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Assessment of knowledge and practices regarding prevention of COVID-19 among adults residing in selected urban community Paschim Medinipur West Bengal

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Abstract

A descriptive survey study was conducted (2022) on assessment of knowledge and practices regarding prevention of COVID-19 among adults residing in selected urban community, Paschim Medinipur, West Bengal with the objectives to assess the knowledge, to identify the practices, to find out the correlation between knowledge and practices, to determine the association between knowledge and practices with selected demographic variables. 110 participants were selected by systematic random sampling technique. Semi structured and structured interview schedule, structured three point rating scale tools were used for collect data. The study findings revealed that 49.09% and 47.27% respondents had good knowledge and good practice score respectively regarding prevention of COVID-19. There were strong positive correlation ($r = 0.718$) between knowledge and practices at 0.01 level of significance. There were significant association between knowledge with educational status, monthly income of family and history of suffering from COVID-19 of family members and practices with type of family, educational status of respondents at 0.05 level. All respondents get information regarding COVID-19 and vaccinated. The study can be replicated in large population.

Keywords: Knowledge, practice, COVID-19, adults, urban community

Introduction

COVID-19 is a Severe Acute Respiratory Syndrome caused by an RNA virus, SARS-Cov-2 which was belonging from the Corona viridian family. In 21st century there are so many diseases which broke out throughout the world, i.e. SARS in 2003, H1N1 in 2009-2010, Ebola in 2014-2016 & 2018-2019 and Zika in 2015-2016. First corona virus was detected in the city of Wuhan in china on 31st December 2019 [1]. COVID-19 is transmitted through respiratory droplets when an infected person is coughing and sneezing [2].

Clinical signs and symptoms of COVID-19 are fever, dry cough, myalgia, fatigue and dyspnea. In advance stage or in some cases it can cause Acute Respiratory Distress Syndrome (ARDS), septic shock, bleeding, coagulation dysfunction and metabolic acidosis which leads to fatal outcome [3].

As it is an infectious disease, it becomes a major public health threat. On 30th January 2020 World Health Organization (WHO) declared COVID-19 is a "Public Health Emergency of International Concern" and on 11th March 2020 WHO further declared that COVID-19 is a pandemic disease. There have been around 30 million COVID-19 cases as of September 2020 [3].

People according to their different culture and geographies are reacting differently to combat this pandemic situation. Understanding of people knowledge, perception and reaction regarding this situation may help effective communication to combat this pandemic situation and encourage adherence with prescribed Government guidelines [4].

India reported the 1st case of COVID-19 on 30th January 2020 at Trissur, Kerala [5].

Since there is no proven treatment to combat this disease, preventive measures play an important role for breaking the chain and preventing the spread of infection. India is the 2nd country in respect of population of the world and faces a unique challenges to control the spread of disease [6].

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When some public health interventions and strategies aim to protect health for all, then attention must be given to vulnerable populations. Knowledge and practices survey are commonly used to identify the gap among socio demographic variables to implement effective public health interventions. Socio demographic variables or social determinants were directly and indirectly influencing to practice preventive behaviours. People who are living in poor socioeconomic condition showed mortality and morbidity rate of COVID-19 considerably significant [7].

World Health Organization advised all countries all over the world to follow the recommended behaviors to decrease the rate of transmission of COVID-19, which further help to bring down the burden of health care delivery system. These behavioral measures include – Hand washing with soap and water frequently, hand rub with alcohol based sanitizer when water is not available, social distancing for 2 feet, avoid touching of mouth, nose, eyes without washing hand, respiratory hygiene, international and internal travel related restrictions etc [8].

Public adherence related to preventive measures which is established by WHO is the main focus. The adherence mainly depends on the knowledge of the public regarding COVID-19 or corona virus infection and practices regarding prevention of COVID-19. Assessment of knowledge and practices is an important issue for identifying the gap to strengthen preventive efforts [9].

COVID-19 is a new emerging infectious disease which is affecting the entire world. This disease has affected the life of common people very badly. All people in the world remain in the state of panic, anxiety, depression, fear and uncertainty of the future [10].

India is a democratic country and with vast sociocultural diversity. Health inequalities and economic disequilibrium presents with challenges and threats by the COVID-19 pandemic situation. In this current situation to protect people and combat COVID-19 it is planned to measure the knowledge and practices towards preventive protocols of COVID-19 [11].

The study on KAP regarding COVID-19 was conducted in China, Hubei. That study revealed that public attitudes to follow the government guidelines for prevention of COVID-19 is largely influenced by the knowledge of the public regarding COVID-19. People who have more knowledge about COVID-19 found to be adapted good practices for prevention of COVID-19 [17].

To control this diseases preventive measures like lock down, hand hygiene, mask hygiene and other necessary activities have been taken by the Govt. But maximum people are not interested to maintain all these preventive measures. As a result it is observed that people gather at a place unnecessarily, do not maintained COVID protocol. That is why researcher wants to assessed the Knowledge and practices regarding prevention of COVID -19 among adults. From this practical experience the researcher observed that inadequate knowledge and improper practice aggravates the situation poor. So researcher investigates the knowledge and practices towards COVID-19 during the pandemic situation.

Problem Statement

Assessment of knowledge and practices regarding prevention of COVID- 19 among adults residing in selected urban community Paschim Medinipur West Bengal

Purpose of the study

To find out the awareness and skill of people about prevention of COVID-19.

Objective of the study

1. To assess the knowledge regarding prevention of COVID-19 among adults.
2. To identify the practices regarding prevention of COVID-19 among adults.
3. To find out co relation between knowledge and practices regarding prevention of COVID-19.
4. To determine the association between knowledge regarding prevention of COVID-19 and selected demographic variables.
5. To find out the association between practices regarding prevention of COVID-19 and selected demographic variables.

In this present study quantitative research approach was adapted to accomplish the objectives of the study and thought to be appropriate research design.

Materials and Method

Descriptive survey research design was conducted applying quantitative research approach, among 110 adults between 18-60 years residing at 11 no. ward Medinipur Municipality, Paschim Medinipur, West Bengal.

Probability sampling technique was adapted for the present study. Simple random technique was used for selection of ward (Lottery method) and systematic random sampling technique for selection of houses (every 5 Kth) were adapted for this study. One adult was selected from one house.

Research variables of this study was Knowledge and Practices regarding prevention of COVID-19. Selected demographic variables was including age, gender, educational status, occupation, socio-economic class, history of suffering from COVID-19, history of suffering from COVID-19 of family members, history of COVID vaccination, history of comorbidity, whether received any information regarding prevention of COVID-19 and whether attended any sensitization program/workshop/seminar regarding prevention of COVID-19.

A Semi structured interview schedule was developed to collect demographic characteristics of respondents with 13 items. A structured knowledge questionnaire was prepared to assess the level of knowledge of the adults regarding prevention of COVID-19. Total number of items were 20 related to different aspects of knowledge on COVID-19. Each correct response carried 1 (one) mark and incorrect carried 0 (zero). Score acquired by the adults less than 8 (<40%) was graded as poor, score 8 to 11 (41%-60%) was graded as average score, 12 to 15 (61%-80%) was graded as good and score 16 or more than 16 ($\geq 80\%$) was graded as very good knowledge.

Structured rating scale was developed to assess the stated practices regarding prevention of COVID-19. Total number of items were 16 related to stated practices on prevention of COVID-19. The stated practices of adults were assessed through three point rating scale. The three point rating scale was made as always, sometimes, never. For the positive response the rating carried 2 - 1 - 0 score. Score acquired by the adults less than 13 (<40%) was graded as poor, score 13

to 18 (41% - 60%) was graded as average score, 19 to 24 (61% - 80%) was graded as good and score 25 or more than 25 ($\geq 80\%$) was graded as very good practice. Total maximum possible score for practice were 32 and minimum score 0.

The reliability (r) of the Knowledge questionnaire was 0.76, computed by using Cronbach's alpha technique which indicate the tool was reliable as well as Practice rating scale was 0.78 computed by using Cronbach's alpha technique which indicate the tool was also reliable.

The prepared tool was given to 9 experts for content validity of the tools.

Ethical clearance was taken from IEC, BSMC&H, Bankura. Administrative approval was obtained from Director of Health Services, West Bengal, CMOH, Paschim Medinipur, West Bengal, Chairman of Medinipur Municipality, Paschim Medinipur, West Bengal.

Self-introduction was given to participants and rapport was established during home visits. Purpose and nature of the study was explained to each participant. Informed Consent was taken from subject. Confidentiality of the information was assured. Separate code number was used for each subject. Demographic data were collected by using the Semi structured interview schedule followed by tool-II and tool-III was used for collect the data to assess the knowledge and practice regarding prevention of COVID-19 among adults. Data collection period was January- 2022.

Results and Discussion

Findings related to knowledge of adults regarding prevention of COVID-19.

Table 1: Distribution of adults according to the level of their knowledge score n = 110

Knowledge score	Frequency (f)	Percentage (%)
Very good (>80%)	21	19.09
Good (61 - 80%)	54	49.09
Average (41-60%)	31	28.18
Poor (<40%)	4	3.64

Maximum knowledge score – 20

Minimum knowledge score – 0

Data presented in table 1 depicted that maximum (49.09%) adults had good knowledge score and only 19.09% adult had very good knowledge score regarding prevention of COVID-19.

Table 2: Area wise knowledge score of adults regarding COVID – 19 n=110

Areas of knowledge	Maximum possible score	Knowledge score	
		Mean score	Mean%
Mode of transmission	1	0.92	92.00
COVID risk behaviour	2	0.89	44.50
Prevention of COVID-19	11	7.38	67.90
Clinical manifestation	1	0.65	65.00
Information about COVID-19	5	3.20	64.00

Data presented in table 2 showed that most (92%) of the adults mean percentage knowledge score was regarding mode of transmission and only 44.50% was regarding COVID risk behavior.

Table 3: Mean, Median and SD of knowledge score of adults regarding prevention of COVID-19. n=110

Variable	Mean	Median	Standard Deviation
Knowledge	13.04	13	2.64

Data presented in table 3 indicated that mean knowledge score of adults regarding prevention of COVID-19 was 13.04, median was 13 and standard deviation was 2.64 which indicated that there were little variation in their knowledge.

Findings related to practices of adults regarding prevention of COVID-19

Table 4: Distribution of adults according to the level of their practice score. n=110

Practice score	Frequency (f)	Percentage (%)
Very good (>80%)	17	15.45
Good (61 - 80%)	52	47.27
Average (41-60%)	37	33.64
Poor (<40%)	4	3.64

Maximum practice score - 32

Minimum knowledge score - 0

Data presented in table 4 depicted that maximum (47.27%) respondents had good practice score followed by 33.64% adults had average practice score and only 15.45% adult had very good practice score.

Table 5: Area wise practice score regarding prevention of COVID-19 among adults n=110

Area of practice	Maximum possible score	Practice score	
		Mean score	Mean %
Hand hygiene	6	3	50
Mask hygiene and respiratory hygiene	8	4.9	61.25
Physical distancing	4	2.0	50
Safety measures	8	6.6	82.50
Food safety	2	0.9	45
Others measures related to prevention of COVID-19	4	1.6	40

Data presented in table 5 showed that most (82.50) mean percentage of stated practice score was regarding safety measures, 61.25% score regarding mask hygiene and respiratory hygiene, equal percentage (50%) were physical distancing and hand hygiene.

Table 6: Distribution of Mean, Median, SD of stated practice regarding prevention of COVID-19 among adults n=110

Variable	Mean	Median	Standard Deviation
Stated Practice	19.78	20	4.11

Data presented in table 6 indicated that the mean practices score of adults regarding prevention of COVID-19 was 19.78, median was 20 and standard deviation was 4.11 which indicated that there were little variation in their practices.

Findings showing relationship between knowledge and practices of adults regarding prevention of COVID-19.

Hypothesis

H₀: There is no significant correlation between knowledge and practices at 0.01 level of significance.

Table 7: Correlation between knowledge and practice score of adults n=110

Mean knowledge score	Mean practice score	Correlation between knowledge and practice score 'r'	P Value
13.04	19.78	0.718	0.0001

Karl Pearson's correlation coefficient formula, $df=108$, $p<0.01$

Data presented in table 7 illustrated that there were strong positive correlation (0.718) between knowledge and practice score and it was statistically significant.

From the above correlation coefficient ('r'), it can be concluded that knowledge and practice depended on each other, higher knowledge score were associated with better practices.

Major findings of this study

Findings related to knowledge of adults regarding prevention of COVID-19

- Maximum 49.09% respondents had good knowledge score.
- Most of the respondents had mean percentage of knowledge score regarding mode of transmission was 92%.

Findings related to practices score of adults regarding prevention of COVID-19

- Maximum 47.27% respondents had good practice score.
- Mean percentage of practice score of adults regarding safety measures was 82.50% followed by mask hygiene and respiratory hygiene were 61.25%, hand hygiene and physical distancing were 50%.

Findings related to correlation between knowledge and practice score of adults regarding prevention of COVID-19

- Mean knowledge score of adults regarding prevention of COVID-19 was 13.04
- The mean practices score of adults regarding prevention of COVID-19 was 19.78
- Strong positive correlation between knowledge and practice score and it was statistically significant where $r = 0.718$ and t value at $df (108)$ 10.720 at 0.0001 level of significance.

Finding association between knowledge and practices of adults with selected demographic variables

- There was significant association between knowledge regarding prevention of COVID-19 with educational status, socio economic class and history of suffering from COVID-19 of family members at 0.05 level of significance.
- There was significant association between practices regarding prevention of COVID-19 with type of family and educational status at 0.05 level of significance.

Discussion

Discussion related to knowledge regarding prevention of COVID-19 among adults

The present study shows that 49.09% of the respondents had good knowledge score, 19.09% had very good knowledge score and 3.64% respondents had poor knowledge score regarding prevention of COVID-19.

Rathee, Manu & Jain, Prachi & Alam, Maqbul & Shetye,

Akanksha & Kaushik, Smriti. (15.04.2021) conducted a study on knowledge and practice of hand hygiene during COVID-19 pandemic among dental students in a tertiary care centre, West Bengal, which reveals that 37.5% respondents had good knowledge score regarding prevention of COVID-19 which fully supports the present study^[13].

Kartheek AS, Gara KH, Vanamali DR. (25.05.2021) conducted a study on knowledge, attitude & practices towards COVID-19 among Indian residents during the pandemic. This study reveals that 46% respondents had very good knowledge regarding prevention of COVID-19 which was partially support this study because in this present study only 19.09% respondents had very good knowledge regarding prevention of COVID-19^[14].

In the present study mean knowledge score was 13.04 which was fully supported by the study of Tomar BS. Singh P, Suman S, Raj P, Nathiya D, Tripathi S *et al.* (09.05.2020) study on Indian community's knowledge, attitude & practice towards COVID-1. This study showed that mean knowledge score was 11.36^[11].

In the present study in according to area wise knowledge regarding mode of transmission and clinical manifestation mean percentage of knowledge score was 92% and 65% which was fully supported by the study of Shewale Suhas P. *et al.* (08.09.2021) study showed that in the area of mode of transmission and clinical manifestation mean percentage of knowledge score was 97% and 65%.respectively^[8].

Discussion related to practices regarding prevention of COVID-19 among adults

The present study shows that 47.27% of the respondents had good practice score, 15.45% had very good practice score and only 3.64% respondent had poor practice score regarding prevention of COVID-19.

Rathee, Manu & Jain, Prachi & Alam, Maqbul & Shetye, Akanksha & Kaushik, Smriti. (15.04.2021) study on knowledge and practice of hand hygiene during COVID-19 pandemic among dental students in a tertiary care centre, West Bengal. This study reveals that 30.2% respondents had good practice score regarding prevention of COVID-19 which fully supports the present study as this study also showed that 47.27% respondents had good practice score regarding prevention of COVID-19^[13].

In the present study mean practice score was 19.78 which was fully supported by the study of Christy JS, Kaur K, Gurnani B, Hess OM, Narendran K, Venugopal A *et al.* (26.10.2020) knowledge, attitude and practise toward COVID-19 among patients presenting to five tertiary eye care hospitals in South India. Here mean practice score was 10.32^[15].

In the present study in the area of mask hygiene and respiratory hygiene mean practice score was 61.25%, which was fully supported by the study of Azlan AA, Hamzah MR, Sern T J, Ayub SH, Mohamad E.(21.05.2020) study on public knowledge, attitudes and practices towards COVID-19,Malaysia, which reveals that 51.2% public practice mask hygiene^[16].

In the area of physical distancing the present study mean practice score was 50%, which was supported by the study of Kanagavelu ASK. (01.03.2021) on knowledge, attitude and practice towards COVID-19 among the general public in Tamil Nadu, India, which showed that 66.6% respondents maintained physical distancing^[1].

Findings related to correlation between knowledge and practices score

The present study showed that there was strong positive correlation between knowledge and practices (0.718), which was fully supported by the study of Tomar BS. Singh P, Suman S, Raj P, Nathiya D, Tripathi S *et al.* (09.05.2020) study on Indian community's knowledge, attitude & practice towards COVID-19. This study showed knowledge and practice were positively co-related each other (0.139) at 0.05 level which was statistically significant^[11].

Conclusion

On the basis of the present study the researcher had come to the conclusion that maximum 49.09% respondents had good knowledge score and 47.27% had good practice score regarding prevention of COVID -19. There was strong positive co-relation between the knowledge and practice score regarding prevention of COVID-19. All respondents received COVID-19 related information and COVID vaccine to control COVID-19 pandemic situation. It is to be said that to control any communicable disease good knowledge as well as preventive practices are most important factors.

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Conflict of Interest

Not available

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