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Correlation between Preventive Practices Towards COVID-19 and its Knowledge Among Nursing Students

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ABSTRACT

Background: Preventive practices towards COVID-19 and its knowledge among nursing students should be considered in the planning of effective educational interventions for COVID-19 pandemic and to increase awareness about the health risks brought about by the disease.

Methods: A descriptive survey with quantitative approach was conducted among 330 B.Sc. Nursing students, by convenience sampling. An online data collection was carried out by sending the questionnaires through Google forms. The instruments were; Tool I- *Section A* – Socio-demographic data. *Section B* includes the Rating scale on Preventive practices towards COVID-19. Tool II- includes the questionnaire on Knowledge on preventive practices towards COVID-19. Data analysis was performed using SPSS 22.0.

Results: The study report shows that most of the 321(97%) nursing students were having good preventive practices towards COVID-19. Also, majority 310(94%) of them were having good knowledge on Preventive practices towards COVID-19. There was significant correlation between the preventive practices towards COVID-19 and its knowledge among B.Sc. Nursing students and the correlation coefficient is 0.287.

Conclusion: The findings of this study have provided baseline information on the current status of preventive practices towards COVID-19 and its knowledge among B.Sc. Nursing students.

Keywords: COVID-19, Knowledge, Nursing students, Preventive practices.

INTRODUCTION

COVID-19 is currently the most horrifying disease around the world as there is no proven vaccine or medicine right now. The only way left to this situation is to slow down or eradicate the rapid spread by adopting prevention measures. Person to person transmission is rapid and it is necessary to control the disease to avoid its quick spread throughout. With this mode of transmission, healthcare workers are among the highest risk of being infected and it is an additional hazard for the healthcare system.[1]

The current research is an attempt to identify the preventive practices and its knowledge towards COVID-19 among nursing students.

To guarantee successful disease control, people's adherences to preventive measures are essential. This adherence is highly dependent on knowledge and preventive

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practices. The previous studies indicate that the knowledge and practices are associated which can further contribute to the attempts to prevent the spread of the disease.[2]

According to WHO (2020) the following are recommended to prevent further spread of COVID-19:

1. Frequent hand washing.
2. Social distancing of 6 feet.
3. Avoid touching mucus membrane of mouth, eyes and nose.
4. Respiratory protection and hygiene by using personal protective equipment (PPE), masks etc.
5. Identification of infected personnel and contact tracings.
6. Travel restrictions.[3]

A research study was conducted on knowledge, attitude and practices towards COVID19 among Indian residents during the pandemic among 751 respondents based on the snowball sampling technique. An online semistructured questionnaire was used. The result shows that; 90.5% of participants agreed for adequate control, though 97.6% of respondents agreed about frequent hand washing, only 77.87% confirmed about washing hands ≥20 seconds. The adherence to social distancing and lockdown restrictions was confirmed by 97.3% and 97.3%, respectively. Around 75% followed hand hygiene guidelines and a few (5%) didn't follow lockdown restrictions. Suggested that there is a gap between information and implementation.[4]

Observance of preventive measures by the health Professionals is essential for controlling the spread of COVID-19, which is affected by their knowledge and practices towards COVID-19. Therefore, the researchers intended to conduct a survey to investigate the preventive practices and its knowledge towards COVID-19 among the nursing students during the rapid rise period of the COVID-19 outbreak.

Healthcare workers are at the frontline of the COVID-19 pandemic response and are exposed to dangers like pathogen exposure, long working hours, psychological distress, fatigue, occupational burnout and stigma etc. Despite the national measures in combating the outbreak, the success or failure of these efforts is largely dependent on the adherence to the preventive measures. Adherence is likely to be influenced by knowledge and practice.[5]

Few research studies showed that, health care workers infected with COVID 19 also were an important group involved in disease spread. Hence it is imperative to ensure the safety of healthcare workers not only to safeguard continuous patient care but also to ensure they do not transmit the virus.[6]

A research study was conducted to investigate the knowledge, attitude, and preventive practices toward COVID-19 among general people. A total of 441 respondents voluntarily participated in a web-based cross-sectional survey. A structured questionnaire was created using Google Forms and the link was shared through authors' networks. Collected information was analyzed using univariate, bivariate, and multivariate techniques. Results showed that the respondent of age 30 and above are more optimistic (Adjusted Odds Ratio [AOR] =1.96, 95% Confidence Interval [CI], 1.13 to 3.41; P=0.016) compared to respondents of age 18-29. For 1 unit change in the knowledge score the likelihood of staying home and wearing mask increases by 1.73 (95% CI, 1.43 to 2.09; P<0.01) and 1.54 (95% CI, 1.25 to 1.77; P<0.01) times respectively. From the linear regression analysis, we see that urban residence type (vs. rural, β=0.274; P=0.024) are significantly associated with higher knowledge scores. Additionally, a significant positive correlation exists between the COVID-19 knowledge score and the preventive practice score (r=0.291, P<0.01). The study concluded that knowledge and preventive practices among people are encouraging and suggest that updated knowledge be provided by healthcare authorities to enhance appropriate preventive practices throughout the COVID-19 outbreak.[7]

Another study was conducted to assess the knowledge, attitude, and practice of medical students towards coronavirus disease 2019 (COVID-19). A self-designed questionnaire was developed and given to the students of a government medical college in Uttarakhand. The demographics, mean knowledge, attitude, and practice of the participants were investigated, and the scores were calculated. t-test and ANOVA were used for statistical analysis. The results showed that; Out of the total participants (n=354), 50.3% were male and 54.5% were 21-23 years. Almost all the participants (96.6%) increase the frequency of washing hands under the influence of COVID-19. Although no significant relationship was found between different religions, age-categories in terms of knowledge, the participants who were aged 21-23 years had higher knowledge. In addition, gender had a significant impact on practice scores ($P<0.05$) while no demographic variable was found to have a significant relation with attitude score ($P>0.05$). The study concluded that majority of the participants had good knowledge, a positive attitude, and sufficient practice.[8]

Based on these evidences, this research is an attempt to identify the correlation between the preventive practices towards COVID-19 and its knowledge among nursing students which may further help to prevent the development and transmission of disease.

RESEARCH METHODOLOGY

The present descriptive survey was done online with a quantitative approach. The students studying for B.Sc. Nursing programme at Amrita College of Nursing were the sample for the study and the data was collected by sending the questionnaire through what's App or E-mail according to their choice. The sample size was 330 and the Sampling technique was convenience Sampling. Obtained written informed consent through the online mode from each subject after being briefed on the study protocol. Also obtained permission from the Nursing Director and from the Principal, Amrita College of Nursing before the data collection.

The data collection instruments were; Tool I- *Section A,* the socio-demographic data of the nursing student which includes the age, gender, year of study, number of family members, history of COVID-19 in the family, number of people affected, history of hospitalization, quarantine in the family and the number of people experienced the quarantine. *Section B* includes the Rating scale to assess the preventive practices by the nursing students towards COVID-19. Tool II is a structured questionnaire to assess the knowledge of nursing students about the preventive practices towards COVID-19.

The Pilot study was conducted among 10% of the sample to know the feasibility of the study. The data collection methods were; sent the purpose and other details of the study through the E-mail/ What's App of each person, collected online informed consent from each subject. Sent questionnaires through either What's App or E-mail to each person according to their choice. Set the time frame to get back the filled-up questionnaires.

Data analysis was performed using SPSS 22.0. Analyzed the collected data by using descriptive (frequency and percentage) and inferential statistics (Chi-square test).

RESULTS

Socio-demographic Profile of the Study Subjects

The study illustrates that all the study subjects, 330(100%) of them were between the age group of 19 to 21 years and the majority 308(93%) of them were females. Regarding the year of programme in which the students studies shows that 90(27%) each in the second and third year, also 80(25%) of them in the first year and 70(21%) of them were studying in fourth year B.Sc. Nursing. The number of family members showed that more than half of them 179(54%) were having four members in each family and 107(33%) of them were having five or above in number of family

members. In response to the history of family members in quarantine, the majority 273(83%) of them were having experience of quarantine in their family. The study subjects responded that the majority 312(94%) of them had the incidence of COVID-19 in their family. Majority 320(97%) of the subjects reported that they had a history of hospitalisation due to COVID-19 in their family.

Figure-1 displays that out of 330 study subjects, majority 321(97%) of them were having good preventive practices 5(2%) of them were having moderate preventive practices and a less percentage, 4(1%) of them were having poor preventive practices towards COVID-19. Though the result shows the majority of the students were adhering to the COVID-19 protocols, it is mandatory that all the nursing students should strictly follow the COVID-19 instructions as they are health care professionals.

Figure-2 illustrates that out of 330 study subjects, majority 310(94%) of them were having good knowledge on Preventive practices towards COVID-19, 16(5%) of them were having moderate knowledge and 4(1%) of them were having inadequate knowledge.

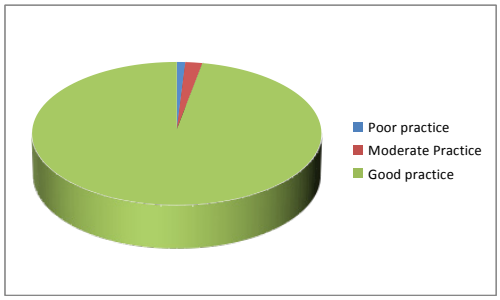

Fig. 1: Preventive practices towards COVID-19 among Nursing students.

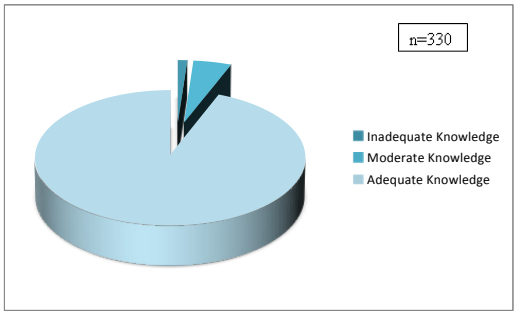

Fig. 2: Knowledge on Preventive practices towards COVID-19 among Nursing students.

Table-1 illustrated the association between the preventive practices towards COVID-19 and the demographic variables of the study subjects. It showed that the gender, history of COVID-19 in the family, history of hospitalization due to COVID-19 in the family are associated with the preventive practices among the subject is significant with the p value less than 0.05. Other demographic variables

Table 1: Association between the Preventive practices towards COVID-19 and the Demographic variables of the study subjects.

n=330

Demographic variables	*Chi Square*	*df*	*p value*
Age	38.86	48	0.824
Gender	20.74	8	0.008
Year of Study	20.58	24	0.663
No. of Family members	12.54	32	0.999
History of Quarantine in the family	6.85	8	0.552
History of COVID-19 in the family	35.36	8	0.000
History of hospitalization due to COVID-19 in the family	35.04	8	0.000

**p value <0.05 Significant*

Table 2: Association between the Knowledge on Preventive practices towards COVID-19 and the Demographic variables of the study subjects

n=330

Demographic variables	*Chi Square*	*df*	*p value*
Gender	0.19	2	0.906
Year of Study	15.65	6	0.016
No. of Family members	1.33	8	0.995
History of Quarantine in the family	0.92	2	0.629
History of COVID-19 in the family	9.31	2	0.010
History of hospitalization due to COVID-19 in the family	1.24	2	0.536

*p value <0.05 Significant

Table 3- Correlation between the Preventive practices towards COVID-19 and its Knowledge among the study subjects.

n=330

Preventive practices towards COVID-19 and its Knowledge.	r- value
Score among caregivers	0.287**

**Correlation is significant at the 0.01 level (2-tailed).

were not significant with the preventive practices among the study subjects.

Table- 2 illustrated the association between the knowledge on preventive practices towards COVID-19 and the demographic variables of the study subjects. It showed that the year of study and the history of COVID-19 in the family are associated with the knowledge on preventive practices among the study subjects are significant with the p value less than 0.05. Other demographic variables were not significant with the preventive practices among the study subjects.

Table 3 showed the correlation coefficient computed between the preventive practices towards COVID-19 and its knowledge among B.Sc. Nursing students. It shows that there is significant correlation between the preventive practices towards COVID-19 and its knowledge among B.Sc. Nursing students and the correlation coefficient is 0.287. This indicates that there is a relationship between preventive practices towards COVID-19 and its knowledge.

DISCUSSION

The study was conducted among 330 B.Sc. Nursing students through online mode of data collection with convenience sampling.

Objective 1: Assess the preventive practices towards COVID-19 and its knowledge among nursing students in a selected nursing college at Ernakulum.

The present study showed that out of 330 study subjects, majority 321(97%) of them were having good preventive practices 5(2%) of them were having moderate preventive practices and a less percentage, 4(1%) of them were having poor preventive practices towards COVID-19. Though the result shows the majority of the students were adhering to the COVID-19 protocols, it is mandatory that all the nursing students should strictly follow the COVID-19 instructions as they are health care professionals.

Previous literature has also shown the similar results that most of the nursing students were having good knowledge regarding COVID-19. A cross-sectional study was conducted among 575 nursing students and they all were interviewed. The mean age was 22.29 ± 4.2. The overall score indicates good knowledge (p=0.046) and good practices among the four courses of study (p=0.038). Multivariate linear regression showed that practice score (b = -0.29; p = 0.024) and Knowledge score (b = 0.10; p = 0.026) adjusted for age, gender, year of study, perceived economic status, perceived health status were significantly associated with Practice score.[9]

Objective 2: Find association between the preventive practices towards COVID-19 and the demographic variables of the nursing students.

The current study revealed that there is statistically significant association between the gender, history of COVID-19 in the family, history of hospitalization due to COVID-19 in the family with the preventive practices among the nursing students (*P*=0.05).

A cross-sectional, web-based survey, conducted among 8591 participants from the general population of Iran above 15 years of age, a series of questions regarding the KAP of the population about COVID-19 was asked. The participants' demographic characteristics and source of information regarding COVID-19 were recorded and analyzed. The result showed a significant association between female gender, higher age, and higher education with knowledge, attitude, and practice. Based on multiple linear regression analysis, male gender, non-healthcare related professions, single, and lower level of education were significantly associated with lower knowledge scores.[10]

Objective 3: Find association between the knowledge on preventive practices and the demographic variables of the nursing students.

Results of the present study illustrated that there is statistically significant association between the year of study and the history of COVID-19 in the family are associated with the knowledge on preventive practices among the study subjects (P=0.05).

A similar result has also been found in a quantitative, descriptive, and cross-sectional design among 1,226 student nurses from seven universities in Saudi Arabia. The study was conducted with a four-part online survey by convenient sampling. Majority of the students (99.2%), always performed most of the preventive behavior on COVID-19. Being the fourth year student, gaining good perceived knowledge was associated with high actual COVID-19 knowledge. University, gender, age, academic level, and perceived COVID-19 knowledge were the associated factors.[11]

CONCLUSION

The findings of the study have provided baseline information on the current state nursing students' preventive practices and its knowledge toward COVID-19 as the crisis is happening. The findings revealed some areas that should be focused on by nursing education to ensure that the students have adequate knowledge and correct preventive practices.

Conflicts of interest - Nil

Sources of funding - Self

Ethical clearance

Taken from the Institutional Review Board of Amrita Institute of Medical Sciences, Kochi, Kerala

REFERENCES

1. Modi PD, Nair G, Uppe A, Modi J, Tuppekar B, Gharpure AS, Langade D. COVID-19 awareness among healthcare students and professionals in Mumbai metropolitan region: a questionnaire-based survey. Cureus. 2020 Apr 2;12(4).
2. World Health Organization. Coronavirus disease 2019 (COVID-19): situation report, 73.
3. Ngwewondo A, Nkengazong L, Ambe LA, Ebogo JT, Mba FM, Goni HO, Nyunaï N, Ngonde MC, Oyono JL. Knowledge, attitudes, practices of/towards COVID 19 preventive measures and symptoms: A cross-sectional study during the exponential rise of the outbreak in Cameroon. PLoS neglected tropical diseases. 2020 Sep 4;14(9):e0008700.
4. Kartheek AV, Gara KH, Vanamali DR. Knowledge, attitude and practices towards COVID-19 among Indian residents during the pandemic: A cross-sectional online survey. Journal of Dr. NTR University of Health Sciences. 2020 Apr 1;9(2):107.
5. Ajilore K, Atakiti I, Onyenankeya K. College students' knowledge, attitudes and adherence to public service announcements on Ebola in Nigeria: Suggestions for improving future Ebola prevention education programmes. Health Education Journal. 2017 Oct;76(6):648-60.
6. Kartheek AV, Gara KH, Vanamali DR. Knowledge, attitude and practices towards COVID-19 among Indian residents during the pandemic: A cross-sectional online survey. Journal of Dr. NTR University of Health Sciences. 2020 Apr 1;9(2):107.
7. Rahman A, Sathi NJ. Knowledge, Attitude, and Preventive Practices toward COVID-19 among Bangladeshi Internet Users. Electronic journal of general medicine. 2020 Sep 1;17(5).
8. Maheshwari S, Gupta PK, Sinha R, Rawat P. Knowledge, attitude, and practice towards coronavirus disease 2019 (COVID-19) among medical students: A cross-sectional study. Journal of Acute Disease. 2020 May 1;9(3):100.
9. Santangelo OE, Provenzano S, Armetta F, Pesco G, Allegro A, Lampasona M, Terranova A, D'ANNA GI, Firenze A. Knowledge, attitudes and practices towards COVID-19 among nursing students of the University of Palermo: results from an online survey. Journal of preventive medicine and hygiene. 2021 Jun;62(2):E270.
10. Erfani A, Shahriarirad R, Ranjbar K, Mirahmadizadeh A, Moghadami M. Knowledge, attitude and practice toward the novel coronavirus (COVID-19) outbreak: a population-based survey in Iran. Bull world Health organ. 2020 Mar 30;30(10.2471):10-2471.
11. Albaqawi HM, Alquwez N, Balay-Odao E, Bajet JB, Alabdulaziz H, Alsolami F, Tumala RB, Alsharari AF, Tork HM, Felemban EM, Cruz JP. Nursing students' perceptions, knowledge, and preventive behaviors toward COVID-19: a multi-university study. Frontiers in public health. 2020:783.
12. PD, Nair G, Uppe A. COVID-19 Awareness Among Healthcare Students and Professionals in Mumbai Metropolitan Region: A Questionnaire-Based Survey. Cureus. 2020April; 12(4):7514.