

## Letter to the Editor

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# COVID-19 vaccination among elderly population in a rural area: coverage and hesitancy study

Sir,

COVID-19 vaccination was opened for senior citizens above 60 years on the 01 March 2021.<sup>1</sup> By 25 June 2021, 2.29 crores senior citizens have received two doses and another 6.71 crores have received the first dose.<sup>2</sup> A total of 9 crores citizens have been given two/one dose of vaccine out of the estimated 14.3 crores people above the age of 60 years.<sup>2</sup> During this period two important roadblocks to the vaccination drive were vaccine hesitancy among certain segment of the population and vaccine coverage especially in the rural areas.<sup>3</sup>

The current study was undertaken among elderly individuals in rural areas to estimate the vaccination along with the factors associated with vaccine hesitancy. We did a cross-sectional, observational study, approved by our institutional ethics committee, among elderly people above the age of 60 years residing in rural area, in the first week of July 2021.

The sample size was calculated using the formula given below.

$$\text{Sample size, } n = Z_{\alpha^2} \times P(1-P)/d^2$$

Considering a vaccine coverage of 60% (p=60%) with 95% confidence level, relative error of 15% of prevalence and a design effect of 2 due to cluster sampling, the sample size was calculated to be 236 (rounded up to 250).<sup>2</sup> The study was carried out among ten villages selected by probability proportionate to size method out of 25 villages in the nearest block in which our medical college is situated. In each village, 25 elderly people were surveyed using a pre designed questionnaire, after taking consent. Data were entered in an excel sheet and were analysed using descriptive statistics.

A total of 250 people above 60 years were interviewed; 128 (51%) females and 122 (49%) males. Among them, 200 (80%) have received either one or both doses of vaccine or the rest 50 (20%) have not taken the vaccine. Almost all, 199 out of 200, who have received vaccine got it at government vaccination centre. Out of 200 who were vaccinated, 189 (94.5%) just walked-in for vaccination at the centre without any prior registration in the Cowin app. Non-vaccinated among females is more in comparison to males and this difference is statistically significant (Chi square 10.822; p value of 0.001).

A majority (56%) who have not taken the vaccine believe that their underlying health condition (like diabetes or hypertension) is a contraindication to COVID-19 vaccination (Table 1).

**Table 1: Frequency of various reasons for non-vaccination in elderly individuals.**

Reasons for non-vaccination	n (%)
Not aware	2 (4)
Not available near me	3 (6)
Fear of side effects	9 (18)
Not needed	6 (12)
No trust in vaccine	0 (0)
Underlying diseases	26 (52)
Recently diagnosed with COVID-19	4 (8)

The current study showed that the vaccine has been well accepted and most of the elderly have taken it. But a majority of those who have taken it have not registered prior in the app. Secondly, there is still a sub section of people who have vaccine hesitancy. This need to be tackled by improved communication strategy both through mass media as well as inter personal communication.

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