Knowledge and Practice Regarding Infection Control on Covid 19 Transmission Among Health Care Personnel

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Abstract- Background: *Corona virus disease (COVID-19) is a highly transmittable infection. In India,the number of COVID-19 cases has been suddenly raising, including the number of health professionals (HCP), have also been reported. Health care personnel are at the forefront of protection against COVID-19. Insufficient knowledge and practice among health care personnel regarding infection control on COVID-19 transmission can have a direct impact on spread of disease. Therefore, the aim of the study was to assess the knowledge and practices of health care personnel in India about infection controlin COVID-19.*

Methods:*The research approach adopted for the study was quantitative descriptive approach with non experimental descriptive research design to describe the level of knowledge and practice regarding infection control on COVID-19 transmission among health care personnel. The selection of subjects was done by convenience sampling technique and sample consists of 50 health care personnel in PESIMR hospital at Kuppam, Andrapradesh. Semi structured knowledge questionnaire was used, consisted of 30 items of knowledge and practice questions regarding infection control on COVID-19 transmission. The validity and reliability of tool was obtained. The tool was administered to the healthcare personnel. The collected data were analysed by using descriptive and inferential statistics in terms of Frequencies, Percentage distribution and chi-square test.*

Results: *Majority 23(46%) of health care professionals had adequate knowledge regarding infection control on COVID-19 transmission and majority 22(44%) of health care professionals had good practice regarding infection control on COVID-19 transmission. The mean level of knowledge of health care personnel regarding prevention of infection control on COVID-19 transmission was 77.25 and the mean level of practice was 76.81.In chi square analysis, significant association was found between level of knowledge of health care personnel regarding prevention of infection control on COVID-19 transmission with their selected demographic variables such as profession of the participants, professional working experience and attended training course on COVID-19 pandemic. Also there was significant association between level of practice with the selected demographic variables such as age, professional qualification, profession of the participants and attended training course on COVID-19 pandemic.*

Conclusion: *The findings of the study revealed that level of knowledge and practice of health care personnel regarding prevention of infection control on COVID - 19 transmission in PESIMR, Kuppam, Andhrapradesh was adequate.*

Keywords- Knowledge and Practice, infection control,COVID-19,Healthcare workers.

I. INTRODUCTION

"We are on the verge of being able to wipe out of all communicable disease"

Corona virus disease (COVID-19) is a highly transmittable infection.A mysterious illness has been devastating in Wuhan, China, which has shown alarming speed since it was first reported to the public on 31 December 2019. From that time on, the large outbreak was reported to have eventually spread to all other provinces of China and all surrounding countries. Thus, the World Health Organization (WHO) declared the outbreak a global epidemic on March 12, with a steady increase in reported cases.

There were over 2.4 million cases and 1,65,000 deaths worldwide in April 2020. Europe is the region most affected by over 50% of cases and 60% of deaths. The United States has the highest number of cases worldwide (695,350 cases) and the highest number of deaths (32,427 deaths). The African region had the lowest number of 13,892 cases and 628 deaths.The Union Health Ministry report (August 2020) shows that the total number of cases in the India has shot up to 27,67,273 with 52,889 deaths.

The first case of COVID-19 epidemic in Andhra Pradesh, India took place on March 12, 2020 in Nellore. A 24-year-old man who is positive for COVID - 19 is also its first victim. He went to Italy. As of August 20, the Andhra Pradesh Health Department has confirmed a total of 3,16,003 cases, including 2,906 deaths and 2,26,372 recoveries.

Healthcare personnel are at the forefront of the COVID-19 pandemic response and face threats such as exposure to pathogens, longer working hours, stress, fatigue, occupational irritation and stigma and physical violence. Delayed detection and treatment of the disease can lead to rapid spread of infection due to poor understanding of the disease health care personnel. More than 100 health workers lost their lives to COVID-19, a tragedy for the world and an obstacle to fight the disease.

To date, there is no recommended antiviral therapy or vaccine for COVID-19. The World Health Organization (WHO) recommends preventing human-to-human transmission by avoiding close contact and preventing and follow the basic preventive measures include regular hand washing, social distractions and respiratory hygiene such as covering mouth and nose when coughing or sneezing.

During epidemics and pandemic, cognitive gaps about developing disease can cause confusion and panic among the public. Distributing appropriate information not only guides society through such events, but also increases the likelihood of future infections. In addition, negative attitudes and practices towards new infectious diseases increase the risk of infections, resulting in infections.

Healthcare personnel of all levels and groups are involved in caring for these infectious patients. Frequent exposure of people to COVID-19 poses serious occupational health risks to health care personnel. As of February 21, 2020, the virus had infected 3019 health personnel with five deaths. The literature suggests that lack of knowledge and practice in health care personnel can lead to delayed diagnosis, disease prevalence, and infection control achievement.Therefore, the researcher aimed to assess the knowledge and practices of prevention of infection control in COVID – 19 transmission among health care personnel.

II. REVIEW OF LITERATURE

Literature related to Knowledge and practice regarding prevention control on COVID -19

M. Zhang, et.al (2020) conducted a cross-sectional survey study on Knowledge, attitude and practice regarding COVID-19 among healthcare workers in Henan, China.survey was conducted from February 4th to February 8th, 2020, including 1357 health care workers in 10 hospitals. Of those surveyed, 89% of health care workers had sufficient knowledge of COVID-19, more than 85% afraid of exposure to the virus and 69.7% followed proper practices regarding COVID-19. In addition to the level of knowledge, some risk factors including work experience and job category influenced health care workers attitudes and practice concerning COVID-19. Measures should be taken to protect Health care workers from work-related risks, work experience, working hours, educational attainment, and frontline health care workers.

Richa Nepal, et.al (2020)conducted a crosssectional study onamong health care workers from various districts in Chitwan in the Nepal region. The survey results show that a total of 353 responses were analyzed, of which 47% were nurses, 28.9% were physicians, 11.6% were health care providers, 2% were certified health care providers, and 10.5% were classified as . The main ones were females (58.9%), were in the age group of 16–29 years (67.1%) and had a work experience of less than 5 years (62%). Most health care workers have access to balanced knowledge and practice. The results of this study concluded that most health workers from Chitwan, Nepal, had good knowledge, practiceand had a positive attitude of infection control in COVID-19. There has been a strong interaction between knowledge, attitudes and practice about COVID-19 among health professionals.

Ronald Olum, et.al (2020) conducted a online cross sectional, descriptive study on Coronavirus Disease-2019: Knowledge, Attitude, and Practices of Health Care Workers at Makerere University Teaching Hospitals, Uganda. The KAP-based COVID-19 was tested using a pre-verified questionnaire. 80% of Bloom's cut was used to determine sufficient knowledge, positive attitude, and positive practice. Findings in the study indicate that eighty-four were medical doctors and 125 had at least a bachelor's degree. Overall, 69% were had sufficient knowledgeable, 21% were had positive attitude and 74% had good practice towards infection control onCOVID-19. The study result concluded that the continuing professional education is recommended among health care workers in Uganda to improve the knowledge of health care workers thus avoiding negative attitudes and promoting effective prevention and treatment strategies.

III. STATEMENT OF THE PROBLEM

"A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE AND PRACTICE REGARDING PREVENTION OF INFECTION ON COVID - 19

TRANSMISSION AMONG HEALTH CARE PERSONNEL IN PESIMR, KUPPAM, ANDRA PRADESH"

IV. OBJECTIVES

- To assess the level of knowledge regarding prevention of infection on COVID - 19 transmission among health care personnel.
- To assess the level of practice regarding prevention of infection on COVID - 19 transmission among health care personnel.
- To find out the association between level of knowledge of health care personnel regarding prevention of infection on COVID - 19 transmission with their selected demographic variables.
- To find out the association between level of practiceof health care personnel regarding prevention of infection on COVID - 19 transmission with their selected demographic variables.

V. MATERIALS AND METHODS

Research design: A descriptive survey design was adopted for this study.

Setting of the study: The study was conducted in PESIMR Hospital, Kuppam, Andhra Pradesh.

Sample: Paramedical professionals working inPESIMR Hospital, Kuppam, AndhraPradesh.

Sample size: 50

Sampling technique: Non probability convenient sampling technique.

Tools of Data Collection: This study was conducted by using structured questionnaire to assess the knowledge & practice regarding prevention of infection control on COVID-19 transmission among health care personnel.

VI. RESULTS

Table: 1 Frequency & percentage distribution of selected demographic variables

S.No	Demographic variables	Frequency N=50	Percentage
1	**Age in years**		
	21-25	15	30
	26-30	25	50
	31-35	6	12
	Above 35	4	8
2	**Gender**		
	Male	19	38
	Female	31	62
3	**Professional qualification**		
	Diploma	18	36
	UG Degree	25	50
	PG Degree	7	14
4	**Profession you are belonging to**		
	Nurse	20	40
	Housekeeping	12	24
	Technician	18	36
5	**Professional working experience**		
	1-2 years	8	16
	2.1-5 years	20	40
	5.1-10 years	13	26
	More than 10 years	9	18
6	**Training course on COVID 19 Pandemic**		
	Attended	38	76
	Not attended	12	24

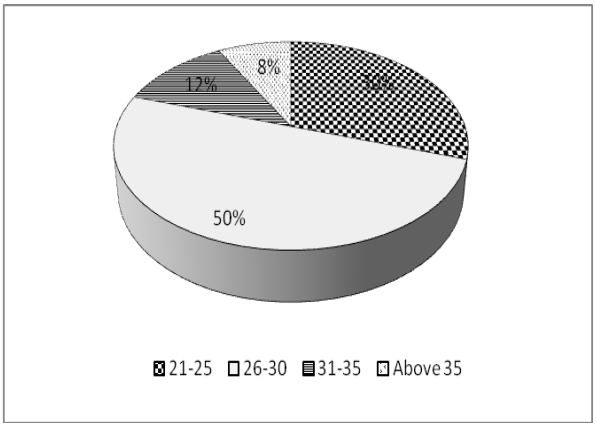

Fig.1: Percentage distribution of age of the participants

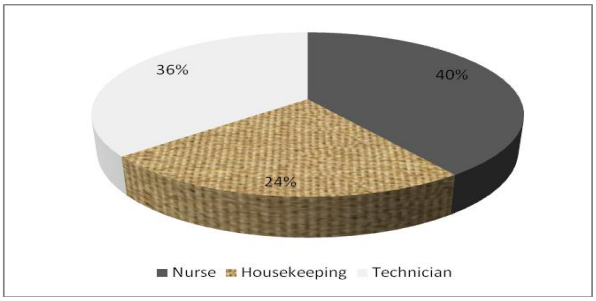

Fig.2: Percentage distribution of profession that the participants belonged to.

Table: 2 Frequency & percentage distribution of level of knowledge regarding prevention of infection on COVID - 19 transmission among health care personnel.

Level of knowledge	Frequency N=50	%
Adequate knowledge	23	46
Moderate knowledge	17	34
Inadequate knowledge	10	20

The above table revealed that majority 23(46%) of health care professionals had adequate knowledge regarding prevention of infection on COVID - 19 transmission.

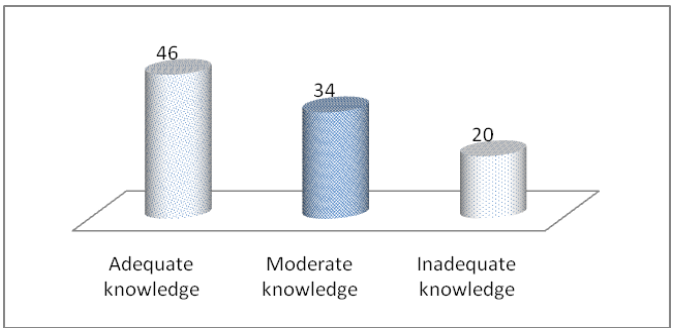

Fig.3: Percentage distribution of level of knowledge regarding prevention of infection on COVID - 19 transmission among health care personnel.

Table: 3 Frequency & percentage distribution of level of practice regarding prevention of infection on COVID - 19 transmission among health care personnel.

Level of practice	Frequency N=50	%
Good practice	22	44
Average practice	17	34
Poor practice	11	22

The above table revealed that majority 22(44%) of health care professionals had good practice regarding prevention of infection on COVID - 19 transmission.

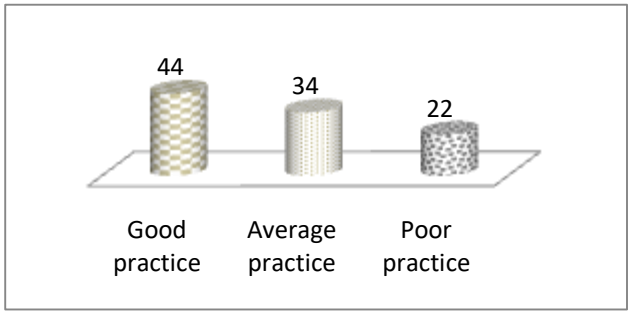

Fig.3: Percentage distribution of level of practice regarding prevention of infection on COVID - 19 transmission among health care personnel.

Table: 4 Mean & SD of level of knowledge and practice regarding prevention of infection on COVID - 19 transmission among health care personnel.

Variables	Mean	SD
Level of knowledge	77.25	1.77
Level of practice	76.81	2.33

The above table represented that the mean level of knowledge of health care personnel regarding prevention of infection on COVID - 19 transmission was 77.25 and the mean level of practice was 76.81.

Table: 4 Association between level of knowledge of health care personnel regarding prevention of infection on COVID-19 transmission with their selected demographic variables.

S. No	Demographic variables	Frequency N=50	Percentage	Chi square value
1	**Age in years**			
	21-25	15	30	4.32 NS
	26-30	25	50	
	31-35	6	12	
	Above 35	4	8	
2	**Gender**			
	Male	19	38	3.21 NS
	Female	31	62	
3	**Professional qualification**			
	Diploma	18	36	1.08 NS
	UG Degree	25	50	
	PG Degree	7	14	
4	**Profession you are belonging to**			
	Nurse	20	40	17.33 S**
	Housekeeping	12	24	
	Technician	18	36	
5	**Professional working experience**			
	1-2 years	8	16	21.64 S**
	2.1-5 years	20	40	
	5.1-10 years	13	26	
	More than 10 years	9	18	
6	**Training course on COVID 19 Pandemic**			
	Attended	38	76	13.58 S**
	Not attended	12	24	

Table 4represented that there was significant association between level of knowledge of health care personnel regarding prevention of infection on COVID-19 transmission with their selected demographic variables such as profession of the participants, professional working experience and attended training course on COVID-19 pandemic.

Table: 5 Association between level of practice of health care personnel regarding prevention of infection on COVID-19 transmission with their selected demographic variables.

S. No	Demographic variables	Frequency N=50	Percentage	Chi square value
1	**Age in years**			
	21-25	15	30	18.25 S**
	26-30	25	50	
	31-35	6	12	
	Above 35	4	8	
2	**Gender**			
	Male	19	38	2.14 NS
	Female	31	62	
3	**Professional qualification**			
	Diploma	18	36	20.02 S**
	UG Degree	25	50	
	PG Degree	7	14	
4	**Profession you are belonging to**			
	Nurse	20	40	15.42 S**
	Housekeeping	12	24	
	Technician	18	36	
5	**Professional working experience**			
	1-2 years	8	16	1.34 NS
	2.1-5 years	20	40	
	5.1-10 years	13	26	
	More than 10 years	9	18	
6	**Training course on COVID 19 Pandemic**			
	Attended	38	76	18.06 S**
	Not attended	12	24	

Table 5represented that there was significant association between level of practice of health care personnel regarding prevention of infection on COVID-19 transmission with their selected demographic variables such as age, professional qualification, profession of the participants and attended training course on COVID-19 pandemic.

VII. DISCUSSION

This study adopted descriptive survey design with 50 health care personnelas samples. The samples were selected using non probability sampling technique. Structured Knowledge Questionnaire was used to assess the level of knowledge and practice regarding prevention of infection on COVID-19 transmission among health care personnel.

Among the participants, majority 25(50%) of them were 26-30 years old, 31(62%) were female, 25(50%) of them had underwent UG degree, 20(40%) of them were nurses, 20(40%) had working experience of 2.1-5 years and about 38 (76%) attended training course on COVID-19 pandemic.

While considering the level of knowledge, majority 23(46%) of health care personnel had adequate knowledge and majority 22(44%) of health care personnel had good practice regarding prevention of infection on COVID-19 transmission. It was found that the mean level of knowledge of health care personnel regarding prevention of infection on COVID-19 transmission was 77.25 and the mean level of practice was 76.81.

The level of knowledge of health care personnel regarding prevention of infection on COVID-19 transmission had significant association with their selected demographic variables such as profession of the participants, professional working experience and attended training course on COVID-19 pandemic.

The level of practice of health care personnel regarding prevention of infection on COVID-19 transmission had significant association with their selected demographic variables such as age, professional qualification, profession of the participants and attended training course on COVID-19 pandemic.

VIII. CONCLUSION

The findings of the study revealed that level of knowledge and practice of health care personnel regarding prevention of infection on COVID - 19 transmission in PESIMR, Kuppam, Andhrapradesh was adequate.

IX. RECOMMENDATION ON THE STUDY

1. A similar study can be replicated with randomization in selected of a large sample. Knowledge and practice of health care personnel regarding structured teaching programme can be assessed.
2. This study recommends monitoring of infection control in COVID 19, which is important to understand the nature and scope of the problem that will help in planning prevention strategies to ensure a quality health care in any hospital.
3. The prevention, control and treatment of COVID -19 is a concern of all health care professionals working in a hospital including microbiologists, clinical specialists from various disciplines of medicine and surgery, medical and nursing administrators.
4. The comparative study between private and government hospital health care workers can be performed.

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