Data Article

A population-based dataset concerning predictors of willingness to get a COVID-19 vaccine in Iran

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\textbf{ARTICLE INFO}

\textbf{Article history:}
Received 31 May 2021
Revised 13 August 2021
Accepted 1 October 2021
Available online 8 October 2021

\textbf{Keywords:}
COVID-19
Intention
Iran
Survey
Vaccination

\textbf{ABSTRACT}

The global issue of preventing the spread of COVID-19 is challenging. One of the most efficient ways to control the pandemic is to have a full coverage of COVID-19 vaccination. Therefore, this paper collected survey data to understand the intention and willingness of COVID-19 vaccination uptake in Qazvin, Iran. With the use of a paper-and-pencil method and multistage stratified cluster sampling, research personnel approached and interviewed a representative sample of adults in Qazvin (n = 10843) between February 19 and April 9, 2021. The survey asked questions regarding sociodemographic information, fear of COVID-19, perceived COVID-19 infectability, perceived behavioral control over COVID-19 vaccination, subjective norm of COVID-19 vaccination, attitude towards COVID-19 vaccination, and intention to get vaccination.

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https://doi.org/10.1016/j.dib.2021.107459
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COVID-19 vaccinated. The data collected from this survey were analyzed using descriptive statistics, which were carried out using the IBM SPSS version 17.0.
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Specifications Table

| Subject                                    | Infectious diseases and public health |
|--------------------------------------------|---------------------------------------|
| Specific subject area                      | Health behaviors and psychology       |
| Type of data                               | Tables                                |
| How data were acquired                     | Data were collected using paper-and-pencil method where interviewee completed the form. A copy of the survey is included as Supplementary File. |
| Data format                                | Raw, analyzed                         |
| Parameters for data collection             | The target population was adult general population in Qazvin, Iran (n=10843). The survey questions include basic sociodemographic information, fear of COVID-19, perceived COVID-19 infectability, perceived behavioral control over COVID-19 vaccination, subjective norm of COVID-19 vaccination, attitude toward COVID-19 vaccination, and intention to get COVID-19 vaccinated. |
| Description of data collection             | The data were collected using paper-and-pencil method and multistage stratified cluster sampling. Several interviewers who were well trained approached eligible participants to complete the survey questions. The participants were a representative sample in Qazvin. |
| Data source location                       | The data were collected by the Social Determinants of Health Research Center, Qazvin University of Medical Sciences – Iran. |
| Data accessibility                         | Repository name: Harvard Dataverse    |
|                                            | Data identification number:           |
|                                            | doi: 10.7910/DVN/IETC88               |
|                                            | Direct URL to data:                   |
|                                            | https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/IETC88 |

Value of the Data

- This dataset is useful because it comprises data from a largescale study that includes a representative sample in Qazvin Iran to assess factors related to willingness of COVID-19 vaccination uptake, including fear of COVID-19, perceived COVID-19 infectability, attitude toward COVID-19 vaccination, subjective norm of COVID-19 vaccination, and perceived behavioral control over COVID-19 vaccination. Moreover, intention toward getting COVID-19 vaccinated was assessed in this dataset.
- The dataset can benefit the following personnel: researchers in communicable disease, health behavior, health promotion, health psychology, public health, and epidemiology because the findings provide information and knowledge regarding general population’s attitudes, subjective norm, perceived behavioral control, and intention toward COVID-19 vaccination. Moreover, the information of perceived COVID-19 infectability was collected in this dataset. Therefore, different health disciplines can use the data for health promotion and education to advocate and elevate general population’s willingness to get COVID-19 vaccinated.
- The dataset is useful for academic researchers who would like to understand the underlying psychological mechanisms of intention to uptake COVID-19 vaccination. More specifically, the present study’s results can be compared with relevant studies from other countries to examine whether the psychological mechanisms can be applied to different countries. Moreover, systematic review and meta-analysis studies can be conducted in the future.
- The findings from the present dataset may assist the authorities, including government and health policymakers, in decision making by using scientific evidence to develop and implement COVID-19 vaccination uptake guidelines.
1. Data Description

With the use of a representative sample, the present dataset provides insightful and useful information regarding COVID-19 vaccination uptake. The information was collected via paper-and-pencil survey data in a general population of Qazvin, Iran. The present dataset included survey data from 10843 adults to understand their intention to get COVID-19 vaccinated. Moreover, potential factors that can explain intention to get COVID-19 vaccinated were collected. These factors were derived from two important health behavior theories: Theory of Planned Behavior [1] and Protection Motivation Theory [2]. More specifically, the factors derived from the Theory of Planned Behavior include attitude toward COVID-19 vaccination (i.e., how an individual evaluates the value of COVID-19 vaccination), subjective norm of COVID-19 vaccination (i.e., how an individual perceives others’ opinions toward COVID-19 vaccination), and perceived behavioral control over COVID-19 vaccination (i.e., how an individual has confidence in getting COVID-19 vaccinated) [3,4]. The factors derived from the Protection Motivation Theory include fear of COVID-19 and perceived infectability (i.e., how an individual perceives the possibility of getting COVID-19 infection) [5,6]. The English version of the survey questionnaire is attached as a supplementary file. With understanding the intention of COVID-19 vaccination uptake (i.e., how an individual is willing to get COVID-19 vaccinated), herd immunity may be achieved [7]; subsequently, psychological distress induced by the COVID-19 may be somewhat lessened [8–11]. Table 1 illustrates the participants’ sociodemographic characteristics. Tables 2 and 3 shows the

| Table 1 | Distribution of responses in relation to socio-demographic variables. |
|-----------------|-----------------|-----------------|
| **Socio-demographics** | **Frequency** | **Percentages** |
| **Age group; Mean ± SD = 35.54 ± 12.00 years** | | |
| 18–29 years | 3431 | 31.6 |
| 30–39 years | 3820 | 35.2 |
| 40–49 years | 2327 | 21.5 |
| 50–59 years | 815 | 7.5 |
| 60 years and above (elderly) | 438 | 4.0 |
| **Gender** | | |
| Male | 4092 | 37.7 |
| Female | 6751 | 62.3 |
| **Educational status** | | |
| No formal education | 352 | 3.2 |
| Primary school (up to 6) | 986 | 9.1 |
| Secondary school (7 to 9) | 1540 | 14.2 |
| Higher school (10 to 12) | 974 | 9.0 |
| Diploma | 2761 | 25.5 |
| University | 4230 | 39.0 |
| **Divisional residence** | | |
| Qazvin | 4787 | 44.1 |
| Takestan | 1336 | 12.3 |
| Avaj | 307 | 2.8 |
| Alborz | 1145 | 10.6 |
| Buin Zahra | 988 | 9.1 |
| Abyek | 753 | 6.9 |
| Eqbaliyeh | 453 | 4.2 |
| Mohammadiyeh | 872 | 8.0 |
| **Administrative residence** | | |
| Rural | 2656 | 24.5 |
| City | 8187 | 75.5 |
| **Marital status** | | |
| Unmarried | 2751 | 25.4 |
| Married | 8092 | 74.6 |
| **Having a child** | | |
| Yes | 3884 | 35.8 |
| No | 6959 | 64.2 |
Table 2
Distribution of responses in relation to Attitude toward COVID-19 vaccination.

| Attitude toward COVID-19 vaccination | Frequency | Percentages |
|--------------------------------------|-----------|-------------|
| extremely bad (1)                    | 439       | 4.0         |
| (2)                                  | 332       | 3.1         |
| (3)                                  | 3081      | 28.4        |
| (4)                                  | 2638      | 24.3        |
| extremely good (5)                   | 4304      | 39.7        |
| extremely undesirable (1)            | 413       | 3.8         |
| (2)                                  | 530       | 4.9         |
| (3)                                  | 2733      | 25.2        |
| (4)                                  | 3191      | 29.4        |
| extremely desirable (5)              | 3928      | 36.2        |
| extremely unimportant (1)            | 374       | 3.4         |
| (2)                                  | 403       | 3.7         |
| (3)                                  | 2788      | 25.7        |
| (4)                                  | 3421      | 31.6        |
| extremely important (5)              | 3802      | 35.1        |
| extremely useless (1)                | 439       | 4.0         |
| (2)                                  | 451       | 4.2         |
| (3)                                  | 2863      | 26.4        |
| (4)                                  | 3473      | 32.0        |
| extremely useful (5)                 | 3567      | 32.9        |
| extremely unfavorable (1)            | 779       | 7.2         |
| (2)                                  | 718       | 6.6         |
| (3)                                  | 2754      | 25.4        |
| (4)                                  | 2989      | 27.6        |
| extremely favorable (5)              | 3568      | 32.9        |
| extremely harmful (1)                | 618       | 5.7         |
| (2)                                  | 587       | 5.4         |
| (3)                                  | 2446      | 22.6        |
| (4)                                  | 3339      | 30.8        |
| extremely beneficial (5)             | 3817      | 35.2        |

For me, getting the COVID-19 vaccination would be ... distributions of responses related to the factors in the Theory of Planned Behavior. More specifically, Table 2 presents participants’ attitude toward COVID-19 vaccination; Table 3 presents participants’ subjective norm of COVID-19 vaccination, perceived behavioral control over COVID-19 vaccination, and intention to get COVID-19 vaccinated. Tables 4 and 5 demonstrates the distributions of responses related to the factors in the Protection Motivation Theory. More specifically, Table 4 presents participants’ fear of COVID-19 and Table 5 presents participants’ perceived COVID-19 infectability.

2. Experimental Design, Materials and Methods

The study was carried out using a cross-sectional design with multistage stratified cluster sampling among Qazvin adult residents, which comprised a representative sample of the general population in Qazvin, Iran [12]. Qazvin, a province located in the central part of Iran, is 50 km northwest of Tehran. The 2018 census, which is the latest census, shows that the province has a population of 1,273,761, where 51% were male. The first step of the multistage stratified cluster sampling was to decide six cities as clusters and Qazvin, Takestan, Avaj, Alborz, Buin Zahra, and Abyek were subsequently considered as the present study’s clusters. In the second step, each city was stratified according to its urban and rural areas. In the third step, several health centers in each urban and rural areas were randomly selected. In the fourth step, the centers provided...
Table 3
Distribution of responses related to subjective norms, perceived behavioral control and intention.

|                                                                                                         | Frequency | Percentages |
|----------------------------------------------------------------------------------------------------------|-----------|-------------|
| **Most people who are important to me would want me to get a COVID-19 vaccination**                      |           |             |
| Strongly Disagree                                                                                       | 658       | 6.1         |
| Disagree                                                                                                 | 747       | 6.9         |
| Neutral                                                                                                  | 2419      | 22.3        |
| Agree                                                                                                    | 3052      | 28.1        |
| Strongly Agree                                                                                           | 3935      | 36.3        |
| **Most people who are important to me would think I should get a COVID-19 vaccination**                  |           |             |
| Strongly Disagree                                                                                       | 608       | 5.6         |
| Disagree                                                                                                 | 708       | 6.5         |
| Neutral                                                                                                  | 2414      | 22.3        |
| Agree                                                                                                    | 3179      | 29.3        |
| Strongly Agree                                                                                           | 3898      | 35.9        |
| **Whether or not I get a COVID-19 vaccination is completely up to me.**                                  |           |             |
| Strongly Disagree                                                                                       | 833       | 7.7         |
| Disagree                                                                                                 | 613       | 5.7         |
| Neutral                                                                                                  | 2764      | 25.5        |
| Agree                                                                                                    | 2559      | 23.6        |
| Strongly Agree                                                                                           | 4042      | 37.3        |
| **I have resources, time and opportunities to get a COVID-19 vaccination.**                              |           |             |
| Strongly Disagree                                                                                       | 451       | 4.2         |
| Disagree                                                                                                 | 832       | 7.7         |
| Neutral                                                                                                  | 2157      | 19.9        |
| Agree                                                                                                    | 3101      | 28.6        |
| Strongly Agree                                                                                           | 4265      | 39.3        |
| **I am willing to get a COVID-19 vaccination.**                                                           |           |             |
| Strongly Disagree                                                                                       | 631       | 5.8         |
| Disagree                                                                                                 | 564       | 5.2         |
| Neutral                                                                                                  | 2430      | 22.4        |
| Agree                                                                                                    | 3246      | 29.9        |
| Strongly Agree                                                                                           | 3932      | 36.3        |
| **I want to get a COVID-19 vaccination.**                                                                |           |             |
| Strongly Disagree                                                                                       | 640       | 5.9         |
| Disagree                                                                                                 | 588       | 5.4         |
| Neutral                                                                                                  | 2624      | 24.2        |
| Agree                                                                                                    | 3198      | 29.5        |
| Strongly Agree                                                                                           | 3750      | 34.6        |

A list of families that were covered by their service and the families were randomly selected for participation. In the final step, several interviewers (who received standard training) visited the homes of the selected participants and interviewed the families for this survey. The survey period was between February 19 and April 9, 2021.

The eligibility of the participants depended on fulfilling the following inclusion criteria. First, they had to be an adult resident in Qazvin province who was aged 18 years or above; and second, the participant had to be willing to participate after fully understanding the study’s purpose and interview procedure. Moreover, the only exclusion criterion was that participants could not be could either guests or tourists in Iran during the survey period. In order to verify the participants’ willingness to participate, each participant provided a written Informed consent. All the data were analyzed using descriptive statics (i.e., mean with SD; frequency with percentage) and internal consistency (i.e., Cronbach’s $\alpha$) carried out by the IBM SPSS 17.0.

Fear of COVID-19 was assessed using the 7-item Fear of COVID-19 Scale (FCV-19S), where all the items were rated on a 5-point Likert scale [13]; the FCV-19S had satisfactory psychometric
properties in the present dataset (internal consistency $\alpha = 0.88$). Perceived COVID-19 infectability was assessed using 5 items rated on a 5-point Likert scale; the 5 items had satisfactory psychometric properties in the present dataset (internal consistency $\alpha = 0.70$). Perceived behavioral control over COVID-19 vaccination was assessed using 2 items rated on a 5-point Likert scale; the 2 items had satisfactory psychometric properties in the present dataset (internal consistency $\alpha = 0.75$). Subjective norm of COVID-19 vaccination was assessed using 2 items rated on a 5-point Likert scale; the 2 items had satisfactory psychometric properties in the present dataset (internal consistency $\alpha = 0.89$). Attitude towards COVID-19 vaccination was assessed using 6 items rated on a 5-point Likert scale; the 6 items had satisfactory psychometric properties in the present dataset (internal consistency $\alpha = 0.94$). Intention to get COVID-19 vaccinated was assessed using 2 items rated on a 5-point Likert scale; the 2 items had satisfactory psychometric properties in the present dataset (internal consistency $\alpha = 0.92$).
Table 5
Distribution of responses on the Perceived COVID-19 infectability.

| Perceived COVID-19 infectability | Frequency | Percentages |
|----------------------------------|-----------|-------------|
| If a COVID-19 patient is “going around”, I will get it | | |
| Strongly disagree | 2307 | 21.3 |
| Disagree | 2355 | 21.7 |
| Neither agree nor disagree | 1913 | 17.6 |
| Agree | 1997 | 18.4 |
| Strongly agree | 2234 | 20.6 |
| My past experiences make me believe I am not likely to get COVID-19 even when my friends are sick | | |
| Strongly disagree | 1057 | 9.7 |
| Disagree | 1553 | 14.3 |
| Neither agree nor disagree | 2448 | 20.7 |
| Agree | 2827 | 26.1 |
| Strongly agree | 3120 | 28.8 |
| In general, I am very susceptible to colds, flu, COVID-19 and other infectious diseases | | |
| Strongly disagree | 836 | 7.7 |
| Disagree | 1177 | 10.9 |
| Neither agree nor disagree | 2320 | 21.4 |
| Agree | 3191 | 29.4 |
| Strongly agree | 3282 | 30.3 |
| I am unlikely to catch a cold, flu, COVID-19 or other illness, even if it is “going around”* | | |
| Strongly disagree | 2053 | 18.9 |
| Disagree | 2080 | 19.2 |
| Neither agree nor disagree | 2691 | 24.8 |
| Agree | 2452 | 22.6 |
| Strongly agree | 1527 | 14.1 |
| My immune system protects me from COVID-19 that other people get* | | |
| Strongly disagree | 1323 | 12.2 |
| Disagree | 1455 | 13.4 |
| Neither agree nor disagree | 1669 | 15.4 |
| Agree | 2688 | 24.8 |
| Strongly agree | 3675 | 33.9 |

* = Reverse scored.

Ethics Statement

In collecting the data, the 1975 Helsinki declaration and ethical permission to collect the data was granted from the Ethics Committee of Qazvin University of Medical Sciences (protocol code: IR.QUMS.REC.1399.418; date of approval: 20 January 2021). Additionally, written informed consent was provided by all participants prior to starting the survey. They were informed about the purpose and nature of the data and they had the right to withdraw their data if they wanted to.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Supplementary Materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.dib.2021.107459.

CRediT Author Statement

Amir H. Pakpour: Conceptualization, Investigation, Writing – original draft, Funding acquisition, Formal analysis, Supervision; Rafat Yahaghi: Data curation; Safie Ahmadizade: Data curation; Razie Fotuhi: Data curation; Elham Taherkhani: Data curation; Mehdi Ranjbaran: Data
curation; Zeinab Buchali: Data curation; Chung-Ying Lin: Investigation, Writing – original draft, Formal analysis; Mark D. Griffiths: Writing – original draft; Anders Broström: Data curation, Investigation.

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