



THE ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICES AMONG MEDICAL STUDENTS REGARDING COVID VACCINATION IN A TERTIARY CARE INSTITUTE, SOUTHERN HARYANA

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ABSTRACT The coronavirus disease 2019 has put enormous socio-economic burden globally & Immunization has been proposed to be an effective way of curtailing the disease. Objectives-To access knowledge, attitude, practices of students regarding covid vaccination & to find out prevalent understanding about covid vaccine hesitancy. Material and methods -A cross sectional study was conducted by Microbiology Department SHKM, GMC, Nalhar among 227 (77.97% boys and 22.02% girls) MBBS students of 1ST, 2nd & 3rd professional year with variable vaccinated status. A pre-tested structured questionnaire was circulated after informed consent. Data was analysed by using descriptive statistics (percentage method). Results- While maximum number of first and second professional students (70% ,80% respectively) students correctly knew about transmission of COVID-19; maximum number (96.29%) of third Professional students knew about continuing taking precautions even after vaccine intake. 81.1%, 90%, 96.29% of the 1st, 2nd and 3rd professional students respectively thought that vaccine is useful for their health. While 50% of the 2nd prof. students believed that low risk of serious side effects can change the attitude of hesitancy to COVID vaccine. 39% and 33.3% of 1st & 3rd prof. students felt increased protection rate would be a determining factor for changing vaccine hesitancy. Conclusion: Knowledge about vaccination needs to be given special emphasis upon in current scenario.

KEYWORDS : KAP, Covid vaccination, Professional students

INTRODUCTION –

The coronavirus disease 2019 (COVID-19), caused by the causative agent SARS-cov-2 & has put enormous socio-economic burden globally across the world.¹ It was declared as a Global Pandemic by WHO on 11 March 2020. In INDIA as on 15 Nov 2021 total cases are 34466598, deaths recorded are 464153.² Immunization has been proposed to be an effective way of slowing the spread and curtailing the disease. These vaccines had been granted authorization in emergency situation by Central Drug Standards Control Organization in India About 41.6%, 27.7% of the worlds; Indian population has been fully vaccinated respectively.

In general, vaccine reluctance is probably going to assume a significant function in COVID-19 immunization aversion, particularly, as in more than 90% percent of countries vaccine hesitancy has increased and has now been described by the WHO as one of the world's greatest health threats.³

Health care workers including the medical students are at high risk of exposure to the disease. It is important to vaccinate health care workers including medical students. Current study contributes towards updating the knowledge of students and determining their attitude COVID vaccination.

OBJECTIVES- 1. To access knowledge, attitude, practices of students regarding COVID vaccination.
2. To find out prevalent understanding about COVID vaccine hesitancy.

MATERIAL & METHODS

A cross sectional study was conducted at Microbiology Department Shaheed Hassan Khan Mewati Government Medical College SHKM, GMC, Nalhar, Nuh, Haryana from July 2021- October 2021. This study was conducted on 272 (including 90, 110 & 72 from 1st, 2nd & 3rd professional year respectively) MBBS students with the help of predesigned and pre tested questionnaire (13 questions). The questions were of multiple choice type and with no negative marking. Data was calculated on study population with variable vaccinated status & they are well informed about the objective of this study. Questionnaire was circulated after the informed consent. Questionnaire was prepared in English and consisted of three major sections that was based upon the knowledge, Attitude & practices regarding covid vaccination. Score was calculated by cumulative score of correct responses and was compared between various groups. Data was calculated and tabulated

by using Microsoft Excel 2010. Results was analysed by using descriptive statistics (percentage method).

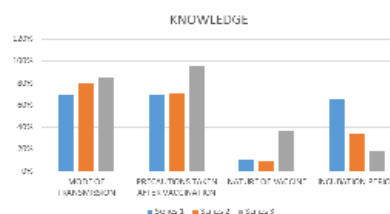
RESULTS-

Out of 272 students 22.02% were girls and (77.97%) rest were boys. While maximum number of first and second professional students (70%, 80% respectively) correctly knew about transmission of COVID-19; maximum number (96.29%) of third Professional students knew about continuing taking precautions even after vaccine intake.

81.1%, 90%, 96.29% of the 1st, 2nd and 3rd professional students respectively thought that vaccine is useful for their health. While 50% of the 2nd prof. students believed that low risk of serious side effects can change the attitude of hesitancy to COVID vaccine. 39% and 33.3% of 1st & 3rd prof. students felt increased protection rate would be a determining factor for changing vaccine hesitancy. 51.86%, 30.9% and 14.4% of 3rd, 2nd & 1st professional students voted for Covaxin as the best option available in the market.

KNOWLEDGE –In our study knowledge among first, second & third year professional students about the mode of transmission of COVID-19 is 70%, 80% & 85.5% respectively & also 69%, 70.90% & 96.29% of 1st, 2nd & 3rd year professional students had knowledge regarding.

Table/fig-1



ATTITUDE

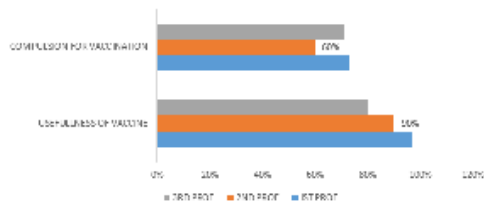
Reason for unwillingness to take vaccine-

Table/fig-2

PROFESSIONAL YEAR	MAXIMUM RESPONSES RECORDED (%)	MINIMUM RESPONSES RECORDED (%)
1 st	70%	69%
2 nd	80%	70.90%
3 rd	85.5%	96.29%

1 ST PROF.	Ineffective vaccine (48%)	Religion (10%)
2 ND PROF.	Covid-19 is not a serious disease (58.1%)	Religion (8.1%)
3 RD PROF.	Unsure about vaccine safety (62.96%)	Religion (3.7%)

Table/fig-3



PRACTICES

46%, 60.9%, 85.18 % of the, 1st, 2nd and 3rd professional MBBS students respectively preferred taking vaccine via intramuscular/subcutaneous route.

96.29%, 80%, 55% of the 3rd, 2nd and 1st 3rd professional MBBS students respectively choose to advise their patients to get vaccinated. While only 7.8% of the 1st professional MBBS students experienced adverse effects (fever) after COVID vaccination; 30.1% & 29.63% of 2nd and 3rd professional MBBS students reported the same.

Only 2.2%, 8.1% of 1st & 2nd professional students felt that protection rate of almost 100% could be a valid reason for changing the hesitancy attitude towards COVID vaccine.

Only 7.4% of 3rd professional students chose single shot option for vaccination & minimum one year duration of immunity provision could motivate people for taking vaccine.

DISCUSSION –

Lack of knowledge about the seriousness of COVID-19 & scepticism about safety of vaccine for COVID 19 are among the leading reasons for the rapid spread of this disease in India.

In our study, maximum of first professional student's i.e. 51.86% preferred covaxin (Indian origin vaccine) among all other options available in the market during the pandemic. Similar to this, in a study conducted by Sharun et al. 32.2% of the participants preferred Indian-made vaccines over imported vaccines.⁴

In our study 89.3% of total students believed that vaccine against covid-19 is useful and are willing to take vaccine which was more, as compared to a study conducted by Kishore, et al. in new Delhi⁵ where only 70% of the total participants are willing to take vaccine, similarly studies was conducted in with similar studies conducted in the USA⁶ and Turkey.⁷

Several studies was conducted on KAP towards COVID-19 done by Zhong et al. (2020) in China⁸, Modi et al.⁹(2020) & Erfani et al.¹⁰(2020) in Iran.

In present study, under knowledge section, maximum correct answers by students were 88% which resemble a study was conducted by Modi et al. in Mumbai. (72%). In other studies, average knowledge score obtained was 90% reported by Zhong et al. & Erfani et al.

The attitude scores revealed that the students' overall positive attitude rate was 83.1.0% in the attitude test. This was less than the overall attitude scores (90.0%) reported by Zhong et al. & Erfani et al. This difference was observed due to access of the students to information from official websites of health commission & launching of various health education programmes.

In our study maximum of first professional students i.e. 95% had a positive attitude regarding usefulness of the vaccine to prevent the disease and its Complications. The findings are similar to this a study conducted by sharun.et.al in which 68.1% of them believed the same.

Minimum of 48% of first professional students had an attitude regarding reason for unwillingness to take vaccine, they feel vaccine might be ineffective, on the contrary to this study conducted by sharun

et al only 13.7% of the participants are reluctant to get vaccinated. Practice rate of students was 89.46% which was more than the results (89.0%) documented by Erfani et al. (2020) and Zhong et al. (2020) in their overall practice test scores. In our study the overall practices of the medical students was found to be up to the mark.

In current study, maximum number of students opted for advising vaccination to patient's i.e. 1st year professional 96.29%, 2nd year professional 80% & in 3rd year professional 55%. Similarly in a study conducted by Sharun et al., 86.3% chose to advise their patients to get vaccinated against COVID19.

In our study only 26.93% of third professional students believed in the effectiveness of the vaccine, contrary to the study conducted by sharun et al., almost 50% of the participants showed positive beliefs regarding safety and effectiveness of vaccine toward COVID-19, the overall response can be increased, by conducting the more number of studies to evaluate the safety & effectiveness of the vaccine in their study. This also encourage the implementation of new strategies for encouragement of vaccine acceptance.

There are limited number of studies regarding covid-19 vaccine acceptance, although several studies was conducted all over the world. Global survey by IPSOS¹¹, 2020 reported that vaccine acceptance rate is 87% in India, 80% in USA, 72.5% in china, 64% in South Africa, 54% in Russia, 59% in France, 56% in Poland, and 56% in Hungary.

Present study found that around minimum 48% of the first year students are reluctant to accept the vaccine as soon as it is available. In IPSOS survey it is concluded that 15% Malaysians, 15% English (Great Britain), 16% Saudi Arabians, 12% Brazilians, 12% Aussies, South Koreans & 24% of the Canadians were also reluctant to the vaccine.

Our Study results showed a good association and a relationship between the KAP scores of students regarding vaccine against COVID-19. There was a need to encourage the vaccine acceptance, by providing adequate data regarding concerning about the safety & efficacy of the vaccine.

There was a need to formulate effective strategies by decision makers by which can help in proper implementation of programmes against COVID-19 vaccination. This can be done by providing more data by doing more studies which can help in proper acceptance of vaccine and can also leads to change in positive perception of people against COVID-19 vaccination.

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Conclusion:

Knowledge about vaccination needs to be given special emphasis upon in current scenario. There is a need to provide repeated trainings among students to improve their knowledge, attitude & practices towards COVID-19 vaccination. Present study helps the policymakers to make strategies for increased willingness for vaccination & reduced hesitancy against vaccination.

BIBLIOGRAPHY

- [1] Marshoudi SA, Balushi HA, Wahaibi AA, Khalili SA, et al. Knowledge, Attitudes, and Practices (KAP) toward the COVID-19 Vaccine in Oman: A Pre-Campaign Cross-Sectional Study. *Vaccines* 2021, 9, 602. <https://doi.org/10.3390/vaccines9060602>.
- [2] World Health Organization. Coronavirus disease (COVID-19) advice for the public; 2021. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>. Accessed November 12, 2021.
- [3] Thunstrom L, Ashworth M, Finnoff D, Newbold S. Hesitancy Towards a COVID-19 Vaccine and Prospects for Herd Immunity. Available at SSRN: <https://ssrn.com/abstract=3593098>. <http://dx.doi.org/10.2139/ssrn.3593098>.
- [4] Khan Sharun, Rahman C.K & Haritha C. V et al. covid-19 vaccine acceptance: beliefs and barriers associated with vaccination among the general population in India. *Journal of Experimental Biology and Agricultural Sciences*.2020.8. S210 – S218. DOI: [http://dx.doi.org/10.18006/2020.8\(Spl-1-SARS-CoV-2\).S210.S218](http://dx.doi.org/10.18006/2020.8(Spl-1-SARS-CoV-2).S210.S218).
- [5] Kishore J, Venkatesh U, Ghai G, Heena, Kumar P. Perception and attitude towards COVID-19 vaccination: A preliminary online survey from India. *J Family Med Prim Care* 2021; 10:3116-21.
- [6] Reiter PL, Pennell ML, Katz ML. Acceptability of a COVID-19 vaccine among adults in the United States: How many people would get vaccinated? *Vaccine* 2020;6500-7.
- [7] Salahi GD, Uysal MS. COVID-19 vaccine hesitancy is associated with beliefs on the origin of the novel coronavirus in the UK and Turkey. *Psychol Med* 2020; 1-3. Doi: 10.1017/S0033291720004067.
- [8] Zhong B-L, Luo W, Li H-M et al (2020) Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey. *International Journal of Biological Sciences* 16(10):1745–1752. <https://doi.org/10.7150/ijbs.45221>.

- [9] Modi PD, Nair G, Uppe A et al (2020) COVID-19 awareness among healthcare students and professionals in Mumbai metropolitan region: a questionnaire-based survey. *Curios* 12(4):e7514. <https://doi.org/10.7759/curios.751>.
- [10] Erfani A, Shahriarirad R, Ranjbar K, Mirahmadizadeh A and, Moghadami M (2020) Knowledge, attitude and practice toward the novel coronavirus (COVID-19) outbreak: a population-based survey in Iran *Bull World Health Organ*. <https://doi.org/10.2471/BLT.20.256651>.
- [11] IPSOS (2020) Three in four adults globally say they would get a vaccine for COVID-19. Available at: <https://www.ipsos.com/ipsosmori/en-uk/three-four-adults-globally-say-they-would-get-vaccine-covid-19>.