FACTORS CONTRIBUTING TO COVID-19 VACCINATION HESITANCY IN THE PUNJAB

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ABSTRACT
The study aimed to explore the factors contributing to the COVID-19 vaccination hesitancy in the Punjab. The study was conducted in South Punjab by selecting 450 respondents who were approached using simple random sampling and interviewed using face to face interview schedule. The study explored that the percentage of vaccinated males is higher than females. It was also found that most of the respondents disagreed with COVID-19 hesitancy statements. The analysis revealed that vaccinated respondents have medium level hesitancy and their main source of information about the pandemic was newspapers. However, the respondents who are not vaccinated have prominent level of vaccination hesitancy and their main source of information about the pandemic is television/news. The study suggested an extended and rigorous campaign on national level television to reduce the impact of the unconfirmed information about COVID-19.

Keywords: COVID-19, Vaccination, Pandemic, Hesitancy

INTRODUCTION
Considering the increasing global rate of COVID-19 confirmed cases and deaths, different vaccinations were introduced which retained some doubts on its effectiveness such as the adverse effects of the vaccination (Eguia et al., 2021; Saied et al., 2021). However, the educated parents desired to vaccinate themselves and their children (Rhodes et al., 2020). Similarly, medical students are also willing to vaccinate themselves (Lucia, Kelekar, & Afonso, 2020). Some of the studies (e.g., (Arce et al., 2021) also explored that vaccination acceptance is higher among low- and middle-income countries such as Asia, Africa and South America.

Pakistan is also suffering from such conspiracy theories including the cultural beliefs which proved to be the strong barriers of vaccination. The most propagated theories in the country at government level stated that COVID-19 pandemic is a grand illusion and conspiracy against Muslims (Khan et al., 2020). The role of religious beliefs and media are also significant in spread of such unconfirmed information about the vaccination. The Pakistani media, especially social and print media, shared news about two years life span after vaccination, which was latterly denounced. The clerics used to divulge that the pandemic is an anger of Allah, and it cannot affect Muslims because we used to wash our apparent body parts five times a day. On the other hand, the unequal access to the vaccination is also a barrier to vaccination (Perveen et al., 2021).
The present study aimed to explore the reality on ground about the COVID-19 vaccination hesitancy. The study also explored the perception of masses about the pandemic as well as the prevalence of the preventive measures against the pandemic.

METHODOLOGY
The study aimed to explore factors contributing to the COVID-19 vaccination hesitancy. The study used the quantitative research approach. The study selected 450 respondents from South Punjab and approached these respondents using simple random sampling technique. The study used face to face interview schedule for data collection. The tool of the study comprised two parts.

First, the demographic information of the respondents including the COVID-19 vaccination status was collected. Second, the vaccination hesitancy was measured on five points likert scale ranged from 1 = strongly agree to 5 = strongly disagree. This part was designed considering the indigenous / cultural rumors about the vaccination such as one of the statement reads, “It can make me impotent.”

ANALYSIS AND RESULTS
Table No. 1 Demographic and COVID-19 related information of respondents

| Variable                          | Frequency | Percentage |
|-----------------------------------|-----------|------------|
| **Gender**                        |           |            |
| Female                            | 130       | 28.9       |
| Male                              | 320       | 71.1       |
| **Living Area**                   |           |            |
| Rural                             | 233       | 51.8       |
| Urban                             | 217       | 48.2       |
| **Family System**                 |           |            |
| Nuclear Family                    | 176       | 39.1       |
| Joint Family                      | 274       | 60.9       |
| **Education**                     |           |            |
| Illiterate                        | 2         | .4         |
| Primary                           | 21        | 4.7        |
| Middle                            | 34        | 7.6        |
| Matric                            | 37        | 8.2        |
| Intermediate                      | 48        | 10.7       |
| Graduation                        | 85        | 18.9       |
| Masters                           | 128       | 28.4       |
| M.Phil.                           | 76        | 16.9       |
| Ph.D                              | 19        | 4.2        |
| **Confirmed Case of COVID-19**    |           |            |
| No                                | 292       | 64.9       |
| Yes                               | 158       | 35.1       |
| **Vaccinated**                    |           |            |
| No                                | 236       | 52.4       |
| Yes                               | 214       | 47.6       |
| **Source of Information about COVID-19** |       |            |
| Television / news                 | 275       | 61.1       |
| Newspaper                         | 131       | 29.1       |
| Friends                           | 34        | 7.6        |
| Family                            | 10        | 2.2        |
| Total                             | 450       | 100        |

Table 1 showed that the male respondents (71.1%) participated in the study more than female (28.9%). The cross tabulation also showed that the percentage of vaccinated male respondents (67.3%) is higher than females (32.7%). The participation of the rural respondents is almost 4% higher than the rural areas. It was also found that the prevalence of vaccinated respondents in urban areas is 90% higher than urban areas. The respondents from the joint family system participated nearly 50% higher than the
respondents from nuclear family system. The table also showed that most of the respondents have master level education (28.4%), but the percentage of illiterate and Ph.D. is very minimal (0.4% and 4.23%, respectively). Interestingly, the percentage of the confirmed COVID-19 cases (35.1%) is almost 10% lower than the respondents who are vaccinated (47.6%). It was also explored that the major source of information about the COVID-19 pandemic in South Punjab is television or news. The second major source of information is newspaper. However, the information about the pandemic has been rarely shared among friends and family (7.6% and 2.2% respectively).

| Table No. 2 COVID-19 vaccination hesitancy | SA     | A      | UD    | D     | SD    |
|-------------------------------------------|--------|--------|-------|-------|-------|
| It can make me impotent                   | 31 (6.9) | 88 (19.6) | 104 (23.1) | 155 (34.4) | 72 (16.0) |
| I am afraid, it shall be scarce and I     | 60 (13.3) | 114 (25.3) | 111 (24.7) | 126 (28) | 39 (8.7) |
| have to purchase it costly                |        |        |       |       |       |
| The rich people can control my            | 19 (4.2) | 77 (17.1) | 139 (30.9) | 135 (30) | 80 (17.8) |
| mind through this vaccination             |        |        |       |       |       |
| It contains pig elements that Islam       | 25 (5.6) | 71 (15.8) | 128 (28.4) | 142 (31.6) | 84 (18.7) |
| do not allow to inject                    |        |        |       |       |       |
| I shall die after two years of getting    | 24 (5.3) | 77 (17.1) | 122 (27.1) | 143 (31.8) | 84 (18.7) |
| COVID-19 vaccine                         |        |        |       |       |       |
| I avoid COVID-19 vaccine                  | 38 (8.4) | 44 (9.8) | 78 (17.3) | 165 (36.7) | 125 (27.8) |
| because medicine of seasonal flue can    |        |        |       |       |       |
| cure it                                   |        |        |       |       |       |
| There is a defined day of death, If       | 22 (4.9) | 53 (11.8) | 89 (19.8) | 167 (37.1) | 119 (26.4) |
| I am to live, I can live without          |        |        |       |       |       |
| vaccine                                   |        |        |       |       |       |

Note: SA = Strongly Agree, A = Agree, UD = Undecided, D = Disagree, SD = Strongly disagree.

Table 2 comprised frequency and percentage distribution of the items of COVID-19 vaccination hesitancy questionnaire. The table showed that 34.4% of the respondents disagreed that the vaccination could cause impotency. However, most of the respondents (Strongly Agree = 13.3% and Agree = 25.3%) were of the view that in near future, the vaccination would be costly and they would not be in financial position to purchase it because they have to vaccinate themselves again. The conspiracy theory favor of accepting Islam prohibited using medicine containing pig elements (Disagree = 31.6% and Strongly Disagree = 18.7%). The table also showed that the overall percentages of disagreement are higher than the percentages of agreeing with the hesitancy statements.

Figure 1 showed the graphical results of the Multiple Correspondence Analysis (MCA) comprising the COVID-19 vaccination hesitancy index, status of vaccination and the source of information about the COVID-19 pandemic. The hesitancy index was constructed by computing all the scores of the scale to explore the interval for three level categories i.e., Low, Medium and High Hesitancy. The index scores were inverse: the lower values interval (i.e., 7 to 18) were given the higher hesitancy because the coding of the five points likert scales rated high value to the disagreement with the hesitancy statements.

The results of the showed that overall inertia of two-dimensional solution is 0.993 (99% variance). The figure also showed that the people who attained information about the pandemic from television/news have high hesitancy level and they are not vaccinated. On the contrary, the respondents who collected information about the pandemic from newspapers have medium level hesitancy and they are vaccinated against COVID-19. The low hesitancy and family are not associated with any selected variables. that the masses can be controlled by injection vaccination was not agreed by most of the
respondents (Disagree = 30% and Strongly Disagree = 17.8%). Similarly, most of the respondents was also not in

CONCLUSION
The study concluded that the males are more vaccinated than females and the prevalence of vaccination is a little higher in rural areas than urban areas of South Punjab. The study also concluded that the people who have been acquiring information about the COVID-19 pandemic from television/news have higher level of vaccination hesitancy and they are not vaccinated. On the contrary, the people who have been attaining information from newspapers have medium level of vaccination hesitancy and they are vaccinated.

The study suggests launching a campaign at national news channels to reduce impact of the unconfirmed information propagated bout the pandemic and vaccination. The fake news especially on social media are also needed to be dealt with because there are bulk of materials which promoting
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conspiracy theories about the deleterious effects of the vaccination despite the fact that the confirmed cases of the COVID-19 and deaths are continuously increasing.

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