A descriptive study to assess the knowledge on use of face mask and adherence to the preventive measures of Covid-19 appropriate behavior among the people in selected rural area of Aurangabad district.

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Abstract

Problem statement : A descriptive study to assess the knowledge on use of face mask and adherence to the preventive measures of Covid-19 appropriate behavior among the people in selected rural area of Aurangabad district. **Introduction** :The Personal protective equipment refers to protective clothing or other garment designed to protect the wearers from injury by blunt impacts, electrical hazards chemicals and infection. Personal protective equipment is defined in the regulations as "all equipment which is intended to be worn or held by a person at work and which protects him against one or more risks to his health or safety. A face mask is a loose fitting and single use device that covers the nose mouth, and chin. It proves a physical barrier against potentially infectious droplet and is a simple and low cost non-pharmaceutical individual intervention for protecting oneself and preventing the spread of respiratory infections, health organizations worldwide recommend the use of face masks to prevent the spread of respiratory infections. **Research methodology :** The total 100 subjects were selected through simple random sampling technique. The Data was collected by means of self-administered structured closed ended knowledge questionnaire and a checklist scale. Data was analyzed by using descriptive and inferential statistics in terms of mean percentage by distribution and chi square tests for association. **Result: The study results shows that** The assessment in the level of knowledge of among rural population in which 42 people (42%) had good knowledge, 38 people (38%) had average knowledge whereas 20 people (20%) had poor knowledge. Regarding The assessment in (the level of adherence) to the preventive measures of covid-19 appropriate behavior in which 16 people (16%) had good level of adherence, 66 people(66%) had average level of adherence and 18 people (18%) had poor level of adherence. The Chi square test used to find out the association between knowledge scores and level of adherence to the preventive measures of covid-19 appropriate behavior of people of selected rural areas of Aurangabad district with the selected socio demographic variables by using contingency table. The Findings shows that there is a significant association between level of adherence to the preventive measures and selected socio demographic variables.

Introduction:

Personal protective equipment refers to protective clothing or other garment designed to protect the wearers from injury by blunt impacts, electrical hazards chemicals and infection. Personal protective equipment is defined in the regulations as "all equipment which is intended to be worn or held by a person at work and which protects him against one or more risks to his health or safety. A face mask is a loose fitting and single use device that covers the nose mouth, and chin. It proves a physical barrier against potentially infectious droplet and is a simple and low cost non-pharmaceutical individual intervention for protecting oneself and preventing the spread of respiratory infections, health organizations worldwide recommend the use of face masks to prevent the spread of respiratory infections.

Background of the study:

In December 2019, a previously unknown coronavirus strain disease, the coronavirus disease 2019 [COVID 2019] or severe acute respiratory syndrome coronavirus 2 [SARS Co V 2], emerged in Wuhan, China, and has rapidly spread worldwide, resulting in the 2019- 20 coronavirus pandemic. [9]

The virus primarily spreads between people through respiratory droplets, which are produced when an infected person coughs or sneezes or by touching contaminated objects and then touching their own mouth, nose, or possibly their eyes. [10]

Objective of the study

1. To assess the level of knowledge on use of face mask among the peoples in selected rural area of Aurangabad district.
2. To assess the level of adherence to the preventive measures of Covid-19 appropriate behavior among the peoples in selected rural area of Aurangabad district.
3. To find out relationship between knowledge and selected socio-demographic variables.
4. To find out the relationship between adherence to the preventive measures of Covid-19 appropriate behavior and selected socio-demographic variables.

Research Methodology

Research Approach : A Descriptive Approach

Research Design : A Descriptive study design

Research Setting : The Study was conducted in selected rural area of Aurangabad district.
Population :

POPULATION: The term "population" refers to aggregate or totality of the object,subject/ members that confirms to get specification.

TARGET POPULATION : In this study it comprises the peoples in selected rural area of Aurangabad district.

ACCESSIBLE POPULATION : It comprises the peoples in selected rural area of Aurangabad district

ASSUMPTION

The study based on the following assumption;

1. The peoples in selected rural area of Aurangabad district will have limited knowledge on the use of face mask and adherence to the preventive measures of covid-19 appropriate behavior.
2. The study will help to assess the knowledge on the use of face mask and adherence to the preventive measures of covid-19 appropriate behavior .

SAMPLE AND SAMPLE SIZE : In this study the sample size is (n=100) peoples in selected rural area of Aurangabad district.

SAMPLING METHOD : In this study, simple random sampling technique has been adopted to select the sample who fulfills the inclusive criteria.

VARIABLES UNDER THE STUDY :

Variables is a content that has measurable changing attributes. Variables are qualities, properties, or characteristics of persons, things, or situation that change.

1. DEPENDENT VARIABLES:

In this study, it refers to assess the knowledge on the use of face mask and adherence to the preventive measures of covid-19 appropriate behavior .

2. EXHANEOUS VARIABLES:

In this study socio-demographic variables refers to selected characteristics of rural population in Aurangabad district such as age, gender, religion, marital status, education, income, area of living.

CRITERIA FOR SAMPLE COLLECTION

The following criteria were set by the researcher for the selection of sample of rural people willing to participate in the study area of Aurangabad district.
Willing to cooperate throughout the study

- **Inclusion criteria:**

⌧   People of rural area of Aurangabad district.

⌧   Willing to participate in the study

⌧   Willing to cooperate throughout the study

- **Exclusion criteria:**

⌧   Rural people at the time of collection of data and unable to provide data.

⌧   Not Willing to cooperate throughout the study.

SELECTION OF TOOL:

A structured closed ended knowledge questionnaire was prepared by extensive review of literature on the basis of suggestions of guide and experts, with an aim to assess the knowledge of use of face mask and adherence to preventive measures of covid-19. The tool was validated by 21 experts in the field of Basic BSc Nursing Education. According to their suggestions a three point scale for assessing the covid-19 appropriate behaviour was added. The tool was modified according to the suggestion of the experts before implementing to the people of the rural area of Aurangabad district.

DEVELPOMENT OF TOOL:

The instrument divided into 3 parts:

Part-1

It consists of 8 items regarding the socio-demographic information of the subjects such as age, gender, religion, marital status, education, income, areaof living and have they used a face mask ever.

Part-2

Data was collected by means of Self-Administered Questionnaires with the use of close ended knowledge questionnaires. It consists of 25 knowledge items related to assess the use of face mask. These items were closed ended, multiple choice questions. A seeking system developed for the items each correct answer is assigned a score of one and wrong answer is zero. Total scoreis 25.

Part-3

It consists of a 3 point checklist scale. It includes 25 statements related to assess the adherence to the preventive measures of covid-19 appropriate behavior. These statements were positive and negative statements. Always wasgiven 3 marks, sometimes 2 marks and never 1 mark. Total score was75.

ETHICAL CONSIDERATION:

Before conducting the study, written Permission was taken from the gram panchayat of selected rural area of Aurangabad district.

FEASIBLITY OF THE STUDY:

According to "POLIT and BECK" 2008 feasibility help the researcher to determine if the sample understand the items and gives the direction are clear. The purpose is to reveal problems selected to answering and to point out weakness in administration, organization, distribution of the instrument.

There was no any difficulty in conducting the pilot study because permission was granted to conduct the study by respected authority from the gram panchayat of selected rural area of Aurangabad district, researcher established rapport with people easily and they were also co-operative and they were ready

to participate in the study and so this study was feasible from the point of view of researcher.

CONTENT VALIDITY:

According to BT Basavanthappa 2007 and Polity and Beck 2008 content validity refers to the degree to which the test actually measures or it"s specifically related to the traits for which it was design.[32]

Content validity for the self -structured knowledge questionnaire and checklist was established by sending the close ended questionnaire to expert from various field that is community health nursing and one from medical surgical nursing, statistician. The expert where selected based on experts.

experience, and interest in the problem being studied. They were requested to give their opinion on the appropriateness and relevance of all the items in the tool as a whole suggestions and comments of experts included in addition and deletion of some items. The tool was found to be relevant. The necessary modification has been done as per the expert advice.

RELIABILITY:

Reliability has to be with quality of measurement. In its everyday senses, reliability is the consistency or repeatability Reliability is the consistency of set of measurement or measuring instrument. After establishing the validity of the tool to be used for the study, the final tool was made and then reliability of the tool was checked.

In order to establish reliability of the tool it was administered to 13 People. The score was calculated by Guttmann"s split half method. The reliable coefficient [r] was calculated and the score is equal to 0.9031, if score is greater than 0.70 then the test is reliable [r=0.9491]. Thus, the tool was found reliable.

PILOT STUDY:

According to boswellcarlo, Canon Sharon (2007), a pilot study is a miniature edition, or a trial run, completed prior to the implementation of the major study. The purpose of pilot study is to prevent an expensive fiasco- the misfortune of undertaking a costly nut flawed large scale study.[33]

The permission was obtained from the Dean Sir & Matron Sir of selected hospital to conduct pilot study. The study was conducted on 13 subjects. The subject was chosen based on criteria. The aim of pilot study was described. The knowledge questionaries" test was conducted on 22 & 23 Aug 2021.

PROCEDURE FOR DATA COLLECTION:

The permission was obtained from the gram panchayat of selected rural area of Aurangabad district to conducted the study. The collection of data was carried out from 22nd August to 25th August. The investigator administered the tool to those who are willing to participate after introducing & explaining purpose of study. The investigator administered knowledge questionnaire to assess their knowledge regarding the use of face mask.

PLAN FOR DATA ANALYSIS:

Statistical analysis is the systematic organization & synthesis of research data and the testing of research assumption using those data. The data obtained was analysed using both descriptive and inferential statistics on the basis of objectives and assumption of the study.

The data analysis plan as follow

➢ Organization of information in mastersheet.

➢ Analysis of demographic data by frequency and percentage.

➢ Chi square test is used to determine the significant association between knowledge & socio demographic variables.

SUMMARY:

This chapter deals with the research approach, research design, variable, schematic representation of the study, population sample and sampling technique, inclusive and exclusive criteria, tool/instrument development, selection of the tool, content validity, reliability of tool, pilot study, data collection process, and plan for data analysis.

Result

Section-I: Distribution of rural people in relation to socio-demographic databy using frequency and percentage.

Sr. No	Demographic variable	Category	Frequency	Percentage (N = 100)
1)	Age	Below 20 years	08	08%
		21- 30 years	24	24%
		31-39 years	26	26%
		40 years and above	42	42%
2)	Gender	Male	63	63%
		Female	37	37%
		Other	0	0%

| 3)	Religion	Hindu	100	100%
		Muslim	0	0%
		Christian	0	0%
		Other	0	0%
4)	Marital status	Married	87	87%
		Unmarried	13	13%
5)	Educational status	Illiterate	26	26%
		Primary	22	22%
		Secondary	40	40%
		Graduate	12	12%
6)	Annual income	Below -1.5 lakhs	82	82%
		1.5-2lakhs	15	15%
		2.1 -2.5 lakhs	01	01%
		2.6 lakhs & above	02	02%
7)	Area of living	Urban	0	0%
		Rural	100	100%
8)	Have you ever used a face mask	Yes	100	100%
		No	0	0%

The above mentioned table indicates that Regarding age majority 42 people (42%) belongs to 40 years and above, 26 people .Regarding gender majority 63people (63%) are male and 37 people (37%) are female Regarding religion majority 100 people (100%) belongs to Hindu and 0 people (0%) were Muslim, Christian or other caste .Regarding marital status majority 87 people (87%) are married. Regarding educational status majority 40 people (40%) were secondary educate, 26 .Regarding annual income majority 82 people (82%) were having below 1.5 lakhs, 15 people .Regarding area of living 100 people (100%) were living in rural area. Regarding have they ever used a face mask about 100 people (100%) had used face mask.

Section II: Knowledge score of rural people by using frequency and percentage

Level of Knowledge	Range of Score	No of rural population	Percentage (N=100)
Good	**14 and above**	**42**	**42%**

Average	11 to 13	38	38%
Poor	Below 10	20	20%

Knowledge Score
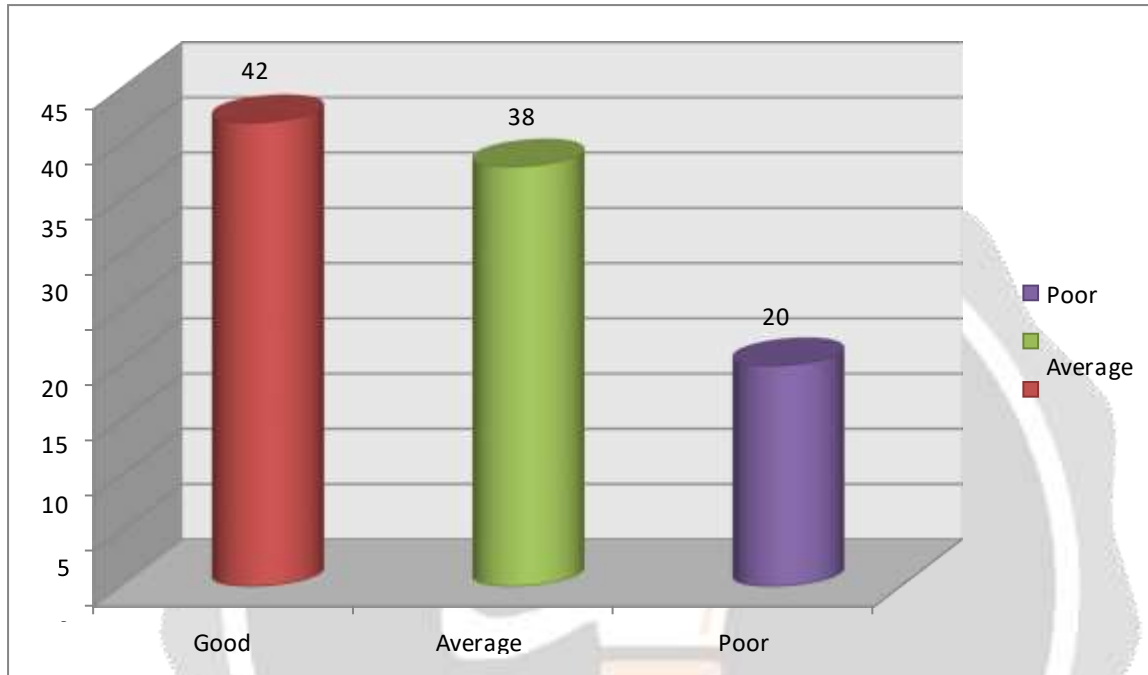
Above table shows the percentage distribution according to level of knowledge among rural population in which 42 people (42%) had good knowledge, 38 people (38%) had average knowledge, whereas 20 people (20%).

Section III: Association to find out knowledge score with selected demographic variables by using chi square test of association.

Sr. No	Demographic Variables	Total samples	Poor	Average	Good	Chi Square Value	DOF	P Value	Significance
1.	**Age in years**								
	Below 20 years	08	01	03	04				
	21 to 30 years	24	03	10	11	3.14	06	0.79	NS
	31 to 39 years	26	07	11	08				
	40 years and above	42	10	14	18				

|								
2.	**Gender**							
	Male	63	14	23	25			
	Female	37	07	15	15	0.22	04	0.39	NS
	Other	00	00	00	00			
3.	**Religion**							
	Hindu	100	20	38	42			
	Muslim	00	00	00	00	1.39	02	0.49	NS
	Christian	00	00	00	00			
	Other	00	00	00	00			
4.	**Marital status**							
	Married	87	63	23	48	0.37	02	0.82	NS
	Unmarried	13	03	04	06			
5.	**Educational status**							
	Illiterate	26	04	06	16			
	Primary	22	06	08	16	3.62	06	0.72	NS
	Secondary	40	06	10	24			
	Graduate	12	04	04	04			

The table 4 describes that, association of knowledge among rural population with their demographic variables age, gender ,religion , marital status, educational status, annual income, area of living and have they ever used a face mask.

Section IV: Level of adherence to the preventive measures of covid-19 appropriate behavior.

Level of adherence	Range of score	No of rural population	percentage
Good	67 and above	16	16%
Average	55 to 66	68	68%
Poor	Below 54	16	16%

LEVEL OF ADHERANCE
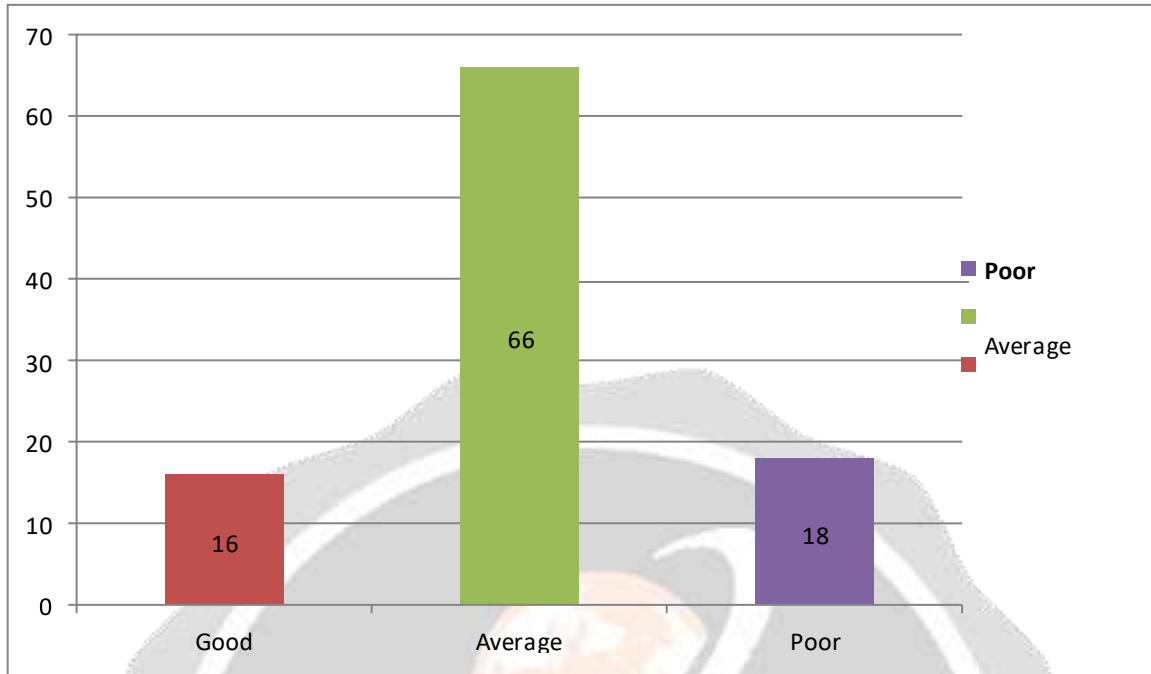
Above table and graph shows that the percentage distribution of level of adherence to preventive measures of covid-19 appropriate behavior in which 16 people (16%) had good level of adherence, 66 people (66%) had average level of adherence whereas 18 people (18%) had poor level of adherence.

Section V: Association to find out level of adherence with selected demographic variables by using chi square test of association.

N=100

Sr. No	Demographic Variables	Total samples	Poor	Average	Good	Chi Square Value	DOF	P Value	Significance
1.	**Age in years**								
	Below 20 years	08	02	02	04				
	21 to 30 years	24	05	07	12	13.1	06	0.04	SIGNIFICANT
	31 to 39 years	26	08	03	15				
	40 years and above	42	04	25	33				
2.	**Gender**								
	Male	63	14	41	08				

	Female	37	03	15	19	18.13	04	0.005	SIGNIFICANT
	other	00	00	00	00				
3.	Religion								
	Hindu	100	19	66	15				
	Muslim	00	00	00	00	0.51	02	0.77	NS
	Christian	00	00	00	00				
	Other	00	00	00	00				
4.	**Marital status**								
	Married	87	17	01	69	74.82	02	0	SIGNIFICANT
	Unmarried	13	01	11	01				
5.	**Educational status**								
	Illiterate	26	01	09	16				
	Primary	22	07	03	12	8.29	06	0.21	NS
	Secondary	40	10	10	20				
	Graduate	12	03	04	05				

The table 5 describes that, Three is association of level of adherence among rural population with their demographic variables age, gender, religion, marital status, educational status, annual income, area of living and have they ever used a face mask. In order to compare the association between knowledge & socio-demographic variables chi –square was computed.

The chi- square value of the demographic variables such as age in years (13.1), gender (18.13) marital status (74.82) with level of adherence score less than 0.05 level, it depicts that there is association between level of adherence and above selected demographic variables.

The chi- square value of the demographic variables such as religion (0.51), educational status (8.29), annual income (9.57), area of living (0.51), and have they ever used a face mask (0.51) with level of adherence score more than 0.05 level, it depicts that there is no association between level of adherence and above selected demographic variables.

Interpretation and conclusion:

The study concluded that there is a need to require focus on rural people regarding the knowledge of use of face mask and adherence to the preventive measures of covid- 19 appropriate behavior and there is no association between knowledge and selected socio demographic variables and association between level of adherence to the preventive measures and selected demographic variables.

CONCLUSION

The present study concludes that Percentage distribution of level of knowledge of among rural population in which 42 people (42%) had good knowledge, 38 people (38%) had average knowledge whereas 20 people (20%) had poor knowledge. Regarding Percentage distribution of level of adherence to the preventive measures of covid-19 appropriate behavior in which 16 people (16%0 had good level of adherence, 68 people (68%) had average level of adherence and 16 people (16%) had poor level of adherence. The Association of knowledge among rural population with their demographic variables age, gender, religion, marital status, educational status, annual income, area of living and have they ever used a face mask. In order to compare the association between knowledge & socio-demographic variables chi –square was computed. The chi- square value of the demographic

variables such as ; age (3.14), gender(0.22), religion (1.39), marital status(0.37), educational status(3.62), annual income(5.25), area of living(1.36) and have they ever used a face mask(1.36) with knowledge score more than 0.05 level, it depicted that there is no association between knowledge and above selected demographic variables.

Recommendation

ϒ A similar study may be conducted to compare knowledge of urban and rural population.

ϒ A similar study can also replicate on large sample.

ϒ A study can be conducted by selecting experimental and control group for study.

ϒ A study can be conducted to observe significant changes in practice of rural people after providing them adequate knowledge regarding the use of face mask and preventive measures of covid-19 appropriate behavior.

ϒ Interventional studies can be conducted in different community settings about the use of face mask and preventive measures of covid-19 appropriate behavior.

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