



## Health Profiling of Tribal Population of Mulnar, Kashmir Valley, India- A Community Based, Cross-Sectional Study

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### Abstract

**Background:** Subcentres being the first contact point with the community provide interface with it at the grass-root level, the success of any national programme largely depends on the well-functioning of the Subcentres providing services which are acceptable to the people. The aim of the study is to evaluate the health and living standards of the hilly and tribal population.

**Methods:** This cross-sectional community based study which is a door to door survey and health camp was conducted in the hilly tribal area, Mulnar. Demographic variables, number of eligible couples, use of contraceptive and the type, number of under five children in the family, immunization status of under five children, antenatal facilities availed by pregnant women, availability of safe drinking water, presence of smoke vent in the kitchen, status of overcrowding, general housing standards like cross ventilation of rooms, sanitation methods used by individual houses and information about domestic animals were included in the proforma.

**Results:** A total 53 households having population of 331, were evaluated in the study. 33.5% population were illiterate with only 5.1% having qualifications of Graduation or above. Females were less in number so far as the educational qualification is concerned and the results were statistically significant ( $\chi^2 = 21.63$  df=7,  $p=0.003$ ). There was no Statistical difference in age stratification with respect to sex ( $\chi^2 = 1.25$  df=5,  $p=0.939$ ), however it was statistically significant in case of the occupation of the community ( $\chi^2 = 103.32$ , df=4,  $p=0.000$ ).

**Conclusions:** The study gives an outline of family and health profile of the community and the morbidity pattern of patients, which would help the health care providers and administrators to plan, practice and deliver, high quality services as per the community needs.

**Keywords:** Health Profiling, Tribal Population, door to Door survey.

### Introduction

Subcentres being the first contact point with the community provide interface with it at the grass-root level, the success of any national programme largely depends on the well-functioning of the

Subcentres providing services which are acceptable to the people. Indian Public Health Standards (IPHS) are being prescribed to provide basic quality care primary health services to the community. IPHS for Sub centres has been

prepared keeping in view the resources available in view of functional requirement for Subcentres with minimum standards. The overall objective of IPHS for Subcentres are to provide basic health care to the community, to achieve and maintain an acceptable standard of quality care and to make the services more responsive and sensitive to the needs of the community<sup>[1]</sup>. As per IPHS a subcentre caters to a population of 5000 in plains and 3000 in hilly and tribal areas. Auxiliary Nurse Midwives (ANMs) or Female multipurpose health workers (FMPHW) are the keyfield health workers who operate from the Subcentres and deliver services related to the community for prevention and control of the disease<sup>[2]</sup>.

Door-to-door surveying is a one of the important and common practice in developing countries and rural areas for conducting health screenings to gather information about health standards and the environment acting as the barriers and facilitators to services and the value they add to public health research. Previous studies which involved communitybased participatory research (CBPR) made use of door-to-door survey and is the method of choice to build relationships with community, hire community members, building trust and engaging the study participants<sup>[3]</sup>.

The health problems prevailing in these areas may be due to socio-cultural practices, taboos & superstition, environmental conditions, inaccessibility to safe drinking water and sanitation. There is a dire need to direct more health attention towards this strata of population in order to improve the health standards of these communities. The aim of the study is to evaluate the health and living standards of the hilly and tribal population of Mulnar.

### Methods

This cross-sectional community based study which is a door to door survey cum health camp was conducted by the Department of Community Medicine in the hilly tribal area, Mulnar (Subcentre Theed) of Hazratbal block, which is a field practice area of Government Medical

College, Srinagar. Subcentre Theed which caters to an estimated population of 4495 is one of the 12 type A subcentres of the medical block Hazratbal and is the first contact point for the population of the Mulnar area which located in the mountainous ranges of Mahadev about 23 km's from Srinagar, the summer capital of Jammu & Kashmir. It has an estimated population of 372 with 60 household and mainly a tribal population. The micro planning for the survey and health camp was done by the Department of Community Medicine, Government Medical College, Srinagar jobs were assigned to various health professionals of the department and voluntaries of the community according to the plan. The village heads were informed, who in turn informed the various community members. An appropriate date was fixed with these community members for the door to door survey and health camp. On 12<sup>th</sup> October 2017 door to door survey was conducted in this adjoining area of the Subcentre by the faculty members, postgraduate research scholars, interns and pre-final students of the Department of Community Medicine, Government Medical College, Srinagar. A total of 116 people attended the health camp and in door to door survey 331 people's information was gathered. A total of 53 household were successfully visited, about 7 house couldn't be contacted because of the tribal nature of the population. Free medicine and medical consultation was provided by the department and in house to house survey demographic characteristics include name, age, sex, education, occupation, family size, number of eligible couples in the family, use of contraceptive and the type, number of under five children in the family, immunization status of these under five children, antenatal facilities availed by pregnant women, number of births and deaths in last year, availability of safe drinking water, presence of smoke vent in the kitchen, status of overcrowding, general housing standards like cross ventilation of rooms, sanitation methods used by individual houses and

information about domestic animals were the variables included in the proforma.

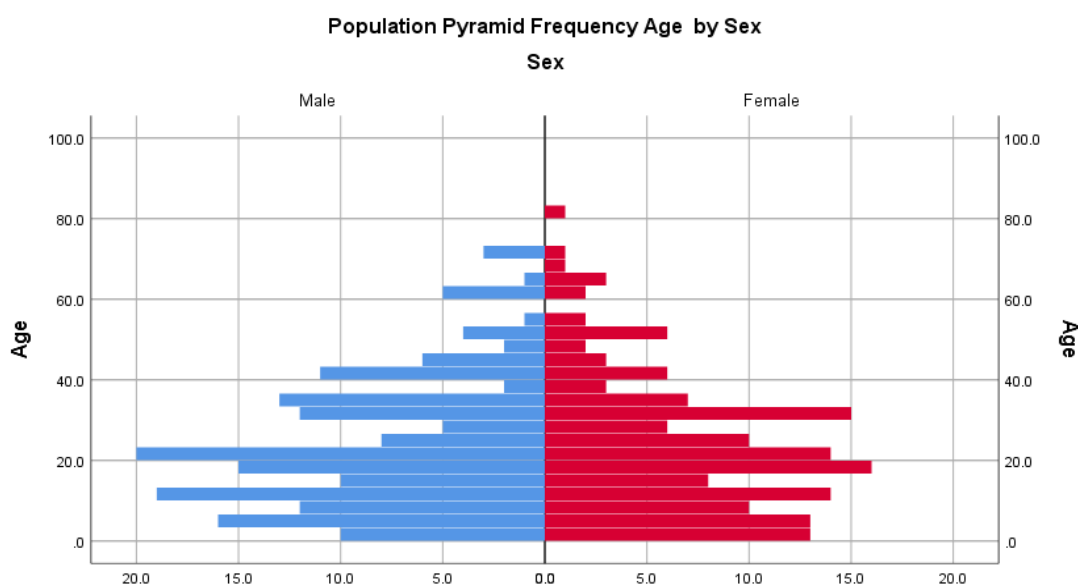
**Results**

In this survey cum health camp the sociodemographic characteristics of the community again witnessed male predominant population with a sex ratio of 942 women to 1000 men. The mean age of the population was  $23.60 \pm 16.56$  with 57.4% adult population as shown in Figure 1. Among the total 53 households having population of 331, 33.5% were illiterate with only 5.1% having qualifications of Graduation or above. Females were less in number so far as the educational qualification is concerned and the results were statistically significant ( $\chi^2 = 21.63$   $df=7$ ,  $p=0.003$ ). There was no Statistical difference in age stratification with respect to sex ( $\chi^2 = 1.25$   $df=5$ ,  $p=0.939$ ), however it was statistically significant in case of the occupation of the community ( $\chi^2 = 103.32$ ,  $df=4$ ,  $p=0.000$ ) as shown in Table 1. Most of the community population were labourers (15.1%), Government Employees (7.9%), and 3.3% were engaged in small scale business. 37.7 % of the population were students and 36.0% were doing household work. 80% of the families were joint families with 100% non-vegetarian pattern of diet. The average

family size was about 6.24 with minimum 3 and a maximum family size of 27 was found in one joint family.

In this door to door survey 52(15.7%) eligible couples with 2 pregnant women were found. 4.83% population were using contraceptives and among them 43.7% were using Condoms , 43.7% have done ligation and rest were using other methods of contraception as shown in Table 2. About 12% of population was under Five and among them 70% were having complete immunisation status till date. 92.4% of the community households have the provision of safe drinking water, 69.8% have smoking vent in the kitchen and 81.1% population having cross ventilated rooms. In this hilly community 64.1% households were using latrine and among them 88.2% were having water sealed type of sanitary latrine for excreta disposal as shown in Table 2.

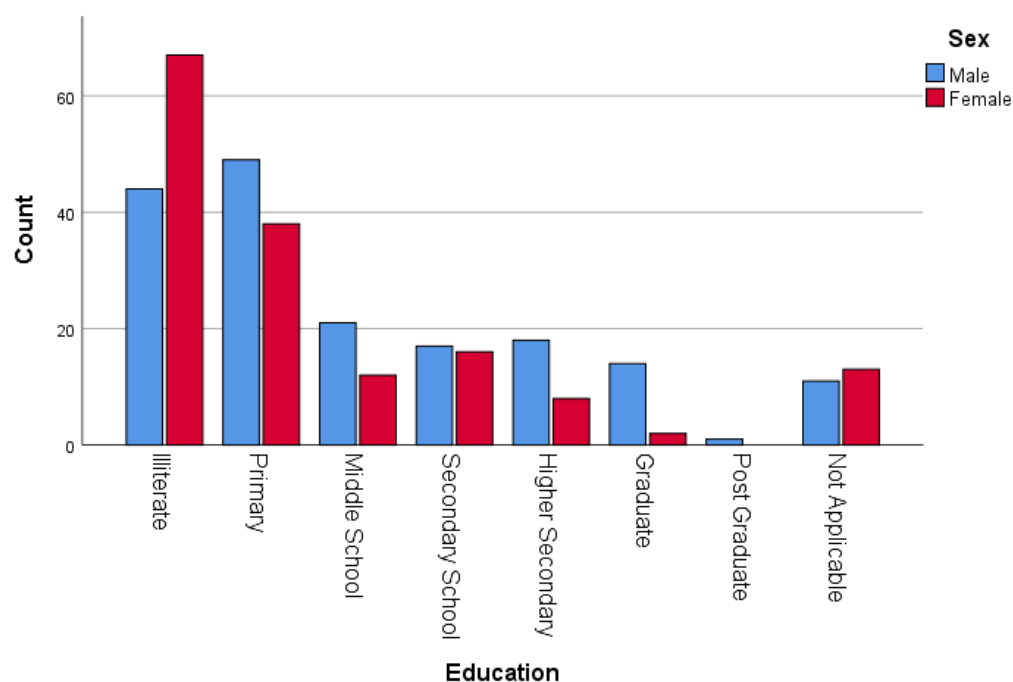
In this survey cum health camp, although 116 (35.0%) of population attended the health camp, but the prevalence of morbidity was 18.2%. The pattern of morbidity among these patients was 21.2% having Respiratory disease, 15.0% Skin diseases, 12.5% Hypertension, 11.6% Gastritis, 10% Musculoskeletal disorders, 8.3% having Psychiatric illness, 6.6% Hypothyroidism, 5.5% Diabetes mellitus and remaining other ailments.



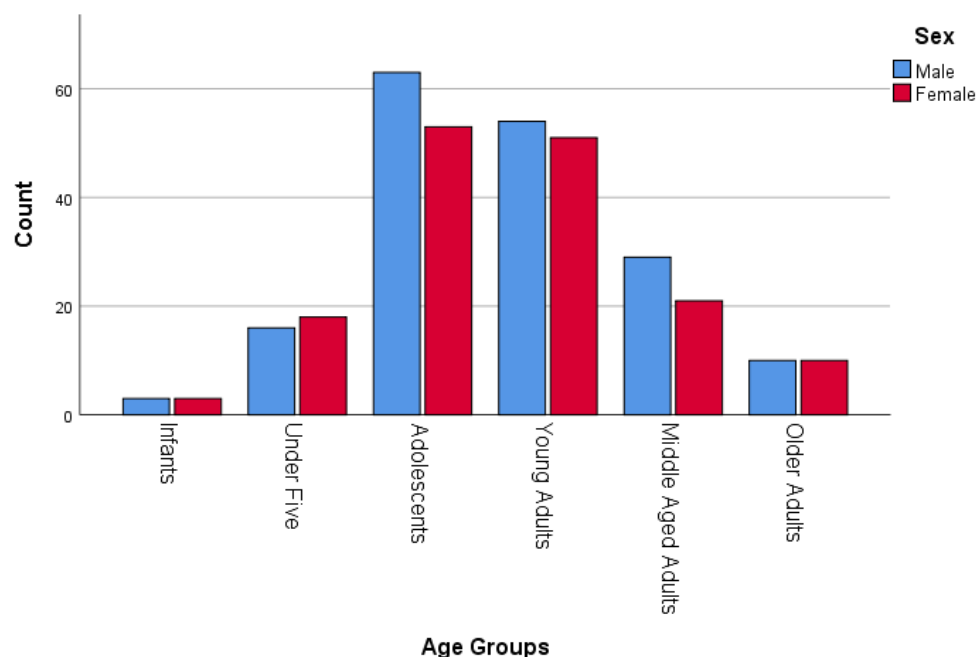
**Figure 1:** Population pyramid showing distribution of Age by Sex in Population of Mulnar

**Table 1:** Socio-demography characteristics of Population

Variables	Males(n/%)	Females (n/%)	Total	Statistical Analysis
<b>Age Groups (Years)</b>				
0-1	3 (1.7%)	3 (1.9%)	6 (1.8%)	$\chi^2 = 1.259$ df=5 p=0.939
>1-5	16 (9.1%)	18 (11.5%)	34 (10.3%)	
>5-19	63 (36.0%)	53 (34.0%)	116 (35.0%)	
>19-35	54 (30.9%)	51 (32.7%)	105 (31.7%)	
>35-54	29 (16.6%)	21 (13.5%)	50 (15.1%)	
>54	10 (5.7%)	10 (6.4%)	20 (6.0%)	
<b>Total</b>	<b>175</b>	<b>156</b>	<b>331</b>	
<b>Education</b>				
Illiterate	44 (25.1%)	67 (42.9%)	111 (33.5%)	$\chi^2 = 21.635$ df=7 p=0.003
Primary	49(28.0%)	38(42.9%)	87(26.3%)	
Middle School	21(12.0%)	12(7.7%)	33(10.0%)	
Secondary School	17(9.7%)	16(10.3%)	33(10.0%)	
Higher Secondary	18(10.3%)	8(5.1%)	26(7.9%)	
Graduate	14(8.0%)	2(1.3%)	16 (4.8%)	
Post Graduate	1(0.6%)	0(0.0%)	1(0.3%)	
Not Applicable	11(6.3%)	13(8.3%)	24(7.3%)	
<b>Total</b>	<b>175</b>	<b>156</b>	<b>331</b>	
<b>Occupation</b>				
Business	7 (4.0%)	4 (2.6%)	11 (3.3%)	$\chi^2 = 103.324$ df=4 p=0.000
Govt. Employees	24 (13.7%)	2 (1.3%)	26 (7.9%)	
Labour	48 (27.4%)	2 (1.3%)	50 (15.1%)	
Student	71 (40.6%)	54 (34.6%)	125 (37.8%)	
Other	25 (14.3%)	94 (60.3%)	119 (36.0%)	
<b>Total</b>	<b>175</b>	<b>156</b>	<b>331</b>	



**Figure 2:** Bar chart showing distribution of Educational status within the Gender



**Figure 3:** Bar chart showing distribution of Age categories within the Gender

**Table 2:** Health Indicators and other Household information of the Community

Variables	Frequency(n)	Percentage (%)
<b>Eligible Couples</b>	52/331	15.70
<b>Contraceptive Use</b>	16/331	4.83
<b>ContraceptiveType</b>		
Condom	7	43.75
Oral Contraceptive	1	6.25
Intrauterine device	1	6.25
Ligation	7	43.75
<b>Pregnant Women</b>	2/156	1.28
<b>ANC Services Availed</b>	2	100
<b>Under Five Children(&lt;5)</b>	40	12.08
<b>Immunisation Status of Under Five Children</b>		
Complete	28/40	70
Incomplete	12/40	30
<b>Total Births in 2016</b>	8	-
<b>Total deaths in 2016</b>	4	-
<b>Provision of Safe Drinking Water</b>		
Present	49/53	92.45
Absent	4/53	7.55
<b>Cross Ventilation of Rooms</b>		
Present	43/53	81.13
Absent	10/53	18.87
<b>Smoking Vent</b>		
Present	37/53	69.81
Absent	16/53	30.19
<b>Use of Latrine</b>	34/53	64.15
<b>Type of Latrine</b>		
Water sealed	30/34	88.24
Open	4/34	11.76
<b>Domestic Animals</b>		
Present	46/53	86.79
Absent	7/53	13.21

## Discussion

In current study the sociodemographic characteristics of the community showed the male predominant population with a sex ratio of 942 women to 1000 men which is as par with national Figures<sup>[4]</sup>. The age structure of the population witnessed predominant adult population (57.4%) as seen in population pyramid in Figure 1, although slightly on higher side so far as national figures are concerned, small population of the area seem to be responsible for this difference<sup>[5]</sup>. As shown in Table 1, the literacy rate of the community is far below than the state and national figures, which needs to be looked after. The MCH information was in accordance with the SRS report 2015<sup>[6]</sup> as shown in Table 2 with most of the couples using condoms as a temporary method of contraception and Ligation as permanent method. Anju Gahlot et al conducted a study in Kanpur, Uttar Pradesh where he also found condom being most commonly used contraceptive, although Oral contraceptive are not commonly used because of the tribal nature of the population<sup>[7]</sup>. The immunisation coverage of the under Five children was more than 90% although only 70% were completely immunised for the age as shown in Figure 2. This was in accordance with national immunisation coverage report, 2016<sup>[8]</sup>. The household information revealed some important facts like, there is provision of safe drinking water in 92.7% of the household but most of the people were using spring water which reflects the lack of awareness among the people of the community. 88.2% of the population were using water sealed sanitary latrine, 86.8% of households were having domestic animals which were not in good raring conditions, thus bearing a threat of gastroenteritis or other communicable disease outbreak in the community. Health education about provision of safe drinking water, sanitary latrine, personal hygiene should be given to community on regular basis. Locals should be encouraged to build houses and cattle sheds as per housing standards<sup>[9]</sup>. The pattern of the morbidity as seen in results shows rising trend of Non

communicable diseases which is a matter of concern in this population. Same results were obtained in previous study conducted in same block with larger sample size<sup>[10]</sup>.

## Conclusion and Recommendations

The study gives an outline of family and health profile of the community and the morbidity pattern of patients, which would help the health care providers and administrators to plan, practice and deliver, high quality services as per the community needs. It is highly recommended that long term studies with wider coverage will act as a perfect tool for the health planners to plan better strategies. Lack of awareness of health issues and household issues should be addressed as without awareness of health issues and facilities, most tribal populations tend to be morbid more frequently and wait too long before seeking medical aid, or are referred too late by untrained local practitioners

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**Conflict of interest:** None declared

**Ethical approval:** The study was approved by the ethical committee of Government Medical College Srinagar.

## References

1. Directorate General of Health Services Ministry of Health & Family Welfare Government of India. Indian Public Health Standards (Iphs) for Sub-Centres. 2007; (February):1–52. Available from: <http://www.pbnrh.m.org/downloads/SC-IPHS.pdf>



2. Part A1 – Guidelines for Sub Centres Indian Public Health Standards ( IPHS ) Table of Contents. 2012;1–74.
3. The value of conducting door-to-door surveys Hillier A, Cannuscio C, Griffin L, Thomas N, Glanz K International Journal of Social Research Methodology, vol. 17, issue April (2014) pp. 285-302.
4. Available at: <http://www.indiaonlinepages.com/population/sex-ratio-of-india.html>[Accessed on 17-02-2018, 11:31:50].
5. Available at: [http://www.indexmundi.com/india/age\\_structure.html](http://www.indexmundi.com/india/age_structure.html)[Accessed on 17-02-2018, 11:51:11].
6. Office of Registrar General, Census Commissioner. Estimates of Mortality Indicators. Sample Regist Syst Stat Rep 2015 [Internet]. 2015;121–83. Available from: [http://www.censusindia.gov.in/vital\\_statistics/SRS\\_Report\\_2015/8.Chap4-Mortality Indicators-2015.pdf](http://www.censusindia.gov.in/vital_statistics/SRS_Report_2015/8.Chap4-Mortality Indicators-2015.pdf)
7. Gahlot A, Nath S, Kumar P, Nath M. Study of prevalence of different contraceptive methods feasibility of DMPA among married women in urban area of Rama Medical College , Kanpur. 2017;4(June):90–4.
8. WHO and UNICEF. Ghana: WHO and UNICEF estimates of immunization coverage: 2016 revision. WHO Reports [Internet]. 2017;1–21. Available from: [https://data.unicef.org/wp-content/uploads/country\\_profiles/Ghana/immunization\\_country\\_profiles/immunization\\_gha.pdf](https://data.unicef.org/wp-content/uploads/country_profiles/Ghana/immunization_country_profiles/immunization_gha.pdf)0A[http://www.who.int/immunization/monitoring\\_surveillance/data/ago.pdf](http://www.who.int/immunization/monitoring_surveillance/data/ago.pdf)0A[http://www.who.int/immunization/monitoring\\_surveillance/data/isr](http://www.who.int/immunization/monitoring_surveillance/data/isr).
9. Khan SMS, Quansar R, Saleem SM. Door to Door Survey cum Health Camp in Tribal Population of Northern India. 2017;9(11):36–9.
10. Dr Abdul Rouf et al. Morbidity Pattern among Patients Attending Urban Health Centre in North. J Med Sci Clin Res. 2017;5(8):26574–9.