Knowledge, attitude and practices of medical students on COVID-19 vaccines

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INTRODUCTION

The ongoing pandemic of COVID-19 is has taken over our lives and change the world we lived in, it has also changed the direction of R&D in development of drugs and biologics. In last one year we all have also seen the fastest vaccine development trails ever conducted in the history of mankind by one of biggest players in pharmaceutical industry.¹² Currently there are only vaccines candidates who have received approval for emergency use worldwide from WHO. Pfizer and BioNTech (comirnaty) live attenuated vaccine was the first to received approval.³ Sinopharm vaccine and Gamaleya vaccine (Sputnik V) are still under trial and did not received WHO approval as of February 2021.⁴⁵
In India two major vaccine candidates have emerged. First one to receive approval was Oxford-AstraZeneca (Covishield) adenovirus vector. It is originally developed by AstraZeneca at Oxford institute and manufactured by Serum institute of India.6,7 Another vaccine is developed by Bharat Biotech in collaboration with ICMR (Covaxin) it is fully developed and manufactured in India, the vaccine has received approval for restricted emergency use and it is still under phase iii clinical trial showing promising results so far.7,8

Current study was designed to observe preferences an understanding of medical students on COVID-19 vaccines. The year of pandemic has been tougher on medical students like never before and now when they are vaccinated and finally resumed clinics and ward posting it was necessary to understand student’s perspective about vaccines. After all they are our future soldiers in the fight against this pandemic.

METHODS

A cross sectional questionnaire based study has been conducted for a period of seven days between 02 February 2021 to 08 February 2021, on students of second year to interns studying MBBS/BDS/BPTH at Datta Meghe institute of medical sciences. All the students participating in the study are vaccinated with Covishield vaccine in mass vaccination program at the institute, no active signs and symptoms related to COVID and willing to participate in study, completed first year of medical education are included, and students who are currently COVID-19 positive, not vaccinated, first year students and who are not willing to participate are excluded from the study.

A multiple choice KAP related online questionnaire has been developed. The study questions are circulated amongst students as Google forms along with the instruction to fill up the form. For the purpose of the study, certain medical terms were explained to the students if they could not understand. 267 responses have been received, out of which 250 valid responses with name and email addresses are selected for the study. Data was collected in a pre-structured format. Collected data were entered in excel sheet and analyzed with proper statistical method name and email-id are also recorded along with the questionnaire to generate authentic results. The study was conducted as an online survey.

RESULTS

Total 77/250 students think Covishield is a live attenuated test and 72/250 do not know about type of vaccine. 135/250 i.e. majority of students think all the provided options i.e. Directorate, municipal authorities and adverse drug monitoring centres are available at institute level. Out of 250 students, 120 students have opinion that Covishield is best available vaccine in market, mixed opinion on Comirnaty and Covaxin but only 1 student voted for Sputnik. Majority (114/250) of students prefer IM/SC route for vaccine administration. 69% students did not experienced any ADR after vaccination and 39% experienced some adverse reaction.
Majority i.e. 73% students will advise their patients to get vaccinated while 27% think it depends on patient’s condition and other relevant factors. 52% students think vaccination is best preventive measure; however other 48% think development of active immunity is better. 66% of patients think that vaccines should be made compulsory, while 34% think it is unjustifiable. Out of 250 students 142 are very satisfied with government’s vaccination program, while 83 out of 250 think it is too early to say.

DISCUSSION

As an ongoing literature search during this study we did not find ample publication of this kind of KAP survey on COVID vaccines worldwide, fewer more at national level in India, especially done on healthcare workers. We will discuss the results of few notable studies and current study in following paragraphs.

Figure 5: Adverse reaction related to vaccination.

Figure 6: Opinion on vaccination.

Figure 7: Best strategy for prevention of COVID-19.

It was found that most of the students of healthcare sciences are unaware about composition and pharmacology of recently developed vaccines against COVID-19 and also most of them do not know first point of contact for reporting AEFI. It was a good observation that future healthcare workers have positive attitude towards vaccines as majority of students are in favour of active immunization, will advise their patients to get vaccinated and find it justifiable to make vaccination compulsory. It was also found that that many (57%) of them are satisfied with implementation of vaccination program in India but some (33%) think that it is too early to comment.

While asking question about personal preferences and experience most of them prefer intramuscular vaccination and majority have experienced any ADRs post vaccination. The latest article about “vaccine hesitancy” published in recent new England journal of medicine by Dr. Rosenbaum shows mistrust of common people and also that of some healthcare workers towards COVID-19 vaccines. People are questioning the reliability of prematurely developed vaccines most likely due to political pressure. A cross-sectional study conducted by Al-Qerem et al on Middle Eastern population also shows that 36.8% high to medium risk subjects are not willing to take pre-maturely...
developed vaccines and 26.1% are not sure about acceptance. On the contrary the exclusive survey conducted on healthcare workers of France, Belgium and Canada in October and November 2020 by Verger et al published in Euro-surveillance journal has demonstrated that approx. 75% HCWs are in favour of administering vaccine themselves and 79% are in favour of advocating vaccine use to the patients.

CONCLUSION

Majority of students have positive outlook towards vaccination and have favourable opinion towards vaccination program conducted by Government. Knowledge of health science students about COVID vaccine and related ADRs need to be given special focus. Confidence of HCWs and public health officials will help in allaying fear and uncertainty about vaccination amongst general population. Healthcare community should take this opportunity to decrease polarization of views about medical science, increase transparency and to wipe-out myths and fears about allopathy in general population.

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REFERENCES
