A survey to assess the knowledge and expressed practices regarding covid 19

Author name(s):
Diksha Thakur [1]
Manisha Saklani[2]
Dr. Jyoti Sarin[3]

Author(s) affiliations:

[1] Nursing Tutor, Maharishi Markandeshwar Deemed to be University, Mullana, Ambala, Haryana.

[2]Assistant Professor, Maharishi Markandeshwar Deemed to be University, Mullana, Ambala, Haryana.

[3]Principal, Maharishi Markandeshwar Deemed to be University, Mullana, Ambala, Haryana.

Author's contribution

[1,] Concepts, design, and definition of intellectual content, data collection, data analysis, manuscript preparation and manuscript review.

[2,] Concepts, design, and definition of intellectual content

[3]Content review and logistic support, documentation and data acquisition.

Corresponding Author:

Dr. (Mrs.) Jyoti Sarin
Dean- Principal,
MM College of Nursing,
Maharishi Markandeshwar Deemed to University Mullana, Ambala, Haryana.

ABSTRACT

Objectives: To assess the knowledge and expressed practices regarding Covid 19 and it's prevention among residents of selected communities of Ambala, Haryana.

Methods: The research include quantitative research design approach. The study was conducted at Barara, Ambala, and Haryana. The residents were selected from the community of Barara using convenience sampling technique. The sample size is (n=200). The tool used for the study consisted of demographic variable (8 items), structured knowledge questionnaire (n=28 items) to assess the knowledge regarding covid 19 and its prevention

and structured expressed practices checklist (n=10 items) to assess the practices regarding covid 19 prevention. Reliability of the tool was established by crohnbach alpha for standard tool the formula used id KR-20 accepted value is (0.7-1) and calculated value is (0.74). The data collection was done during the period of April- May 2023.

Results: The study comprises of level of expressed practices (76.5%) good, 19.5% very good, 4% poor. There was no association between the knowledge and expressed practices of residents variables and level of knowledge below average (8.0%), average (52.5%),good (34.5%),very good (5%).

Conclusion: More than half of residents had average level of knowledge and good expressed practices regarding covid 19 and its prevention.

Keywords: Residents, knowledge and prevention of covid 19.

Introduction

Coronavirus disease 2019 (COVID-19) is defined as an illness caused by a novel coronavirus, now called Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV). COVID-19 is an emerging respiratory infection that was first discovered in December 2019, in Wuhan city, Hubei Province, China. SARS-CoV-2 belongs to the larger family of ribonucleic acid (RNA) viruses, leading to infections, from the common cold, to more serious diseases, such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV) . The main symptoms of COVID-19 have been identified as fever, dry cough, fatigue, myalgia, shortness of breath, and dyspnoea. Most of the initial cases found had a travel history to the Hunan wholesale seafood market which also sold live animals. The transmission of COVID-19 occurs mainly through respiratory droplets during coughing and sneezing. The studies suggest that asymptomatic patients also transmit the virus . These respiratory droplets may spread from 1 m to 2 m and get deposited on various surfaces, where they can remain viable for days. Infection is acquired either by inhalation of droplets or touching a contaminated surface and then touching the nose, mouth, or eyes[.1]

Coronavirus is very contagious and spread quickly. Over 1 million people have died from covid 19 in the United States. Covid 19 most often causes respiratory system that can much feel like a cold, flu or pneumonia. Covid 19 may attack more on respiratory system. Other parts of body may also be affected by disease. Most people with covid 19 have mild symptoms, but some people become severely ill.[2]

Coronaviruses mostly cause gastrointestinal and respiratory tract infections and are inherently categorized into four major types:- Gammacoronavirus, Deltacoronavirus, Betacoronavirus and Alphacoronavirus. The first two types mainly infect birds, while the last two mostly infect mammals. For about 18,738,58 laboratory confirmed cases recorded as of 2nd week of April 2020, the maximum number of cases was between 30 and 69 years of

age. Among the recorded cases, 21.6% are farmers or employees by profession, 51.1% are male and 77.0% are Hubei.[3]

The proposed method for the routine confirmation of infected cases and detection of SARSCoV-2 by WHO (WHO, 2020a) and the Food and Drug Administration (FDA) (FDA, 2020) is reverse transcription polymerase chain reaction (RT-PCR), which is one of the nucleic acid amplification tests (NAATs). NAATs are molecular tests that target specific nucleic acid sequences of the pathogen to identify its presence in the obtained sample from the suspected patient. The SARS-CoV-2 NAAT targets specific viral genes, such as the nucleocapsid (N) gene, the envelope € gene, the S gene, and RNA dependent RNA polymerase (RdRP) gene, from the respiratory tract of the suspected patient and then amplifies the virus RNA using molecular techniques including real-time reverse transcription polymerase chain reaction (rRTPCR). illustrates the SARS-CoV-2 structure and its proteins.[4]

Currently, a variety of therapeutic options are available that include antiviral drugs (e.g., molnupiravir, paxlovid, remdesivir), anti-SARS-CoV-2 monoclonal antibodies (e.g. Bamlanivimab/etesevimab, casirivimab/imdevimab, sotrovimab, bebtelovimab), anti-inflammatory drugs (e.g., dexamethasone), immunomodulators agents (e.g., baricitinib, tocilizumab) are available under FDA issued Emergency Use Authorization(EUA) or being evaluated in the management of COVID-19.[5]

Limited studies have been conducted on knowledge and expressed practices regarding covid 19. Screening and assessments as a routine measure should be done. Therefore it is necessary to assess the occurrence of covid 19, administer covid 19 prevention and management program. Thus, this study is aimed at to evaluate the knowledge and expressed practice regarding covid 19 of selected community of Ambala, Haryana.

METHODS

OBJECTIVE: To assess the knowledge and expressed practices regarding Covid 19 and it's prevention among residents of selected communities of Ambala, Haryana.

Population and Sample

The sample for the present study were the Residents of selected communities of Ambala, Haryana. The choice of sampling technique depends on the nature of problem, the kind of variable included in the study, the type of research and number of sampling units. A form of non-probability sampling in which decisions concerning the individuals to be included in the sample are taken by the researcher, based upon a variety of criteria which may include specialist knowledge of the research issue, or capacity and willingness to participate in the research. Some types of research design necessitate researchers taking a decision about the individual participants who would be most likely to contribute appropriate data, both in the terms of relevance and depth. The convenient sampling technique was used to select the sample for the study. Convenience sampling technique is a non-probability sampling method where units are selected for inclusion in the sample because they are the easiest for the researcher to access.

Sample Size:- sample is 200 based on previous research evidence.

Data and Sources of Data

The data collection was done during the period of November to December 2019. In comparison group pre assessment of selected variables, clinical variables and delirium scores were done. Daily assessment of delirium scores were done till 6th day. 2nd day to 4th day routine care was provided. Post test was conducted at 5th day. In experimental group on day one pre assessment of selected variables, clinical variables and delirium scores were done. Daily assessment of delirium scores were done till 6th day. 2nd day to 4th day Multicomponent program was administered. Multicomponent program consist of (orientation, sensory stimulation by music therapy, mobilization, cognitive stimulus, sleep promotion). Post test was conducted at 5th day. Attrission of 14 patients in experimental group and 12 patients in comparison group due early discharge. Data analysis was done using both descriptive and inferential statistics i.e. "t" test, Repeated Measures ANOVA

Theoretical Framework

The conceptual framework in this study is based on Betty Neuman Model, aimed at to assess the effectiveness of Multicomponent program on prevention of delirium, among critically ill patients admitted inICUs (Deemed to be University) Mullana, Ambala.

Betty Neuman's System Model provides a comprehensive, holistic and system- based approach to nursing that contains an element of flexibility. The theory focuses on the response of the patient system to actual or potential environment stressors and the use of primary, secondary, and tertiary nursing prevention intervention for retention, attainment and maintenance of patient system wellness.

DATA ANALYSIS

According to the objectives and hypotheses of the study and opinion of experts was planned to organize, tabulate and interpret the data by using both descriptive and inferential statistics i.e. Mean, Median and standard deviation, and "t" test, Repeated Measures ANOVA.

RESULTS AND DISCUSSION

The Kolmogorov- Smirnov test was applied to check the normality of data distribution between the samples regarding prevention of delirium among critically ill patients and scores of delirium in pre test (p=) was normally distributed as calculated K-S value was not significant at 0.05 level of significance. Hence parametric test was applied for both comparison and experimental group.

Comparison of experimental and comparison group in terms of socio demographic and clinical variables

TABLE 1. Frequency and Percentage Distribution of Residents in terms of Demographic Variables

SOCIO DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENT (%)
1.Age		
1.1 23-30 years	74	37
1.2 31-38 years	48	24
1.3 39-46 years	52	26
1.4 > 47 years	26	13
2. Gender		
2.1 Male	106	53
2.2 Female	94	47
3.Marital status		
3.1 Married	138	69
3.2 Unmarried	59	29.5
3.3 Separate/divorced	0	0
3.4 Widow	3	1.5
4. Educational status		
4.1 No formal education	0	0
4.2 Primary	15	7.5
4.3 Up to 10th standard	53	26.5
4.4 Up to higher secondary	57	28.5
4.5 Graduate and Above	75	37.5
5.Occupation		
5.1 Unemployed	47	23.5
5.2 Home maker	46	23.0
5.3 Self employed	39	19.5
5.4 Private job	47	23.5
5.5Government job	21	10.5
6.Religion		
6.1 Hindu	168	84
6.2 Muslim	3	1.5
6.3 Sikh	29	14.5
6.4 Christian	0	0
6.5 Others	0	0
7.History of Covid 19		
7.1 Yes	36	18
7.2 No	164	82
8.Family history of Covid 19		
8.1 Yes	57	28.5

8.2 No	143	71.5
8.3 If yes , then specify	0	0

N=200

NS – Non significant (p>0.05)   *-Significant (p≤0.05)

TABLE 2. Range, Mean, Standard Deviation and Median of Knowledge Scored of Residents.

Test	Range	Mean+standard deviation	Median
Knowledge	3-28	12.46+4.12	13.00

N=200

NS – Non significant (p>0.05)   *-Significant (p≤0.05)

TABLE 3. Frequency and percentage distribution of residents in term of level of knowledge regarding Covid 19

Level of Knowledge	Range of score	Frequency	Percentage (%)
Below average	1-6	16	8.0
Average	7-13	105	52.5
Good	14-19	69	34.5
Very good	20-28	10	5

N=200

NS-Non significant(p>0.05)   *Significant(p≤0.05)

TABLE 4. Range, mean, standard deviation &median of expressed practices of residents regarding covid 19

N=90

Test	Range	Mean + standard deviation	Median
Expressed practices	3-9	6.15+1.47	6.00

NS- Non significant (p>0.05)   *Significant (p≤0.05)

TABLE 5. Frequency and percentage distribution of residents in terms of level of expressed practices regarding covid 19

Level of expressed practices	Range of score	Frequency	Percentage (%)
Poor	1-3	8	4

Good	4-7	153	76.5
Very good	>7	39	19.5

[NS] Non significant (p>0.05)　　　　　　　　　　　　　　　　[*]Significant (p<0.05)

TABLE 6. One way ANOVA and T TEST Value Showing Association Between knowledge Score and Socio Demographic Variables of Residents Regarding covid 19.

Socio demographic variables	f(%)	Mean	df	F/t	P value
1.Age					
1.1 23-30 years	74(37%)	12.26			
1.2 31-38 years	48(24%)	14.50	3/196	0.71	0.04*
1.3 39-46 years	52(26%)	11.88			
1.4 >47 years	26(13%)	10.32			
2.Gender					
2.1 Male	106(53%)	12.40	198	0.21	0.83[NS]
2.2 Female	94(47%)	12.52			
3. Marital status					
3.1 Married	138(69%)	12.56			
3.2 Unmarried	59(29.5%)	12.27	3/196	0.21	
3.3Separated/Divorce	0(0%)	0			0.81[NS]
3.4 Widow	3(1.5%)	11.33			
4. Educational status					
4.1No formal education	0(0)%	0			
4.2Primary	15(7.5%)	11.7			
4.3Up to 10th standard	53(26.5%)	11.02	4/195	0.73	0.04*
4.4Up to higher secondary	57(28.5%)	12.82			
4.5 Graduate and above	75(37.5%)	13.47			
5.Occupation					
5.1 Unemployed	47(23.5%)	11.79			
5.2 Home maker	46(23.0%)	12.22			
5.3 Self employed	39(19.5%)	11.90	4/195	0.87	0.18[NS]
5.4 Private job	47(23.5%)	13.64			
5.5Government job	21(10.5%)	12.86			
6.Religion					
6.1 Hindu	168(84%)	12.48			
6.2 Muslim	3(1.5%)	3.43	4/195	1.47	0.14[NS]
6.3 Sikh	29(14.5%)	9.00			
6.4 Christian	0(0%)	0			
6.5 Others	0(0%)	0			

7.History of covid 19					
7.1 Yes	36(18%)	12.19	198	0.41	0.06^{NS}
7.2 No	164(82%)	12.51			
8.Family history of covid 19					
8.1 Yes	57(28.5%)	11.88			
8.2 No	143(71.5%)	12.69	198	1.25	0.21^{NS}
8.3 If yes ,then specify	0(0%)	0			

N=200

^{NS}-Non significant (p>0.05)　　　　　　　　*Significant (p≤0.05)

TABLE 7. One way ANOVA and t test Value Showing Association Between mean score of Expressed Practices and Socio Demographic Variables of Residents Regarding Covid 19

Socio demographic variables	f(%)	Mean	df	F/t	P value
1.Age					
1.1 23-30 years	74(37%)	6.34	3/196	0.42	0.52^{NS}
1.2 31-38 years	48(24%)	6.13			
1.3 39-46 years	52(26%)	6.02			
1.4 >47 years	26(13%)	5.9			
2.Gender					
2.1 Male	106(53%)	6.03	198	1.24	0.21^{NS}
2.2 Female	94(47%)	6.29			
3. Marital status					
3.1 Married	138(69%)	6.10	3/196	0.28	0.75^{NS}
3.2 Unmarried	59(29.5%)	6.27			
3.3Separated/Divorce	0(0%)	0			
3.4 Widow	3(1.5%)	6.00			
4. Educational status					
4.1No formal education	0(0)%	0			
			4/195	1.34	0.26^{NS}
4.2Primary	15(7.5%)	5.47			
4.3Up to 10th standard	53(26.5%)	6.26			
4.4Up to higher secondary	57(28.5%)	6.09			
4.5 Graduate and above	75(37.5%)	6.25			

5.Occupation					
5.1 Unemployed	47(23.5%)	6.49			
5.2 Home maker	46(23.0%)	6.04	4/195	1.5	0.19[NS]
5.3 Self employed	39(19.5%)	5.47			
5.4 Private job	47(23.5%)	6.17			
5.5Government job	21(10.5%)	6.33			
6.Religion					
6.1 Hindu	168(84%)	6.24			
6.2 Muslim	3(1.5%)	5.00	4/195	0.13	0.84[NS]
6.3 Sikh	29(14.5%)	5.72			
6.4 Christian	0(0%)	0			
6.5 Others	0(0%)	0			
7.History of covid 19					
7.1 Yes	36(18%)	6.67	198	2.35	0.20[NS]
7.2 No	164(82%)	6.04			
8.Family history of covid 19					
8.1 Yes	57(28.5%)	6.44	198	1.75	0.80[NS]
8.2 No	143(71.5%)	6.00			
8.3 If yes ,then specify	0(0%)	0			

N=200

[NS]- Non significant (p>0.05)   *significant (p≤0.05)

TABLE 8. Correlation between knowledge and expressed practices of residents regarding covid 19.

Variables	Knowledge	Practices
Knowledge	1	0.18
Expressed practices	0.18	1

N=90

[NS]-Non significant (p>0.05)   *Significant (p≤0.05)

DISCUSSION

Findings related to socio demographic variables of the experimental groups.

In the present study the (37%) residents were having age group of 23-30 years .The prevalance of Covid 19 among all the religions is 16.6%. These findings were contradictory with the study conducted by Doernberg SB, Holubar M, Jain V, Weng Y, Lu D, Bollyky JB, Sample H, Huang B, Craik CS, Desai M, Rutherford GW, Maldonado Y; in oct 2022. In the study ,a total of 2435 HCWs contributed 768 person-years of follow-up time. 21 of 2435 individuals with prevalent infection, resulting in a baseline prevalence of 0.86% (95% confidence interval [CI], .53%-1.32%). 70 of 2414 incident infections (2.9%), yielding a cumulative incidence rate of 9.11 cases per 100 person-years (95% CI, 7.11-11.52). Community contact with a known COVID-19 case was most strongly correlated with increased hazard

for infection (hazard ratio, 8.1 [95% CI, 3.8-17.5]). High-risk work-related exposures (ie, breach in protective measures) drove an association between work exposure and infection (hazard ratio, 2.5 [95% CI, 1.3-4.8). More cases were identified in HCWs when community case rates were high. The difference between these study and other study may be due to the study setting.[6]

Finding related to assess the knowledge and practices regarding prevention of covid 19 among residents of selected communities.

In the present study the result reveals that (52.5%) residents were having average level of knowledge and (76.5%) residents were having good level of expressed practices. These findings are contradictory with study conducted by Seema rani, Suchhanda Bhattacharya, Akansha john, Priyanka Dagar in December 2019. In the study the result revels that most of the subjects (98.8%) were having adequate knowledge and majority (99.8%) had appropriate expressed practice regarding covid 19.

Findings related to covid 19 among residents of India.

In the present study the result reveals the (52.5%) residents having average level of information regarding covid 19 .total sample size is 200. These findings are contradictory with study conducted by Piyoosh kumar singh, Anup anvikar, Abhinav Sinha in may 2020. This cross sectional study was carried out among 501 respondents .The mixed (quantitative and qualitative) methods were employed to evaluate KAP dimensions. High knowledge and positive attitude were reported in more than half of the study population, with a proportion of 58.6% and 62.1%, respectively. Education shows a significant difference in the knowledge and attitude dimensions. The good practice (50.5% of the total population) reported a significant difference in age and gender categories with the test of independence ($\chi2$). Prevention (56.89%) in knowledge domain and risk (17.56%), information-seeking (45.51%), prevention (51.50%), and treatment-seeking (54.29%) in attitude domains recorded low proportion. sKAP variables were found in association in Pearson correlation analysis. In logistic regression analysis, knowledge was the strongest predictor for the positive attitude, whereas attitude was reported as the best predictor for good practice outcome. The study presents a moderate level of covid related knowledge, Attitudes, and Practices in Indian population.[7]

IMPLICATIONS

- Nursing implications usually includes specific suggestions for nursing practices , nursing education, nursing research and nursing administration . Nursing implications in the study are enlisted below.

NURSING PRACTICE

Nurses can learn to assess knowledge regarding prevention of Covid 19 by using structured knowledge questionnaire on residents and magnify the importance to plan out the program depending on needs of residents in various settings. Health education is an important aspect of nursing practice. Nurses working in the hospital can provide information regarding preventive measures related to covid 19. Nurses should learn to assess the severity of sign and symptoms of covid 19.

NURSING EDUCATION

- Educate the nursing personnel to update their knowledge and skills in assessing the residents.
- Prepare the nursing students to develop the skills in identifying the signs and symptoms of Covid 19 among residents.

- Educate the nursing students to develop the skills in identifying the signs of complications related to covid 19 among residents.
- Nurse educators should design health education material for family members on prevention of covid 19.

NURSING ADMINISTRATION

- Nurse administration has to make provision to promote health education with Audio Visual Aids regarding prevention of Covid 19.
- In service education program and continuing education program can conducted for the nurses on this specialization with Covid 19 to update their knowledge.
- Nurse administration should also organize workshops on assessment and ways to reduce incidence of covid 19 among residents of community.

NURSING RESEARCH

- Adds to the research review about the importance of prevention for Covid 19 among community people

- Conduct further research in a different settings by using the above findings as a baseline data to expand the scientific body of professional knowledge

- The findings will help in the practice aspect to expand the role of nurse.

LIMITATIONS

- The study was confined to a specific geographical area only by selecting residents of Ambala, Haryana which imposes limitations to any large generalization.
- The data was collected from 200 samples to find out the awareness. It could be done on more samples for the larger generalization.

CONCLUSION

The finding of study shows that Multicomponent Program was effective decreasing the level of delirium between experimental and comparison group as there is significant difference between both the groups. Multicomponent Program was effective decreasing the level of delirium within the groups as there is significant difference within the experimental group.

ACKNOWLEDGMENTS

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Ethical Consideration:

Formal administrative approval was obtained from the Hospital to conduct the final study (Ethical no. IEC-1508).The study was carried out in accordance with the guidelines laid by Indian Council of Medical Research. Research participants were enrolled in the study after written informed consent and they were assured about the confidentiality of their response.. Purpose of the study was explained to the sample subjects before data collection.

Conflict of Interest: The authors declared no potential conflicts of interest.

Authors Contribution: [1] M.Sc. Nursing Tutor, Department of Medical Surgical Nursing, M.M. College of Nursing, Maharishi Markandeshwar Deemed to be University, Mullana, Ambala, Haryana, [2]RN. RM. MN. Ph.D. (Nursing)Dean- Principal, M.M. College of Nursing, Maharishi Markandeshwar Deemed to be University, Mullana, Ambala, Haryana.[3]RN. RM. M.Sc. (Nursing) Assistant Professor, Department of Community Health Nursing, M.M. College of Nursing, Maharishi Markandeshwar Deemed to be University, Mullana, Ambala, Haryana. [4]MD, FICP, FIACM. Principal Maharishi Markandeshwar Institute of Medical Sciences and Research, Maharishi Markandeshwar Deemed to be University, Mullana, Ambala, Haryana, India.

REFRENCES

1. Agarwal KM, Mohapatra S, Sharma P, Sharma S, Bhatia D, Mishra A. Study and overview of the novel corona virus disease (COVID-19). Sens Int [Internet]. 2020;1(100037):100037. Available from: https://www.sciencedirect.com/science/article/pii/S2666351120300371

2. CDC. About COVID-19 [Internet]. Centers for Disease Control and Prevention. 2023 [cited 2023 Jun 30]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/your-health/about-covid-19.html

3. Fong SJ, Dey N, Chaki J. An Introduction to COVID-19. In: Artificial Intelligence for Coronavirus Outbreak. Singapore: Springer Singapore; 2021. p. 1–22.

4. Taleghani N, Taghipour F. Diagnosis of COVID-19 for controlling the pandemic: A review of the state-of-the-art. Biosens Bioelectron [Internet]. 2021;174(112830):112830. Available from: https://www.sciencedirect.com/science/article/pii/S0956566320308162

5. Cascella M, Rajnik M, Aleem A, Dulebohn SC, Di Napoli R. Features, evaluation, and treatment of Coronavirus (COVID-19). StatPearls Publishing; 2023.

6. Huynh G, Nguyen MQ, Tran TT, Nguyen VT, Nguyen TV, Do THT, et al. Knowledge, attitude, and practices regarding COVID-19 among chronic illness patients at outpatient departments in Ho Chi

Minh City, Vietnam. Risk Manag Healthc Policy [Internet]. 2020;13:1571–8. Available from: http://dx.doi.org/10.2147/RMHP.S268876

7.　　　Shrestha A, Thapa TB, Giri M, Kumar S, Dhobi S, Thapa H, et al. Knowledge and attitude on prevention of COVID-19 among community health workers in Nepal-a cross-sectional study. BMC Public Health [Internet]. 2021;21(1):1424. Available from: http://dx.doi.org/10.1186/s12889-021-11400-9