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Original Research Article

Acceptability of COVID-19 vaccine among medical students: a cross-sectional analysis

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ABSTRACT

Background: After the announcement of vaccine in India for health care worker, medical students is one among them, they are exposed to the COVID-19 patients. Vaccination plays crucial role in controlling the pandemic, study to know the acceptability of vaccine.
Methods: Total of 1030 medical students are enrolled in the prospective cross-section study done in Kerala. Online Questionnaire was filled between 1st January 2020 to 28th February 2021 and data collected and analysed.
Results: Out of 1030 students we found that high rate of acceptability, 710 (67%) of students willingness to take vaccine if eligible. Females (73%) are more willing to accept vaccine then male (65%), students as good knowledge, attitude and practice towards COVID-19.
Conclusions: As these students are come in health care worker we need to cover 100% vaccination in them this will be the direct impact on the general population. Increase awareness of medical college students about current available vaccine to reduce hesitancy.

Keywords: COVID-19, Medical student, Acceptance, COVID vaccine

INTRODUCTION

Due to an pandemic of COVID-19 whole world is disturbed, one among them the education to students, when colleges started to reopen, health care worker and medical colleges students are the more vulnerable to expose to COVID-19 disease.[1,2]

Government of India announced the vaccine in mid of January 2021.[3] For health care worker as 1st target, India given permission for two vaccines to use Covishield and Covaxin which are from India.[4,5]

Government has made several rules to restrict the spread like lock-down, travel ban, restrictions of group gathering, closing of public places, social distancing, with soap and water frequent hand washing, compulsory use of face mask.one extra step in to boost immune response by vaccinating against COVID-19 virus. It's an effective method to fight against infectious diseases.[6] Students of medical college are considered for 1st line of target for vaccination even after vaccines are delivered free of cost there is hesitancy to take vaccine may be due to its trials not completed, fast-track approval for vaccination in India and medias highlighting more on side-effects, One of the study tells that healthcare worker are not intend to or hesitance to take vaccine.[7]

Need to strengthen then the vaccination program in the country to prevent the subsequent attack of COVID-19, we have little knowledge of COVID-19 acceptability among students, need to understand the factors for acceptability such factors helps in increasing the vaccination acceptability as health workers are the 1st target success of this will help in subsequent success of vaccination in next target group.

Aims and objectives of the study include acceptability of COVID-19 vaccine among medical students.

METHODS

A prospective cross-sectional study was conducted from 01st January to 28th February 2021, among 1030 students of medical colleges in Kerala using snowball sampling method and online based survey, data regarding the socio demographic factors and their acceptances of COVID-19 vaccines collected, tabulated and analysed using statistical package for the social sciences (SPSS) version 24.0 on frequencies, percentages, standard deviation and Chi-square test are used to get results.

We included students of Kerala who answers all questions and excluded those who are not willing and incomplete forms.

RESULTS

Government was planning to announced vaccination for health care workers, we studied 1030 students of medical college who are attending only online classes and government also planning to reopen college. In table-1of our study 486 (47%) are boy and majority are girls 544 (53%), 42%of study group in age between 18-25 years, 703 (68%) in unmarried, 76% of study group are in phase 3, house surgeon and postgraduate (PG) students out of this maximum in house surgeon (38%).

All students are vaccinated as per university rules as soon as joined medicine in last 5 years 65% of students are taken one are other vaccines, 411 (40%) of students as exposed to COVID patient and are in 1st contact group, 263 (26%) of students test positive for COVID-19 while staying in house or in college. 612 students of study group attended COVID classes, 89% of students aware of vaccines and types.

We found that high rate of acceptability, 710 (67%) of students willingness to take vaccine if eligible. Females (73%) are more willing to accept vaccine then male (65%), students as good knowledge, attitude and practice towards COVID-19 (Table 2).

Table 1: Socio demographic factors of students.

Variables	Frequency (%)
Sex	
Male	486 (47)
Female	544 (53)
Age (years)	
18–25	428 (42)
25–30	366 (36)
>30	236 (23)
Marital status	
Married	327 (32)
Unmarried	703 (68)
Year of students (phase)	
1st	104 (10)
2nd	149 (14)
3rd	294 (29)
House surgeon	388 (38)
PG students	95 (9)
Place of residence	
Urban	427 (41)
Rural	603 (59)
Received any other vaccine in last 5 years	
Yes	674 (65)
No	356 (35)
1st contact exposure to COVID-19	
Yes	411 (40)
No	553 (54)
Test positive for corona virus	
Yes	263 (26)
No	767 (74)
Attended class on COVID-19	
Yes	612 (59)
No	418 (41)

Continued.

Variables	Frequency (%)
Heard about COVID-19 vaccine	
Yes	912 (89)
No	118 (11)

Table 2: Student's demographic characteristics and acceptance of a potential COVID-19 vaccine.

Variables	Acceptance of COVID-19 vaccine		P value
Sex	Yes (%)	No (%)	
Male	314 (65)	172 (35)	0.0056
Female	396 (73)	148 (27)	
Age (years)			
18–25	322 (75)	106 (25)	<0.00001
25–30	202 (55)	164 (45)	
>30	186 (79)	50 (21)	
Marital status			
Married	181 (55)	146 (45)	<0.0001
Unmarried	529 (75)	174 (25)	
Year of students (phase)			
1st phase	68 (65)	36 (35)	0.008573
2nd phase	102 (68)	47 (32)	
3rd phase	182 (62)	112 (38)	
House surgeon	286 (74)	102 (26)	
PG students	72 (76)	23 (24)	
Place of residence			
Urban	339 (79)	88 (21)	<0.0001
Rural	371 (62)	232 (38)	
Received any other vaccine in last 5 years			
Yes	506 (75)	168 (25)	<0.0001
No	204 (57)	152 (43)	
1st contact exposure to COVID-19			
Yes	295 (72)	116 (28)	<0.0001
No	415 (75)	138 (25)	
Test positive for corona virus			
Yes	117 (44)	146 (56)	<0.0001
No	593 (77)	174 (23)	
Attended class on COVID-19			
Yes	557 (91)	55 (9)	<0.0001
No	153 (37)	265 (63)	
Heard about COVID-19 vaccine			
Yes	612 (67)	300 (33)	0.1731
No	87 (74)	31 (31)	
Knowledge toward COVID-19			
Sufficient	511 (50)	219 (21)	0.2665
Insufficient	199 (19)	101 (10)	
Attitudes toward COVID-19			
Positive	588 (57)	182 (18)	<0.0001
Negative	122 (12)	138 (13)	
Practice toward COVID-19			
Good	478 (46)	122 (12)	<0.0001
Bad	232 (23)	198 (19)	

DISCUSSION

This study is mainly to see the status of medical college student acceptability to COVID-19 vaccine. As most of the study focused on whole healthcare worker and general populations, students are one of the important sources about vaccine information in youths, friends and family. Information of study will help in achieve good success in

further steps of implementation of vaccines to general populations, we found that high rate of acceptability, 710 (67%) of students willingness to take vaccine if eligible (Table 2). Compare to other health workers where acceptability was less about 40% in nurses in china and 60% of nurses study in France.[8,9] A study by Kimberly et al and Fisher et al 67% of acceptance of vaccine which is same as our study.[10,11]

In our study vaccination accepted by females (73%) are more than man (65%) but studies of Kose et al male are more than female more are less same acceptance in all years of studies people not got COVID-19 as more favourable then past COVID test positive students.[12]

Students have very good knowledge attitude and practice towards the COVID-19 disease only few are not accepting vaccine due to vaccine are in trial and, media exposing more on negative side of vaccine like side effects.[13]

The limitations in the study are difficult to reach through online method, small number, geographically different areas not done, same quantity of each year not taken and it is a cross-sectional study.

CONCLUSION

Our study tells the importance of educating the general population is important to increase the vaccination number. In our study only 23% of the people are not willing to take for vaccination may be due to lack of knowledge of vaccine, safety, vaccine developed and approved interim without completion of all trials, afraid of side effects, although not willingness is reducing with the time and subsequent attack of waves. Understanding and overcoming vaccine hesitancy would be critical to the effective introduction of vaccination programme.

Increase awareness about current available vaccine to reduce hesitancy is important.

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