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Original Research Article

Assessment of adherence to COVID appropriate behavior among post-vaccinated individuals in rural practice area of Raja Rajeswari medical college and hospital, Bengaluru

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ABSTRACT

Background: As per observations related to the highly mutant corona virus, being vaccinated does not mean that people can avoid COVID preventive rules and guidance and put themselves and others at risk. The study aimed to assess adherence to COVID appropriate behaviour (CAB) among COVID vaccinated individuals in the rural field practice area of Raja Rajeswari medical college and hospital, Bengaluru.
Methods: Community-based, cross-sectional descriptive study was conducted from 1 September to 31 November. A semi-structured, pre-tested, interviewer administered tool was used.
Results: Out of 2285 study participants, the mean age of participants was 42±16 years. About 56% of participants were female and majority belonged to middle class. The most common measure adhered by the study participants was proper use of mask 94% and 70% before and after COVID vaccination respectively.
Conclusions: Of 17 CAB practices, the adherence found to be reduced after vaccination among study participants.

Keywords: COVID-19 vaccine, COVID appropriate behavior, Adherence, Before and after COVID-19 vaccination

INTRODUCTION

COVID-19 is an acronym that stands for corona virus disease of 2019, given by WHO on 11 February 2020 for the disease caused by the novel coronavirus SARS-CoV-2.[1] India sees new spike of cases despite vaccine rollout. India began its COVID-19 vaccination programme on 16 January 2021.

Longevity of the immune response in vaccinated individuals is yet to be determined.[2] While the vaccine is an important part of COVID-19 protection, it is important to emphasize the continuing practice of CAB for personal safety and prevention of community transmission.

The continuation and reinforcement of CAB will be achieved through the following actions: frequent and thorough hand washing using soap and water for 40 sec and with alcohol based hand rub for 20 sec, wearing a mask/face cover (triple layer surgical mask/N-95 respirator mask/homemade mask-double layered 100% cotton), proper disposal of used masks by disinfecting and proper burial, physical distancing of 1 m (3 feet), prompt self-isolation when had contact with suspected COVID-19 case for 14 days, avoiding gatherings in market and other public places, disinfection of frequently touched surfaces (floors), other commonly used areas (toilets, wash basins) and objects (doorknobs, handles, keys, counter tops), watch for any COVID-19 symptoms and be prompt to isolate ourselves and get tested if we

experience any symptoms.[1-3] These are also referred to in medical literature using the imprecise term non-pharmaceutical interventions (NPIs).[4]

Hence, CABs are a must for all of us to follow, till the world can adequately address and fight the virus and put in place all the right tools to deal with it.[1,5] As per observations related to the highly mutant corona virus, being vaccinated does not mean that people can avoid COVID preventive rules and guidance and put themselves and others at risk. There were few studies related to this topic in developed countries and no studies in Karnataka. Hence, the present study aimed to assess adherence to CAB among COVID vaccinated individuals in the rural field practice area of Raja Rajeswari medical college and hospital, Bengaluru. The objectives of study were to describe socio-demographic profile of study population; to assess adherence to CAB in individuals following immunization with COVID-19 vaccine.

METHODS

This community-based, cross-sectional descriptive study was conducted among COVID-19 vaccinated individuals of rural field practice area of Raja Rajeswari medical college and hospital, Bengaluru during September-November 2021. The target sample size of the participants was determined using the formula,

$$n=\frac{Z\propto 2PQ}{L^2},$$

in which Z∝=CI at 95%=1.96,

P=previous prevalence=56%,[6]

Q=100-P=44%,

L=allowable error of 5%,

n=1721.

After obtaining institution ethical committee approval (RRMCH-IEC/69/2021), house to house visit was done and included all COVID-19 vaccinated individuals of 18 years and above. After informing about the study purpose and benefits, 2285 eligible participants gave verbal consent and were surveyed for the study. Data collected through face-to-face interviews using a semi-structured, pre-tested questionnaire. The checklist contains 3 parts, including: socio-demographic details, vaccination details and parameters assessing practices of CAB.[3] Data was collected for 2 months by purposive sampling technique and total enumeration had been done. The collected data were compiled and analysed in MS excel. Socio-demographic data presented using descriptive statistics. Qualitative variables expressed as frequency and percentages, quantitative variables expressed as mean and standard deviation. Chi square test was used to determine the association between qualitative variables. P<0.05 considered statistically significant. Data presented in the form of tables and graphs.

RESULTS

A total of 2285 vaccinated individuals participated in the study. The age of study participants ranges between 18-98 years of age, average year was 42±1.6 years. Majority, that is, 597 (26%) belonged to 28-37 years of age group, next highest 457 (20%) belonged to 18-27 years of age group, least 168 (7%) belonged to >68 years of age group. Gender-wise majority, 1284 (56%) were female. 854 (37%) studied up-to high school, next highest 572 (25%) were illiterate and least 29 (2%) were professionals (Table 1). Most of the study participants belonged to middle class, 971 (43%), next highest 610 (27%) were lower middle-class and least 92 (4%) belonged to upper class (Table 2). Based on number of doses of COVID vaccine taken, majority, 1231 (54%) took two doses and based on type of vaccine, majority, 2241 (98%) took Covishield (Figure 1 and 2).

Table 1: Distribution of study participants according to their socio-demographic profile.

Variables	Number	Percentage
Age-wise distribution (in completed years)		
18-27	457	20
28-37	597	26
38-47	425	19
48-57	296	13
58-67	342	15
>68	168	7
Total	2285	100
Gender-wise distribution		
Male	1001	44
Female	1284	56
Total	2285	100
Education-wise distribution		
Profession	29	2
Graduate	191	8
Intermediate/diploma	210	9
High school	854	37
Middle school	208	9
Primary school	221	10
Illiterate	572	25
Total	2285	100
Occupation-wise distribution		
Employed	1199	53
Unemployed	1086	47
Total	2285	100

Figure 2 shows participants adherence to CAB before and after vaccination. Out of 17 CAB measures recommended by MOHFW, most common measure adhered by the study participants were proper use of mask 2138 (94%), followed by proper practice of hand washing 2072 (91%) and least adhere measure was calling National or State

helpline numbers for queries 422 (19%), before COVID vaccination. Most adhered measures after vaccination was proper disposal of mask (88%) since majority were using cloth mask and least adhere measure was calling National or State helpline numbers for queries (10%), majority of study participants were unaware of this provision too. Most of CAB practices have reduced adherence after vaccination except the practices like proper disposal of used mask, avoid circulating unverified posts related to COVID, avoid discrimination against COVID-19 infected families. These measures were correlated using univariate analysis and were statistically significant (X^2 (1,2285)= 266.3049, p=0.00001). This might be mainly due to the false perception of study participants that vaccination may give 100% protection from getting COVID-19 infection. There were no statistically significant differences in comparing adherence between age, gender, education or socio-economic status wise.

Table 2: Distribution of study participants according to their socio-economic status.

S-E status	Number	Percentage
I (upper >₹7533)	92	4
II (upper middle ₹3766-7532)	499	21
III (middle ₹2260-3765)	971	43
IV (lower middle ₹1130-2259)	610	27
V (lower <₹1129)	113	5
Total	2285	100

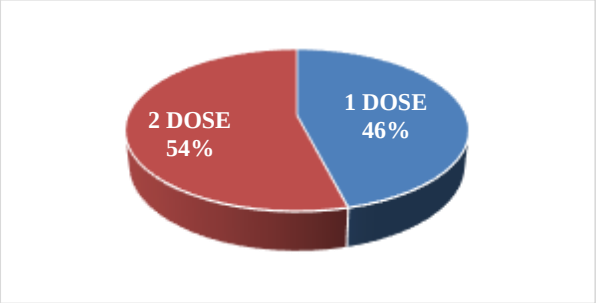

Figure 1: Distribution of study participants based on the number of doses of COVID-19 vaccine taken.

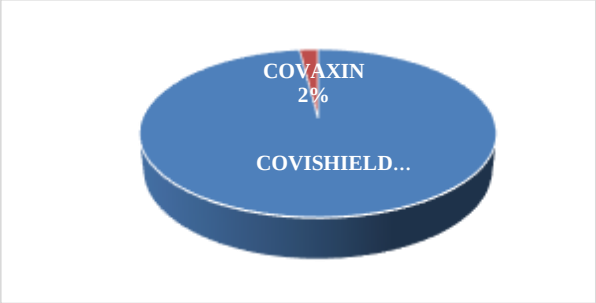

Figure 2: Distribution of study participants based on the type of vaccine taken.

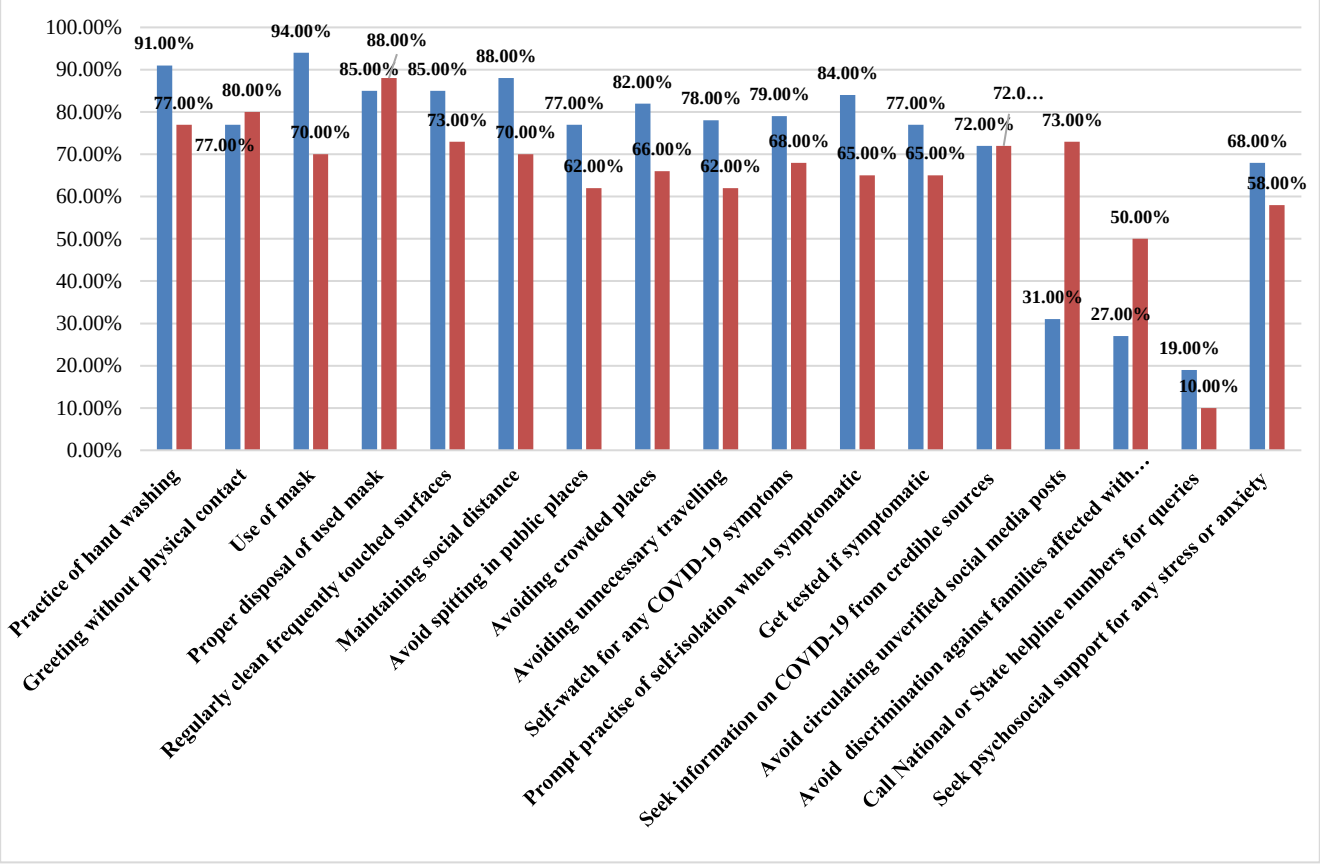

Figure 3: Distribution of study participants according to their CAB practices before and after COVID vaccination

DISCUSSION

The study found that adherence to CAB measures reduced after vaccination among the study participants. A national survey carried out in early December 2020 found that 50% said that after receiving the vaccine they would still follow whatever corona virus rules or restrictions were in place as strictly as they were before getting a vaccine (men 45% and women 53%).[10] However, 29% said that they would adhere less strictly than before, with 18-24 year olds most likely to say this. Worryingly, 11% said that they would probably no longer follow the rules. A study conducted in China showed that 89% of the healthcare providers had adequate knowledge regarding preventive methods of COVID-19.[17] A study conducted in Ethiopia reported that well-educated participants better exercise protective behaviour and they highlighted that there was a gap on recommended precautionary measures, especially for wearing masks and gloves among the healthcare professionals.[18]

There was little variation by occupational social grade, study conducted by Khathlan et al in the Kingdom of Saudi Arabia concluded that CAB practices was found to be inconsistence in non-healthcare settings among the respiratory therapists.[15] Another study conducted by Kumar et al concluded that prevalence of adherence to all CAB measures was 15%, and was low among small-scale workers in the unorganized sector. The most common practiced CAB measure was face cover (57.8%) followed by handwashing (43.75%).[6] This was consistent with present study also. There was a need for health education regarding importance of continuing CAB practices even after COVID vaccination to protect against COVID-19 infection in future also. Need of further studies to find causes for concern of non-adherence to CAB measures.

CONCLUSION

Most of the covid appropriate behaviour practices have been reduced after covid vaccination. Practices like proper disposal of used mask, is being followed after vaccination. There is also no discrimination against covid infected families. Most common measure adhered by the study participants were proper use of mask before vaccination and proper disposal of used mask after vaccination.

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