% of families.8 Overcrowding was present in 24% of the families similar to a study done by Ahmed et al where overcrowding was 28%. 8 68% of families were using tap water as a source followed by 24% were using bore well as a source of whereas a study done by Gandhi et al shows that 74.3% of families use tap water followed by 14.3% use bore water. 6 100% houses had latrines similar to a study done by Gandhi et al where there are 97.10% latrines but whereas a study done by Gelaw et al shows that there were 94% latrines. 6,13 92% of families were using a public refuse bin for solid waste disposal and remaining 8% were disposing the solid waste on open streets whereas a study was done by Gandhi et al show that 45.7% families use the public refuse bin and 54.3% families throw away solid waste into a pit.⁶ Source of energy for cooking was gas in 88% families followed by kerosene in 8% and coal in 4% families whereas a study done by Gandhi et al shows that 63% families only use cooking gas, 20% use only firewood and both are used by 17%.6

Common morbidities were hypertension (32.2%) similar to a study done by Das et al where the prevalence of hypertension in the urban population is 36.4% in 2003. ¹⁴ Diabetes is present in 26.9% of the population in our study this is similar to a study done by Gladius et al where diabetes was present in 33.3% of the population. ¹⁵

CONCLUSIONS

Family health surveys are important for undergraduate students as they help them in understanding common morbidities, determinants of diseases in the community. Students can learn from real-life situations and understand what people are facing in a community and so they will be able to make better decisions for the treatment and prevention of diseases. Family health surveys are important for a community as necessary intervention can be done for illnesses and health-related problems. Immunizations can be encouraged. Proper hand washing and hygiene can be encouraged. Early intervention of disease can be done so complications can be avoided by referring them to a hospital. Health education regarding environmental pollution can be done to avoid mosquito-borne illness, gastroenteritis and other communicable diseases can be prevented. Encouraging patients for the screening of illnesses can be done by educating them. So these family health surveys should be done regularly for huge populations and health camps should be arranged by the government to improve the health of the individuals

ACKNOWLEDGEMENTS

We would like to thank undergraduate students of second-year MBBS who were involved in the survey and helped us with data collection. We would also like to thank the families for cooperatively participating in the survey, medico-social worker and the faculty for the supervision.

Funding: No funding sources Conflict of interest: None declared

Ethical approval: The study was approved by the

Institutional Ethics Committee

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Cite this article as: Patel MB, Maheen M, Shaikh FM, Chandrasekhar A. Community diagnosis by conducting family health survey in the field practice area of a medical college. Int J Community Med Public Health 2019;6:5191-6.