DOI: 10.7860/JCDR/2024/66010.19041

Original Article

Physiology Section

Web-based Survey on the Knowledge, Attitude and Practice of COVID-19 Appropriate Behaviour among Vaccinated and Unvaccinated College Students in Puducherry, India: A Cross-sectional Study

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ABSTRACT

Introduction: Coronaviruses (CoVs) encompass a large group of viruses known to infect the upper respiratory tract in humans. The devastating impact of the virus has led to widespread infections among millions of individuals. Widespread disregard for 'Coronavirus Disease-2019 (COVID-19) Appropriate Behaviour' (CAB) by the public has significantly strained the Indian healthcare system. Despite efforts to educate the public on CAB through social media since 2020, only a minority have incorporated these practices into their daily lives. Notably, some vaccinated individuals have been hesitant to adhere to CAB despite repeated awareness efforts. This study aims to understand adherence to CAB among vaccinated and unvaccinated students not associated with the healthcare system.

Aim: To evaluate the Knowledge, Attitude and Practice (KAP) of CAB among vaccinated and unvaccinated college students.

Materials and Methods: This descriptive cross-sectional study was conducted at Sri Venkateshwaraa Medical College Hospital and Research Centre, Puducherry, India among various engineering and arts college students of Puducherry, India from December 2021 to February 2022. A web-based data collection tool was designed using Google Forms. Data was collected through invitation letters and questionnaires distributed via WhatsApp groups and Instagram. The study included a total of 360 responses, with the questionnaire comprising 40 questions related to KAP, consisting of 17, 7, and 16 questions, respectively. The results were expressed in percentages.

Results: Among the vaccinated participants, 263 (89.7%) identified social media as the primary source of COVID-19 related information. Knowledge and attitude towards COVID-19 vaccination revealed that over 50% were aware of the safety and efficacy of vaccines and the necessity of receiving two doses as advised by the government. While knowledge and attitude were similar across vaccinated and unvaccinated college students, there was a slightly higher percentage among the vaccinated group. However, there was an increased percentage of practice among unvaccinated students, indicating greater awareness of infection prevention.

Conclusion: The study found that the knowledge, attitude, and behaviour of college students, particularly those not in medical fields, were satisfactory, likely due to the widespread availability of information on social media. These findings can be valuable for public health departments to adopt a people-centered approach to raise awareness among the public and reduce vaccine hesitancy.

Keywords: Awareness, Non medical field, Public heath, Questionnaire

INTRODUCTION

The global impact of COVID-19 has led to numerous fatalities, prompting the scientific community to conduct research aimed at reducing mortality [1]. CAB encompasses the behavioural changes adopted by individuals to curb the spread of infection when proper treatment is not readily available. This can be influenced by government regulations, health promotion initiatives, or individual motivation. In India, key CAB during the pandemic include hand hygiene, physical distancing, mask-wearing, adherence to cough etiquette, and avoiding physical greetings [2]. Widespread disregard for CAB among the public strained the Indian healthcare system during the second wave [3].

Understanding of a disease can significantly influence an individual's attitude and intentions, which in turn directly impact their behaviour. In India, the vaccination drive commenced on January 16, 2021, focusing initially on healthcare workers and the elderly population, later extending to the adult population and college students in order to facilitate a return to in-person learning, which had shifted to online platforms during the pandemic [4,5]. Vaccination is deemed crucial in curbing the spread of COVID-19 and reinstating in-person learning environments. However, adherence to CAB remains vital even among vaccinated individuals, particularly as the virus may continue to mutate until herd immunity is achieved [6]. During the vaccine campaign, clear information regarding vaccine safety, efficacy, protection against mutant variants, and prevention of reinfection was lacking due to the rapid development and distribution of vaccines [7,8].

Systematic reviews and meta-analyses have indicated a risk of reinfection among vaccinated individuals, emphasising the continued importance of adhering to CAB post-vaccination [9]. Reports have shown that healthcare workers, due to their adherence to these behaviours, experienced lower rates of reinfection compared to the general public even after vaccination [9]. Medical and paramedical students, often educated extensively on CAB, have demonstrated a heightened awareness of precautionary measures to be followed [10]. This study aims to evaluate KAP of CAB in daily life among vaccinated and unvaccinated college students not associated with the healthcare system.

MATERIALS AND METHODS

This descriptive cross-sectional study was carried out at Sri Venkateshwaraa Medical College Hospital and Research Centre,

Puducherry, India, focusing on engineering and arts college students who were both vaccinated and unvaccinated in Puducherry, India. Scientific Research Committee and Institutional Ethics Committee Clearance No. 124/SVMCH/IEC -cert/Nov 2021 were obtained for the study. The research was conducted from December 2021 to February 2022.

A self-selected non probability sampling method was employed, including all college students not affiliated with medical and paramedical fields, aged between 18-25 years, and residing in Puducherry, irrespective of gender.

Sample size: The sample size was 385, calculated using the Open Epi, Version 3, opensource calculator-SS Propor-Sample Size for a Proportion, based on the total projected population of Puducherry in 2021 (15.55 Lacs), with a 95% confidence interval. Out of 390 responses received, 360 were complete and thus included in the study [11].

A web-based data collection tool was designed using Google Forms. Invitation letters were distributed via WhatsApp groups and posted on community groups on Instagram, explaining the study's aim, approximate time required for questionnaire completion, voluntary participation, anonymity and confidentiality declaration, and invigilator details.

Validation of the Questionnaire: The questionnaire underwent validation through two phases. Phase 1 involved its development through literature review, focus group discussions, expert evaluations (content validity), and pretesting. In Phase 2, the validity of the questionnaire was established by conducting a cross-sectional survey on 20 participants. Internal consistency was assessed using Cronbach's alpha after Principal Component Analysis, resulting in a Cronbach's alpha value of 0.67 using Microsoft Excel.

Data collection tool: The final version of KAP on CAB questionnaire, comprising 40 items (excluding demographic details), was administered in English. The questionnaire included four domains: demographic information, KAP of CAB, with 5, 17, 7, and 16 questions respectively. Participants were permitted to select more than one answer for each question. Standard demographic information encompassed items related to age, gender, and enrolled course. The items regarding KAP of CAB were developed through literature review and guidelines provided by the Ministry of Health and Family Welfare (12-illustrated guide of COVID-19 appropriate behaviour) [12]. The questionnaire included items related to vaccination status, mask usage, hand washing techniques, and social distancing.

STATISTICAL ANALYSIS

All the data were tabulated in Microsoft Excel and analysed using Statistical Package for Social Sciences (SPSS) version 21.0 software. The responses from vaccinated and unvaccinated students were separately analysed for descriptive statistics. The demographic characteristics, KAP of CAB among the vaccinated and unvaccinated students were presented as frequencies and percentages.

RESULTS

In the present study, a higher percentage of students belonged to the 19 to 20 years age group and were female [Table/Fig-1].

[Table/Fig-2] describes the participants' knowledge of CAB, focusing on signs and symptoms, and how they gathered information on the same. Among the vaccinated population, approximately 173 (59.1%) and 169 (57.6%) subjects were aware that fever and cough/cold were signs and symptoms of COVID-19, and 263 (89.7%) obtained information from social media.

[Table/Fig-3] illustrates the knowledge of CAB, including cough hygiene, social distancing, and vaccination. Around 225 (76.9%) of the vaccinated subjects covered their nose and mouth while coughing, 261 (89.1%) wore a mask while traveling, and 133 (45.3%) even wore masks in enclosed spaces with other people.

Characteristics	n (%)
Age (years)	
18	55 (15.28)
19	114 (31.67)
20	137 (38.06)
21	17 (4.72)
22	22 (6.11)
23	5 (1.39)
24	5 (1.39)
25	5 (1.39)
Gender	
Male	124 (34.44)
Female	236 (65.56)
Course	
BE/B.Tech/M.Tech	234 (65)
Bsc BA, B.Com, BCA	126 (35)
Are you vaccinated against COVID-19?	
Yes	293 (81.39)
No	67 (18.61)
How many doses of vaccination?	
One dose	127 (43.34)
Two dose	166 (56.66)

[Table/Fig-1]: Demographic characters of the study participants.

Questions	Vaccinated (n=293) n (%)	Unvaccinated (n=67) n (%)
1. What are the signs and symptoms of COVID-19		
Cough/cold	169 (57.7)	27 (40.3)
Fever	173 (59.0)	20 (29.9)
Breathlessness	89 (30.4)	7 (10.4)
Diarrhoea	18 (6.1)	3 (4.5)
Body ache	129 (44)	7 (10.4)
Loss of taste and smell	133 (45.4)	27 (40.3)
Asymptomatic	31 (10.6)	7 (10.4)
All the above	62 (21.2)	20 (29.9)
2. What are the mode of transmission of COVID-19 from person to person		
Close contact with infected person	261 (89.1)	40 (59.7)
Through animals	14 (4.8)	2 (3.0)
Through contaminated food	14 (4.8)	5 (7.5)
Through blood transfusion	28 (9.6)	10 (14.9)
By touching contaminated surfaces	101 (34.5)	14 (20.9)
Through feco-oral route	28 (9.6)	8 (11.9)
Air borne infection	133 (45.4)	29 (43.3)
None	4 (1.4)	2 (3.0)
3. What is the toll-free number available for National and state COVID-19 related queries?		
1075	221 (75.4)	45 (67.2)
1705	50 (17.1)	15 (22.4)
1057	22 (7.5)	7 (10.4)
4. Who is more susceptible to infection?		
Children	59 (20.1)	21 (30.3)
Pregnant women	23 (7.8)	7 (10.4)
People with chronic illness	81 (27.6)	14 (20.9)
Above 60 years	153 (52.2)	14 (20.9)
All the above	104 (35.5)	19 (28.4)
Other	10 (3.4)	4 (6.0)

5. What are the credible source available to obtain COVID-19 related updates in India		
https://www.nhm.tn.gov.in/	81 (27.6)	14 (20.9)
https://www.mohfw.gov.in/	99 (33.8)	24 (35.8)
https://puducherry-dt.gov.in/	86 (29.4)	19 (28.4)
Google	198 (67.6)	34 (50.7)
Facebook/Instagram twitter	88 (30)	18 (26.9)
6. From where do you gather COVID-19 related information		
TV	243 (82.9)	57 (85.1)
Newspaper	183 (62.5)	47 (70.1)
Whatsapp, facebook/instagram twitter	263 (89.9)	51 (76.1)
Friends/neighbour	105 (35.8)	34 (50.7)
Family doctor	55 (18.8)	4 (6)
7. What is Aarogya setu App		
Central Govt. app	167 (57)	31 (46.3)
Helps in identifying hotspots	50 (17.1)	7 (10.4)
Help in contact tracing of positive cases	95 (32.4)	11 (16.4)
Vaccine registration can be done	95 (32.4)	21 (31.3)
I do not know	54 (18.4)	18 (26.7)

[Table/Fig-2]: Knowledge of COVID-19 appropriate behaviour among college students (Questions related to signs and symptoms, gathering information).

Questions	Vaccinated (n=293) frequency%	Unvaccinated (n=67) frequency%
8. How will you maintain cough hygiene		
Covering your nose and mouth while coughing	225 (76.8)	51 (76.1)
Coughing into bent elbow	81 (27.6)	20 (29.9)
Washing hands immediately after coughing	135 (46.1)	14 (20.9)
9. When should you wear mask?		
While going out or at the time of travel	261 (89.1)	54 (80.6)
If u are in room with other people	133 (45.4)	26 (38.9)
Inside house when u have cough/cold/sneeze	119 (40.6)	17 (25.4)
Others	23 (7.8)	7 (10.4)
10. What precautions you take while wearing mask?		
Mask should cover mouth only	18 (6.1)	4 (5.9)
Mask should cover both nose and mouth	270 (92.2)	64 (95.5)
While speaking mask should be removed	13 (4.4)	3 (4.5)
Do not touch the front of the mask	126 (43.0)	34 (50.7)
Before and after removing the mask wash your hands	149 (50.9)	37 (55.2)
Do not wear mask with breathing valve	27 (9.2)	7 (10.4)
11. What will you do with the used mask?		
Wash and reuse the cloth mask -	137 (46.8)	38 (56.7)
Surgical mask (green/blue) needs to be disposed after 8 hours	188 (64.2)	33 (49.3)
N95 mask can be re-used	115 (39.2)	31 (46.3)
12. Why is it necessary to wear mask always while going out?		
Prevents spread of infection from others to you	36 (12.3)	24 (35.8)
Prevents spread of infection from you to others	88 (30.0)	16 (23.9)
Both	234 (79.9)	62 (92.5)
13. Spitting in public places increases the risk of COVID-19 spread?		
Yes	243 (82.9)	63 (94.0)
No	50 (17.1)	4 (6.0)
14. What appropriate measures are available to overcome the signs of anxiety/stress (Insomnia, Fast heart beat and breathing, Restlessness, Moodiness, Irritability, Fear of death due to COVID-19) which might arise due to COVID-19?		
Meditation	171 (58.4)	40 (59.7)
Talking/spending time with family and friends	185 (63.1)	42 (62.7)
Talk to professional counsellor	63 (21.5)	12 (17.9)
Exercising	126 (43.0)	31 (46.3)
Avoid watching news frequently	86 (29.4)	22 (32.8)
Entertainment (movies/cultivating their hobbies)	122 (41.6)	27 (40.3)
15. What are the virtual platforms you know of to connect with family and friends to alleviate stress?		
WhatsApp/Facebook	275 (93.9)	63 (94.0)
Zoom	81 (27.6)	20 (29.9)
Skype	50 (17.1)	8 (11.9)
Google meet	77 (26.3)	7 (10.4)
16. What do you know about vaccine against COVID-19		
Prevents spread of infection	167 (57.0)	30 (44.8)
Prevents hospitalisation and severity of COVID-19	140 (47.8)	20 (29.9)
Safe and effective	153 (52.2)	20 (30.0)
Different types of vaccine like Covaxine, Covishield, sputnik V are available	171 (58.4)	36 (53.7)
It is necessary to put two doses as per govt. advice	149 (50.9)	14 (20.9)
Registration through COWIN is mandatory	86 (29.4)	20 (29.9)
17. Are you aware about the presence of National Psychosocial helpline number (08046110007)		
Yes	90 (30.7)	14 (20.9)
No	203 (69.3)	53 (79.1)

[Table/Fig-3]: Knowledge of COVID-19 appropriate behaviour among college students (Questions related to cough hygiene, social distancing and vaccine).

[Table/Fig-4] portrays the attitude of college students towards CAB. Overall, the participants displayed a supportive attitude towards most aspects. For instance, 221 (75.4%) reported that they would advise friends and family not to be stressed about COVID-19, and 203 (69.2%) expressed a willingness to inquire about the health of someone suffering from COVID-19.

Questions	Vaccinated students n=293 (frequency%)	Unvaccinated students n=67 (frequency%)
1. What will you do when you receive COVID-19 related messages on social media platform?		
I will ignore the message	27 (9.2)	6 (9.0)
I will verify it from the credible resources	97 (33.7)	17 (23.9)
I will forward it to my family and friends	135 (46.1)	38 (56.7)
I will advise the sender not to send me such messages if it is not verified	34 (11.6)	7 (10.4)
2. How will you react if u see a person without mask in public?		
I will not bother about the matter	68 (23.2)	37 (52.2)
I will ask him to wear mask	176 (60.1)	27 (35.8)
Complain to the police	4 (1.4)	0
Give him a mask	131 (44.7)	8 (11.9)
Public shaming	4 (1.4)	0
3. On seeing a person spitting in public place. What might be your attitude?		
I will not bother about the matter	72 (24.6)	43 (64.2)
I will ask him not to spit	189 (64.5)	24 (35.8)
Complain to the police (it is a punishable offence)	5 (1.7)	0
Public shaming	31 (10.6)	0
4. What will you do if your friend/close relative invites you for a cultural/social gathering		
I will attend with proper COVID-19 appropriate behaviours	185 (63.1)	38 (56.7)
I will attend without mask	31 (10.6)	16 (23.9)
I will avoid attending	77 (26.3)	13 (19.4)
5. What will be your attitude towards a person testing COVID-19 positive in your neighbourhood?		
Help them with food, essentials	185 (63.1)	34 (50.7)
Enquire about their health regularly	203 (69.3)	20 (29.9)

Provide psychological support	95 (32.4)	7 (10.4)
I will not bother about the matter	32 (10.9)	17 (25.4)
6. What will be your attitude towards COVID-19 vaccination?		
I will take my shots when it is my turn	158 (53.9)	20 (29.9)
I will advise others to take vaccine to protect oneself and the nation	216 (73.7)	14 (20.9)
I will not recommend vaccine to others	9 (3.1)	17 (25.4)
I have a doubt on safety and efficacy of vaccine	32 (10.9)	23 (34.3)
I am healthy, I don't want to take my vaccination	10 (3.4)	41 (61.2)
Vaccine produces lot of side-effects	13 (4.4)	27 (40.3)
7. What might be your attitude when your friends or relatives suffer from COVID-19 related stress/anxiety?		
Advise them to seek psychiatrist opinion	77 (26.3)	4 (6.0)
Advise him not to be stressed	221 (75.4)	41 (61.2)
Don't know	4 (1.4)	27 (40.3)
Advise to do exercise	126 (43.0)	7 (10.4)
Advise to practice yoga	149 (50.9)	40 (59.7)

[Table/Fig-4]: Attitude of COVID-19 appropriate behaviour among college students.

[Table/Fig-5] depicts the practice of CAB among the study subjects. Approximately 266 (90.8%) followed hand washing and sanitisation practices, 194 (66.2%) cleaned and disinfected touched surfaces, and 253 (86.2%) adhered to social distancing measures. Moreover, 203 (69.2%) avoided close contact with high-risk individuals.

Questions	Vaccinated (n=293) frequency%	Unvaccinated (n=67) frequency%
1. Did you keep track of COVID-19 guidelines from credible resources?		
Yes	198 (67.6)	51 (76.1)
No	95 (32.4)	16 (23.9)
2. Have you downloaded the Arogya setu app?		
Yes	131 (44.7)	38 (56.7)
No	162 (55.3)	29 (43.3)
3. Do you wash your hands/sanitise immediately after touching any surface in common working/commuting place?		
Yes	266 (90.8)	65 (97.0)
No	27 (9.2)	2 (3.0)
4. Do you clean and disinfect frequently touched surfaces (Door handle/ Common Computers in work place?) (or the lift and staircase rail if you have stayed in apartment)		
Yes	194 (66.2)	51 (76.1)
No	99 (33.8)	16 (23.9)
5. Have you avoided touching mouth, nose, eyes? (Your safety is in your own hands - literally)		
Yes	239 (81.6)	54 (80.6)
No	54 (18.4)	13 (19.4)
6. Did you wear mask always when you go out to shop to buy essential products?		
Every time	189 (64.5)	60 (89.6)
At times	77 (26.3)	4 (6.0)
Rarely	27 (9.2)	3 (4.5)
Never	0	0
7. Do you wash hands for > 20 seconds whenever possible?		
Yes	203 (69.3)	53 (79.1)
No	90 (30.7)	14 (20.9)
8. Will you maintain a distance of 2 feet while in crowded area or on going out		
Yes	253 (86.3)	61 (91.0)
No	40 (13.7)	6 (9.0)
9. Have you avoided unnecessary travel?		
Yes	248 (84.6)	59 (88.1)
No	45 (15.4)	8 (11.9)
10. Have you attended any gatherings (Official/Personal in the last one year)		
Yes	167 (57.0)	25 (37.3)
No	126 (43.0)	42 (62.7)
11. Do you greet others without physical contact during the COVID-19 pandemic?		
Yes	180 (61.4)	62 (92.5)
No	113 (38.6)	5 (7.5)
12. Have you used public transport during the pandemic?		
Yes	113 (38.6)	19 (28.4)
No	180 (61.4)	48 (71.6)
13. Have you avoided close contact with high-risk individuals like old people and pregnant women		
Yes	203 (69.3)	52 (77.6)
No	90 (30.7)	15 (22.4)
14. After knowing that you had signs and symptoms of COVID-19 illness have you concealed it from the concerned authority		
Yes	212 (72.4)	39 (58.2)
No	81 (27.6)	28 (41.8)
15. If you have signs and symptoms of COVID-19 illness, what will you do till the report arrives (P).		
Isolate myself at COVID-19 care centre	126 (43.0)	38 (56.7)
Go to work till the report arrives	18 (6.1)	9 (13.4)
Separate myself from family in a room	207 (70.6)	52 (77.6)
Mingle with family but I won't go out	45 (15.4)	7 (10.4)
16. Have you contacted psychiatrists for COVID-19 related stress/anxiety		
Yes	40 (13.7)	2 (3.0)
No	253 (86.3)	65 (97)

[Table/Fig-5]: Practice of COVID-19 appropriate behaviour among college students.

DISCUSSION

This descriptive cross-sectional study was conducted among non medical college students. By the end of 2021, approximately 81.39% of the participants were vaccinated, with 56% having received both doses. Surprisingly, the level of knowledge about COVID-19 among the participants was appreciable, despite their non medical background. This finding aligns with a previous study among students from various disciplines, which showed no significant difference in knowledge regarding COVID-19 [13].

Furthermore, students with better attitudes and practices of CAB were more likely to be vaccinated, consistent with findings from a study by Pothisa T et al., [14]. The absence of a scoring system in the present study's questionnaire notwithstanding, the satisfactory level of knowledge is indicated by the fact that over 50% of the questions were answered correctly. Specifically, regarding knowledge of COVID-19 signs and symptoms, 57.6% and 40.3% of vaccinated and unvaccinated participants, respectively, were aware that cough and cold were COVID-19 symptoms. This finding was consistent with the study by Lee M et al., [15]. Additionally, less than 30% of participants were knowledgeable that COVID-19 can be asymptomatic, and diarrhoea can also be a symptom.

Moreover, present study found that 89% of vaccinated and 60% of unvaccinated participants recognised close contact with an infected person as a common mode of transmission. In contrast, Lee M et al., found that the majority of participants had misconceptions regarding the source of infection, such as eating or contact with wild animals [15]. Over 65% of vaccinated and unvaccinated participants avoided contact with high-risk groups, such as the elderly and pregnant women. Adequate knowledge was found to enhance attitude and behaviour, consistent with the findings of Lau LL et al., [16].

The study also highlighted the sources of COVID-19-related information. Among vaccinated participants, 89.7% obtained

information from social media, a finding in line with Zhong BL et al., [17]. Television, local announcements, and local healthcare providers were also reported as significant information sources in other studies [18], emphasising the need to deliver health information and interventions tailored to the community's needs.

Regarding practices, 75% of students covered their nose and mouth while coughing, and 46.2% of vaccinated students reported washing their hands immediately after coughing. These findings are consistent with a previous study conducted among university students in Jordan [19]. Moreover, a majority of vaccinated students were found to wear masks while going out, traveling, or being in a room with other people, and recognised the preventive role of mask-wearing. Similar results were reported in studies conducted in Bhutan and China [20,21]. Adalja AA, an infectious disease expert, highlighted the efficacy of face masks in preventing the spread of respiratory infections, including COVID-19 [22,23].

Additionally, a good number of students in both groups followed proper hand hygiene practices, consistent with findings from similar studies [20]. It is noteworthy that individuals with higher levels of education tend to adhere to preventive measures against COVID-19 due to their understanding of associated risks [20].

The psychosocial health of young adults during the COVID-19 pandemic was also affected due to sudden restrictions and lockdowns. The knowledge (Q-14,15,17) [Table/Fig-3], attitude (Q-16) [Table/Fig-4], and behaviour (Q-7) [Table/Fig-5] of students about psychosocial health during the COVID-19 pandemic found that many participants opted to spend time with family and friends. A notable fact is that very few students were aware of consulting or talking to a professional counsellor as an appropriate measure to overcome the signs of anxiety. Even the awareness about the presence of the National Psychosocial helpline number (08046110007) was very low (<20-30%) among the students. Since the awareness itself is very low about seeking psychiatric consultation for oneself, the chance of recommending their family and friends to seek a psychiatrist's opinion was found to be very low. During the COVID-19 lockdown, there was a strict limitation on social activities for a long period of time, leading to anxiety, fear, social isolation, and economic disturbance, which altogether affected the mental well-being and physical health of the people [24]. It was found that the COVID-19 pandemic lead to a significant reduction in mental health and multiple behavioural changes like increased sedentary lifestyle and phone usage, in turn leading to increased levels of anxiety and depression [25]. The attitude and knowledge about psychosocial health among college students imply that proper awareness regarding mental health problems and various red flags for seeking appropriate medical advice is necessary. Since WhatsApp and Facebook were the most used virtual platforms to connect with family and friends to alleviate stress (93.8% n=275 among vaccinated and 94.5% n=63 among unvaccinated students), these social media can be used to create mental health awareness. It can be used as an effective initiative to reach several people over a short time period [26].

Attitude (Q-4) [Table/Fig-4] and practice (8,9,10,11) [Table/Fig-5] on social distancing shows that they were not strictly complying with practicing social distancing. The effectiveness of social distancing not only depends on governmental policies but mainly depends on the compliance of the public to those measures. The Ministry of Health and Family Welfare defines social distancing as avoiding mass gatherings and maintaining a distance of 6 feet or 2 meters away from other people. In a study done in Egypt, 95% of the participants were aware of the importance of social distancing in preventing infection [27]. It was found that participants failed to maintain social distance either because of overcrowding or lack of space [28]. As India is a well-populated country, this can be one of the reasons which lead to failure to maintain social distancing.

Knowledge (Q16) [Table/Fig-3] and attitude (Q5) [Table/Fig-4] towards COVID-19 vaccination among the vaccinated participants showed that more than 56.9% are aware that the vaccine prevents the spread of infection, and more than 50% are aware that vaccines are safe and effective and it is mandatory to put two doses as per advice given by the government. This might be due to uncertainty among the general public on the safety and efficacy of vaccines and multiple reinfections that occurred even after vaccination [29]. Around 60% of the unvaccinated individuals are not ready to take up the vaccination as they believe that vaccination is not necessary for healthy individuals. This was similar to previous studies that reluctance, conflicting ideas, and a lack of understanding of the efficacy and effects of vaccines have influenced people's decisions on whether or not to receive vaccines against COVID-19 [30]. Among unvaccinated groups, 40.5% believe vaccination has side-effects, they doubt the safety and efficacy of the vaccine. So, they are not willing to recommend vaccination. As said by McKee C and Bohannon K, there could also be religious and personal beliefs, safety concerns, and fear of any health-related complications in the future due to the vaccines [31]. It was proposed that in order to prevent the occurrence of another wave of COVID-19, proper preventive measures should be followed by all individuals irrespective of their vaccination status. Every individual in the community should be responsible in following the precautions for these kinds of communicable diseases so that it doesn't become a pandemic causing distress on mental, physical and financial situations.

Limitation(s)

The present study's questionnaire does not have a scoring system, which may affect the accuracy of the results. Further studies with a proper scoring system could yield more reliable results. Additionally, the results are limited to Puducherry, and conducting studies in larger areas would allow for generalising the findings on a broader scale.

CONCLUSION(S)

The study helped pinpoint students' misunderstandings and associated reasons regarding CAB and the impact of vaccination. It was found that the knowledge, attitude, and behaviour of college students, even those in non medical fields, were satisfactory, likely due to the availability of social media. Given that today's youth are tomorrow's future, providing proper education to college students regarding appropriate behaviour during COVID-19 infection can help prevent the rapid spread of the disease and other contagious diseases in the future. The results of the study could benefit the public health department in implementing a people-centered approach to create awareness about adhering to CAB and reducing vaccine hesitancy.

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PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Jun 15, 2023
- Manual Googling: Sep 15, 2023
- iThenticate Software: Dec 11, 2023 (8%)

ETYMOLOGY: Author Origin

EMENDATIONS: 7

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was Ethics Committee Approval obtained for this study? Yes
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. NA

Date of Submission: **Jun 14, 2023**
Date of Peer Review: **Aug 18, 2023**
Date of Acceptance: **Dec 12, 2023**
Date of Publishing: **Feb 01, 2024**