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A Community Based Study on COVID-19 Preventive Practices and Associated Problems among the Urban Population of Kathua City (J&K)

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ABSTRACT:
Introduction: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has led to full blown pandemic situation all over the world. Looming concerns over COVID-19 have prompted large-scale preventive & containment strategies at the national, state as well as local levels.
Aim and objectives: 1. To study the adherence to different preventive practices against COVID-19 practiced by the general population of our geographical region of interest.
2. To study the problems in adherence of those practices by the population.
Methodology: It was a cross sectional questionnaire based study conducted in September-October, 2020 in which 558 participants (>18 years) residing in our geographical area of interest, Kathua city, were selected using purposive sampling. Data was entered in the MS Excel for analysis and was analyzed using SPSS 22.0
Results:Approximately 89.9%, 87.9%. 79.03% and 93.5% participants were following preventive practices like regular hand-washing with soap, use of face mask, use of sanitizer and physical/ social distancing respectively.
Conclusion: Individual magnitude of following preventive practices was high but people were not following all the prescribed preventive measures.
Keywords: COVID-19; SARS CoV-2; Preventive practices, face masks

INTRODUCTION:

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the virus that causes coronavirus disease 2019 (COVID-19) which has spread rapidly around the world since emerging in Wuhan, China, in later half of 2019.[1] Coronaviruses (CoVs) are a group of RNA viruses which has zoonotic mode of transmission & affects the human beings. In the past two decades, the emergence of a novel coronavirus is the third instance of virus disease which has affected large strata of population, after severe acute respiratory syndrome (SARS) in 2003 and Middle East respiratory syndrome coronavirus (MERSCoV) in 2012.[2,3]
Our current understanding of COVID-19 comes mostly from disease surveillance and epidemiologic studies undertaken during the early phases of the pandemic in China[4,5], Europe[6,7] and North America[8-10]. However, most cases of COVID-19 have occurred in low- and middle-income countries (LMICs) like India. As we know India is one of the LMICs, substantial proportion of population may be at increased risk of severe outcomes and/or face barriers to accessing quality health services.
Our understanding of SARS-CoV-2 transmission is largely based on what is known from the similar coronaviruses in which human-to-human transmission occurs through droplets, contact and fomites. COVID 19 is transmitted through direct or indirect contact with mucous membranes of the mouth, eyes, or nose. Based on the transmission mode of SARS-CoV a serial of preventive measures have been recommended, including use of face mask, avoiding close contact with people suffering from acute respiratory infections and frequent[11] hand-washing.

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COVID-19 has been labelled as a public health emergency of international concern (PHEIC)and the epidemic curves is still on the rise.[12] The country's first known COVID-19 case was documented on 30 January 2020 who was an Indian national evacuated from China[13]. More than 1.3 billion people are at risk of SARS-CoV-2 infection in India, where concerns over COVID-19 which led to large-scale containment strategies at the national, state, and local levels [14]

In India, surveillance of COVID-19 was started with screening at airports for respiratory infection, especially for the passengers travelling from China. Some states further started thermal and clinical screening at land borders with other states in March 2020. Nationwide, testing was done for symptomatic individuals with history of travel or contact with a confirmed COVID-19 case within previous 14 days, and was expanded to include all contacts of confirmed COVID cases in states in last week of March 2020.

MATERIALS & METHODS:

Study design and data collection: This community based cross sectional study was conducted post unlock period for a period of 4 months from December 2020- March 2021 in the urban field practice area of the Department of Community Medicine, GMC Kathua. Sample size was calculated using the formula $4Pq/ L^{2.}$ Prevalence of COVID related preventive behaviour was taken to be 50%, due to lack of information. Assuming confidence interval of 95% and at a precision of 5%, the total sample size calculated was 400.The study was carried out among the general population aged above 20 years. Multistage sampling was used for which 5 wards were randomly selected from the total of 11 wards. A total of 80 participants were enrolled in the study from each selected wards to get a total sample size of 400. From each ward, one house was selected randomly. Starting from this house, every nearest next house was surveyed until 80 persons were enrolled for the study. All the persons aged above 20 years found in one house were interviewed separately. Data was collected using pre designed and semi structured questionnaire consisting of socio-demographic data, questions on- practices and their adherence to those practices for prevention of COVID-19, use of ArogyaSetu mobile application(a web based application designed by Government of india to track the covid patient) and the fear of diseases after taking their verbal consent. Simultaneously participants were educated and motivated to follow practice of prescribed preventive measures for the control of COVID-19.

Data Analysis: The collected data was compiled in MS excel 2016 and analyzed statistically. There were total of four questions under the "Preventive Practices" domain. A score of 1 was attributed to 'No' and 2 was allotted to 'Yes' for following the particular Preventive practice. The cumulative score ranged from 4-8, and the Practice score of ≤7 was considered inadequate practice and score of >7 was considered adequate. Variables were summarised using proportions with 95% confidence intervals. Preventive practices were compared by demographic characteristics using Chi-square .

Prior approval for conducting this study was sought from the Institutional Ethics Committee.

Objectives:

1. To study the preventive practices against COVID-19 prevalent among the general population
2. To study the problems in adherence of those practices by people.

RESULTS:

Socio-demographic Characteristics: A total of 400participants were included in the survey. The socio demographic characteristics of the study participants are presented in Table 1. The

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age of the participants varied from 20 years to 90 years with the mean age 38±12 years, with majority (47.5) in the age group 20- 40 years.Of all the respondents, 68.5.were males. Approximately 27% participants were literate, where most of them were graduate/ post-graduate and 78% participants were either employed or self-employed and earning.

Table 1. Sociodemographic Characteristics of Study Participants

		Frequency	Percentage
Age	20-40	190	47.5
	40-60	130	32.5
	>60	80	20
Gender	Male	274	68.5
	Female	126	31.5
Literacy	Illiterate	83	20.7
	Primary	42	10.5
	Middle	49	12.2
	High School	56	14
	High Secondary	62	15.5
	Graduate/Post graduate	108	27
Employment	Unemployed / Not earning	88	22
	Employed/ Earning	312	78

Preventive Practices:

Table 2.depicts the preventive measures practiced by the participants. It was observed that 86.5%, 87.7%, 79.7% and 93% participants were following preventive practices like regular hand-washing with soap, use of face mask, use of sanitizer and physical/ social distancing respectively for the prevention of COVID-19. Of that using face mask, 63.9% were using cotton mask whereas only 36.1% were using medical mask (triple-layered surgical/N-95 mask). People who were not using face mask, majority stated that they feel uncomfortable (96%) in wearing face-masks while for some high cost of face-mask (4%) was the reason. Similarly, among those not using sanitizer, major reason was discomfort (52.8%) where most of the participants did not like the odour of the sanitizer (34.8%) and some were allergic to its use (17.9%). Approximately 38% participants gave no reason as to why they don't use sanitizer for prevention against COVID-19. As the participants needed to go to work, approximately 2.8% could not practice physical/ social distancing.

Table 2. Magnitude of preventive measures against COVID-19 practiced by the general population

Preventive Practices	Answer	Score	Frequency(n)	Percentage(%)
Hand-wash with Soap & Water	No	1	54	13.5
	Yes	2	346	86.5
Use of face-mask	No	1	49	12.2
	Yes	2	351	87.7
Use of sanitizer	No	1	81	20.2
	Yes	2	319	79.7
Physical/ Social distancing	No	1	28	7
	Yes	2	372	93

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Fig 1. Magnitude of preventive measures against COVID-19 practiced by the general population

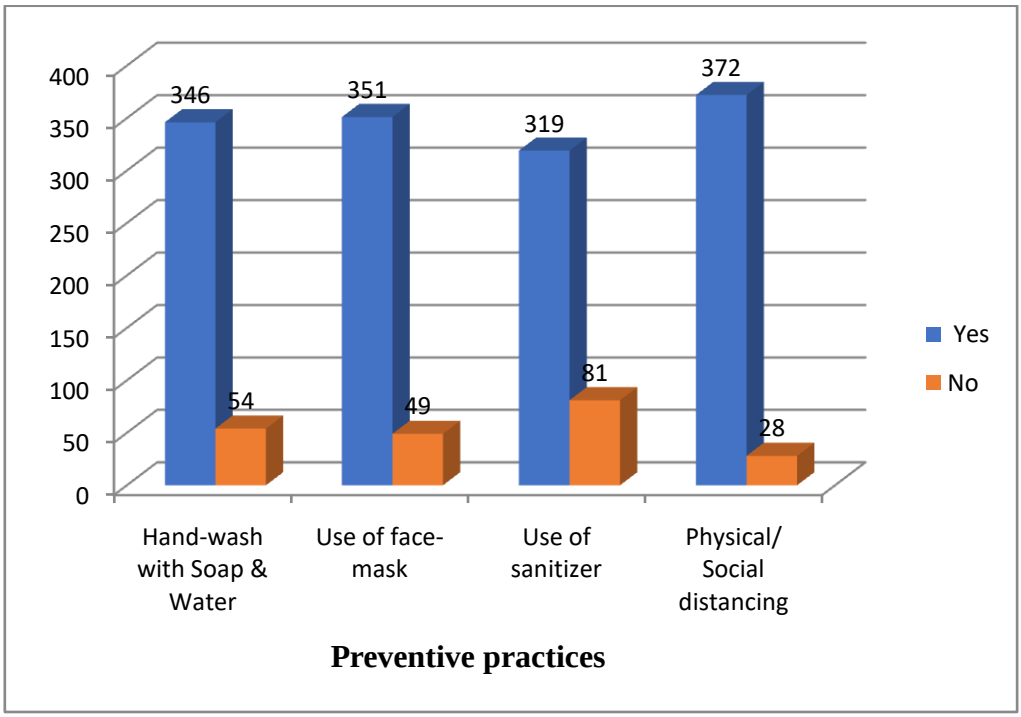

Table 3. Magnitude of preventive practices across various sociodemographic characteristics

	Practice Score ≤ 7 (Inadequate Practice)	**Practice Score > 7 (Adequate Practice)**	**OR (95% CI)**
	n (%)	n (%)	
Age groups			
20-40	153 (63.07)	37 (39.3)	1.0 (Reference)
40-60	86 (28.1)	44 (48.9)	2.11(1.26-3.52)
>60	53 (8.8)	27 (11.7)	2.10 (1.17-3.7)
χ^2= 10.4, p= 0.005			
Gender			
Male	196 (44.4)	78 (54.2)	1.25(0.79-1.97)
Female	84 (55.5)	42 (45.7)	
χ^2= 0.97 , p= 0.32			
Literacy			
Illiterate	49 (57.1)	34 (52.1)	0.92(0.56-1.51)
Literate	193 (42.8)	124 (47.8)	
χ^2= 0.09, p= 0.75			
Employment			
Unemployed / Not earning	45 (56.2)	43 (45.7)	0.61(0.37- 0.98)
Employed/ Earning	197 (44.4)	115 (54.2)	
χ^2= 4.13, p= 0.04			

In the present study, only 23.5% participants were taking adequate measures for the prevention of COVID-19, means they have Practice score >7. High Practice score (score >7) was observed among the participants belonging in the age group 40-60 years (48.9). Among

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literates, only 47.8%participants were taking adequate measures and approximately. Employed participants had higher practice score (>7) as compared to that of unemployed.
In the study it was observed that those who were afraid of contracting the disease (67.3%) had higher practice score than those who were indifferent (32.7%) to the present scenario. , Approximately 89% were concerned about themselves and their family members contracting the disease or the possibility of dying while the rest of the participants (10.8%) were afraid about expanses during hospitalisation .During the study, out of all the respondents, only 8.5% participants reported to have fever/cough/shortness of breath and among those having such complaints only 36.8% had consulted a doctor regarding their symptoms. The majority of participants (76.5%) with symptoms (fever/ cough/ shortness of breath) had lower practice score (≤7). In this study it was found that 46.3% participants had installed ArogyaSetu application on their mobile phones.

DISCUSSION

This study was aimed to assess the preventive measures practiced by the population of Kathua city during covid-19 pandemic.Thus this study would observe the engagement of population to stop the spread of the disease and the problems faced by them in adherence to the preventive practices.
86.5%, 87.7%, 79.7% and 93% participants were following preventive practices like regular hand-washing with soap, use of face mask, use of sanitizer and physical/ social distancing respectively in our study. Study conducted in Egypt and Nigeria reported that most (96%) practiced self-isolation and physical distancing.[15]The high magnitude of social distancing practiced by the populationmight be due to the lockdown imposed by the government to control the spread of disease. One of the reason for high magnitude of hand washing practice with soap and water might be due to the age old practice of washing hands regularly besides that staying home for the most part of the day might have increased this practice as it's convenient to use soap when at home. The most common type of face mask used by the participating population was cotton or cloth mask. Easy availability and low cost of these masks favour their use by large number of participants without compromising the comfort. In this study, the proportion of those not using face cover mask was very low, and the main reason being discomfort. Wearing mask for long hours lead to itching, bad odour,[10] excessive sweating, acne problems (maskne)[16], pain in ear pinna due to the elastic band, etc. Higher cost of masks due to low availability also discouraged the participants to use them. Some mask refusers see this issue only in terms of their comfort and personal safety; they don't understand that wearing a face mask can prevent the disease in them but also to their family members and community as well. Before this pandemic struck, use of hand sanitizer was limited in our country. Though in the present study large number of participants were using hand sanitizers, there was a small proportion of population which was not using it. The supply of sanitizers in market before pandemic was limited, then the sudden increase in demand led to the shortage of stocks and spike in prices. The repeated use of hand sanitizer causes allergy (in some)/itching/drying of hands. Beside that the strong odour of the sanitizer is not favoured by many. Generally, fear of disease motivates people to follow preventive practices but interestingly, in this study it was noted that even the people were scared that they/ their family members might contract the disease, their practice score was still low. The disaster, COVID-19,brought panic and stigma in its wake. Though people were symptomatic, they did not report their symptoms to the healthcare workers. The most probable reason for this avoidance might be the stigma associated with the disease. People are afraid of being cut off from the society and being restricted to their homes only for the time of quarantine/ isolation.

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LIMITATIONS:

During COVID-19, due to limitation of movement, participants were selected using purposive sampling. The study was carried out in urban area where majority of population was literate, so the study population has limited representativeness and can't be generalised. Exaggeration/ over reporting and hiding are well recognised issues in self-report surveys as participants tend to report in individually convenient and socially desirable ways.

CONCLUSION:

The respiratory infection such as COVID-19 is a disaster which can only be controlled by taking preventive measures by the general population. Although individual magnitude of preventive practices was high, people were not following all the prescribed preventive measures and this has made all the difference. Missing even a single practice might result into a coronavirus infection. In the past, Indians have never used face masks, hand sanitizers and physical/ social distancing on the daily basis so including these practices in day to day life has made people uncomfortable. There's a dearth of good quality low cost face masks in India. Policy makers should address this issue and the government should take steps to resolve the problem.

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