

Intention to get COVID-19 Vaccine and Trust in the Government: Policy Matters

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Abstract

Background: Building trust in the government and intention to get vaccinated against COVID-19 is as important as developing a safe vaccine to contain the pandemic.

Purpose: The study aimed to examine the associations between the intention to vaccinate against COVID-19 and the people's trust in the government, and compare both concepts based on the subject's characteristics.

Methods: This is a part of a large-scale cross-sectional study that employed a web-based survey conducted in 2021. The study utilized data collected on the main study variables using questionnaires from a convenient sample of 281 Jordanian subjects. Bivariate statistics were employed with .05 as a significance level.

Results: Trust in the government scores were significantly different based on gender and marital status. As mistrust in the government increases, subjects tend to accept the vaccine. Female subjects tend to trust the government but have low intention to get vaccinated than male subjects. Married subjects tend to have higher mistrust of the government than single subjects. Subjects who agree with the statement "herd immunity would be beneficial for COVID-19 and this fact is covered up" and "the government restrictions are stronger than is needed" had a higher intention to get vaccinated scores than those who disagree with it.

Conclusions: To build and maintain the trust of the public, the government needs to enhance its efforts in publicizing information on the pandemic and employ strategies for improved communication management to the public through social media and mainstream information sources and healthcare providers, especially those who are in the front lines healthcare providers. Policy-makers should employ strategies to improve communication management to the public and rebuild trust in the government during the COVID-19 pandemic. Longitudinal studies with more representative samples are recommended.

Keywords: COVID-19; Government; Policy; Intention; Trust; Vaccine

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Introduction

Worldwide, trust between the government and the public is essential to facilitating good governance (Devine et al., 2020). Public trust makes enacting and implementing restrictive containment policies easier (Devine et al., 2020). It also leads to more compliance with various health policies, such as measures of quarantining and restricting mass gatherings (Van Bavel et al., 2020). Worldwide, the pandemic's financial constraints made most nations distrust their governments (Sibley et al., 2020).

The success of any vaccine depends on the people's acceptance of the vaccine. Trust in the government matters in getting the COVID-19 vaccine (Al-Hasan et al., 2020; Lee et al., 2016; Thunstrom et al., unpubl). General population vaccine hesitancy and mistrust of vaccine safety, as they mistrust the government, are among the most important factors that cause low acceptance of the vaccine (Khosravi, 2020; Thunstrom et al., unpubl). Thunström et al. (2020) reported that

people with high trust in the government are 3% more likely than those of medium trust to get vaccinated against COVID-19; the positive marginal effect for trust in the government but it was only weakly statistically significant (Thunstrom et al., unpubl). In addition, the researcher reported that people with low trust in the government are 5% less likely to get the COVID-19 vaccine than those with medium trust. Mistrust in the government was higher among those who declined the vaccine. Trusting the health system and the information from the government also significantly may influence people's intention to receive and adhere to health instructions (Al-Hasan et al., 2020).

However, inconsistent results were found regarding the relationship between the intention to get vaccinated against COVID-19 and trust in the government (Paul et al., 2021), and the intention to get vaccinated and the conspiracy beliefs and theories (Jolley & Douglas, 2014; Keilman, 2020; McCaffery et al., 2020). The conspiracy theories or myths decrease the intention to vaccinate in general (Jolley & Douglas, 2014), which also applied to COVID-19. These include that the vaccine contains a microchip, the vaccine will alter the DNA, and the human immune systems are better than vaccines (Keilman, 2020). Higher scepticism led to lower perceived risk and trust in the government or professionals, thus having higher doubts and objections to vaccination (Lin et al., 2021). Building people's trust and intention to get the COVID-19 vaccine is as important as containing the pandemic (Lee et al., 2016; Thaker, unpubl; Thunstrom et al., unpubl).

Trust is one factor that shapes an accurate risk perception of COVID-19 and is the main core of responding to public health messages (Khosravi, 2020). It can indirectly influence the adoption of the recommended measures against COVID-19. Therefore, governments must disclose complete and consistent information about the pandemic to maintain trust. Khosravi (2020) advised that the government must never "downplay" the reality of risk and vulnerabilities to reduce people's fears and worries (Khosravi, 2020). Further, the researcher stressed that contradictory information issued by the government could be associated with reduced people's trust.

This paper examined the association between the intention to get the COVID-19 vaccine and trust in the government. We also compared the intention to get the vaccine and trust in the government based on the subject's characteristics. This is one of the few studies on the topic (Al-Hasan et al., 2020; Devine et al., 2020; Lazarus et al., 2020; Lee et al., 2016; Lin et al., 2021; Sibley et al., 2020; Thunstrom et al., unpubl; Van Bavel et al., 2020), and the first one in Jordan. The current study results will help policy-makers employ strategies for improved communication to the public and regain trust in the government in its journey to eradicate COVID-19.

Materials and Methods

Design and Sample: This is a part of a large-scale cross-sectional data gathered using a web-based survey utilizing convenience snowballing sampling. Using different electronic methods, including social media, subjects who are 1) willing to participate, 2) able to read and write in Arabic, and 3) aged 18 years or above were invited to participate.

Measures:

We collected subjects' sociodemographic characteristics (i.e. age, sex, marital status, level of education, income level, and health insurance) and questionnaires on the intention to get vaccinated against COVID-19 and trust in the measures and information provided by the government.

Intention to get the COVID-19 vaccine: The 3-item scale was used to measure the intention to get vaccinated against COVID-19 (Thaker, unpubl). Items of the scale were rated on a 5-Likert points scale ranging from "1"= "strongly disagree" to "5"="strongly agree" with "neither disagree nor agree" as the middle point of the scale. The items asked subjects to report their opinions (disagreement or agreement) with the statements related to the intention to get vaccinated. The total scores were calculated by summing the responses of the three items and could range from 3

to 15; a high score indicates a high intention to get the vaccine. In this study, the Cronbach's reliability alpha for the scale was .94.

Trust in the government. Trust in the government was measured using three items rated on a 5-Likert points scale ranging from "1"= "strongly disagree" to "5"= "strongly agree" with "being neutral" as the middle point of the scale (McCaffery et al., 2020). The items ask subjects to report their agreement with the statements about the trust in the government's information and measures taken to control the COVID-19 pandemic. The sum of the responses of the three items yields total scores that could range between 3 and 15, with higher scores indicating higher mistrust in the government. In this study, the Cronbach's reliability alpha for the scale was .65.

Ethical consideration

The Institutional Review Board committee at a university in Jordan approved this study. All procedures involving human participants' studies followed the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The survey was web-based utilizing the Google platform distributed to the public through multiple social media platforms, especially Facebook and WhatsApp.

Anonymous voluntary participation and confidentiality were assured; the survey was formatted in a way that allowed subjects to skip any question if they wanted and that they could withdraw from the survey at any time before submitting the forms. Subjects were also informed that their agreement to participate in the study is their informed consent and to submit only one response. Subjects were invited to share the survey link to their contacts, as it was a snowball sampling. Data were collected over ten days (20th – 29th of January 2021).

Data Analysis

The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 25 with a significance level of $\leq .05$. Bivariate Pearson's correlation was used to examine the association among study variables. Subjects were classified based on their responses to their trust in the government items into disagreeing, neutral, or agreeing groups if they had responded to the item with strongly disagree or disagree, not agree or disagree, or agree and strongly agree, respectively. Independent samples t-test was used to examine differences in scores for variables with two categories. The one-way ANOVA test with Scheffe posthoc test was used for variables > two categories.

Results

Sample Description

A total of 281 subjects participated in this study. The subject's mean age was 27 years with the majority of subjects being female, single, highly educated, and had health insurance. The detailed characteristics of the subjects are presented in Table 1.

Insert Table 1 about here

The Intention to Get Vaccinated, Trust in the Government, and the Subjects' Characteristics

Table 1 shows that scores on the intention to get the vaccine were significantly different according to gender only, with males tending to have a higher intention to get vaccinated than females. Regarding scores on trust in the government, the only significant differences were according to gender and marital status with male or married subjects with more mistrust in the government than female or single subjects.

Associations between the Intention to Get Vaccinated and Trust in the Government

Table 1 also shows a significant positive but weak correlation between the total score of the intention to get vaccinated scores and trust in the government scores. That correlation indicated that subjects tend to accept vaccines as mistrust increases. We further categorized subjects based on their level of agreement with each item statement of trust in the government scale and compared the total score of the intention to get vaccinated among subjects in these categories using a one-way ANOVA test with a Scheffe posthoc test. The results revealed that those who agree with the statement "herd immunity would be beneficial for COVID-19 and this fact is covered up" had a higher intention to vaccination scores than those who disagreed with it (9.88 ± 3.71 vs 8.58 ± 3.05 , $p = .027$, Table 2). Similarly, those who agree with the statement "the government restrictions are stronger than is needed" had a higher intention to vaccination scores than those who disagreed with it (9.91 ± 3.51 vs. 8.51 ± 3.27 , $p = .009$).

Insert Table 2 about here

Discussion

Worldwide, the COVID-19 pandemic is expected to continue imposing severe disruption in most societies, especially economies (Lazarus et al., 2020; Sherman et al., 2020). Trust in the government will foster compliance with regulations to limit the negative effects of the pandemic. This requires sufficient and effective healthcare system capacity and strategies to enhance trust in the government and acceptance COVID-19 vaccine. The government needs to build a trustful relationship with the public, which is not the case in the current sample. Simply building trust in the government starts with sending clear and non-contradictory information about the virus and the healthcare system's capacity (Khosravi, 2020); this can be easily achieved by unifying informant persons, the spokespeople, about COVID-19-related matters. In a later stage, large-scale, equitable access and distribution of a COVID-19 vaccine are warranted to build trust in the government (Lazarus et al., 2020; Sherman et al., 2020).

Associations between the Intention to Vaccination and Trust in the Government

Our findings showed that trust in the government is necessary for vaccination against COVID-19. Contrary to Thunström et al. (2020) and Lazarus et al. (2020), the current researchers found that mistrust in the government is higher among those who intend to vaccinate against COVID-19. In Jordan, mistrust in the government could be related to the first long lockdown associated with too many miscommunications, which increased psychological distress and resulted in mistrusting the government initiatives toward COVID-19. Our results also suggest that people may hold general positive or negative beliefs and attitudes toward the vaccination because of the lockdowns. This general sense drives the intention to get vaccinated against COVID-19 at this point, considering that the COVID-19 vaccination has been framed in the media. In turn, there is the potential for this general "positive sentiment to be eroded," negatively influencing COVID-19 vaccination intention and uptake (Sherman et al., 2020).

Jordanian people may trust the healthcare system more than the government in managing the pandemic, similar to other countries (Al-Hasan et al., 2020; Sherman et al., 2020). Thus, to maintain people's trust, the government must provide reliable information about the pandemic; the media has the lowest trust position during COVID-19 (Khosravi, 2020). Jordanian government must consider that healthcare providers, especially nurses and healthcare providers are among the most trusted information sources during such a pandemic (Khosravi, 2020; Verhoest et al., 2020). Inconsistent with previous studies (Lee et al., 2016; Thunstrom et al., unpubl), our results showed that subjects tend to accept the vaccine as mistrust in the government increases.

However, Paul et al. (2021) did not find an association between low confidence levels in the government to handle the COVID-19 pandemic with the unwillingness to vaccinate. Although Jordanian subjects mistrust the government, they still have the intention to get vaccinated against COVID-19. This mistrust in government could be related to the that the majority of the sample was young and educated. This is consistent with Gozgor (2021), who reported that older people trust

their government more and that education is negatively related to trust in the government (Gozgor, 2021). The current researchers also want to attest that we in Jordan have a strong Food and Drug Administration (FDA); even if we mistrust the government, we still trust the FDA as it will not authorize any vaccine unless it is safe. This will influence our intentions to get vaccinated against the disease and will increase vaccine uptake at a later stage.

Few studies linked COVID-19 to gender (Detoc et al., 2020; Gagneux-Brunon et al., 2021; Gebhard et al., 2020; Grasselli et al., 2020), and this applied to vaccination intention or uptake. Female subjects tend to have lower scores on both scales, which means that females generally tend to trust the government with having low intention to get the vaccine; consistent with findings of many previous studies (Detoc et al., 2020; Gagneux-Brunon et al., 2021; Horsburgh et al., 2011; Myeong & Seo, 2016). In Jordan, females are not generally involved in political matters as males. Although females' roles as caregivers and family supporters may place them at increased risk of COVID-19 infection (Grasselli et al., 2020), their intention to vaccinate is low in the current study. It is well known that COVID-19 is deadlier for infected men than women, with a 2.8% fatality rate reported in men versus 1.7% in women (Grasselli et al., 2020). Data showed that men were hospitalized more and had more severe outcomes than women (Gebhard et al., 2020). As males in Jordan have to support their families economically more than females, and the media reporting that males have more exposure to COVID-19, they tend to have a higher intention to get vaccinated even though they mistrust the government. This is also true, considering that men in Jordan are more involved in political matters than females. Also, the long COVID-19 lockdown in Jordan negatively influenced the economic status of males; governmental measures to compensate for the families' declining economic power were insufficient.

Males had more mistrust in the government than females, which is inconsistent with Myeong and Seo (2016) and Horsburgh et al. (2011), who reported that females usually trust their governments. Married subjects also mistrust the government more than single subjects. Married subjects tend to distrust the government more than single subjects. Being married means extra burdens and responsibilities; however, there were no studies about the effect of marital status on trust in the government. Trust in the government is linked to people's ability to pay (Oh & Hong, 2012), which declined during the COVID-19 pandemic, and in turn, married subjects mistrust the government. COVID-19 long lockdown in Jordan negatively influenced many families' economic status; governmental measures for financially compensating these families were considered humble.

Subjects who agree with the statement "herd immunity would be beneficial for COVID-19 and this fact is covered up" had a higher intention to vaccination scores than those who disagree with it; consistent with previous research that showed that people educated about the significance of herd immunity are more likely to accept of the vaccines (Logan et al., 2018; Ruiz & Bell, 2021). Herd immunity was one of the predictors of the intention to get vaccinated against COVID-19 (Ruiz & Bell, 2021). The current subjects believed that the government covered up this fact. Subjects who agree with the statement "the government restrictions are stronger than is needed" had higher scores on intention to get the vaccine than those who disagree with it. This could indicate a belief in and trust in the government and experts in managing the COVID-19 pandemic (Patelarou et al., 2021); this may happen after the ministerial amendment; the new government is more welcomed than that at the time when COVID-19 started and the first long lockdown took place.

Limitations and Implications for Research

The sample was young and educated; it does not represent the whole population. Thus, it would also be useful to conduct age-stratified research to understand further how the intention to get vaccinated against COVID-19 concerning trust in the government varies by age and education (Sherman et al., 2020). We cannot infer causality due to the study's cross-sectional nature; thus, a longitudinal research design is recommended. We investigated the intention to get vaccinated; the actual vaccination uptake is likely lower (Lazarus et al., 2020; Sherman et al., 2020).

The questionnaire was online; therefore, the respondents were all internet users. The study does not examine non-internet users, which could have differential impacts (Al-Hasan et al., 2020). Future studies could be conducted using web and non-web surveys (Al-Hasan et al., 2020). Researchers must gauge the current intention to get vaccinated against COVID-19 and identify correlates of vaccine hesitancy or acceptance (Lazarus et al., 2020). Other factors must be considered when studying trust in the government during the COVID-19 pandemic, such as risk perception, vulnerability, and political partisanship (Verhoest et al., 2020).

Implications for policy and practice

The government has to establish health campaigns to fight vaccine disinformation and increase COVID-19 intention to vaccination and then vaccine uptake. Not being limited to males, to increase the intention to vaccination and vaccination uptake, policy-makers may consider regulations that require people to have COVID-19 vaccinations to attend schools and workplaces (Thunstrom et al., unpubl)), similar to what happened in the recent measles outbreaks (Kuehn, 2019). The government must address hesitancy and build vaccine literacy so that the people intend to get vaccinated and then accept the vaccine when appropriate.

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Table 1. The subjects' scores on the intention to get vaccinated and trust in the government according to their sociodemographic and clinical characteristics (N=281).[£]

Characteristics	Total sample† (N=281)	Intention to vaccination†	p-value	Trust in government†	p-value
Age, years	27.45±11.07	r* = .078	.195	r = .073	.224
Sex,					
Female	198 (70.5)	8.93±3.35	.007	10.32±2.42	.043
Male	83 (29.5)	10.12±3.40		10.98±2.61	
Marital status,					
Married	81 (28.8)	9.80±3.23	.103	11.07±2.63	.018
Single/Widow/divorced	200 (71.2)	9.07±3.45		10.3±2.41	
Level of education,					
≤ high school	30 (10.7)	10.1±3.0	.164	10.93±2.54	.342
>high school	251 (89.3)	9.18±3.44		10.47±2.49	
The income per month, USD					
<420	64 (22.8)	8.96±3.36	.816	10.32±2.67	.273
421-700	93 (33.1)	9.47±3.54		10.65±2.26	
701-1120	66 (23.5)	9.15±3.27		10.93±2.55	
1121-1400	32(11.4)	9.18±3.55		10.28±2.37	
>1400	26 (9.3)	9.81±3.31		9.76±2.79	
Health insurance,					
Yes	197 (70.1)	9.21±3.39	.363	10.63±2.45	.253
No	84 (29.9)	9.42±3.43		10.26±2.59	
Intention to get vaccinated, total scores	9.28±3.40	--	--	r = .245	< .001
Trust in government, total scores	10.52±2.49	--	--	--	--

†Data are presented as mean ±standard deviation, number (%), or Pearson correlation coefficient r, [£] independent samples t-test was used to examine differences in scores for variables with **two** categories while and One-way ANOVA test with df of (4,276), [£] Scheffe as a posthoc test for variables > 2 categories

Table 2. Comparisons of intention to get vaccinated scores according to subject's degree of trust in government (N=281). †

Item	Group1=Disagree	Group2=Neutral	Group3=Agree	f-test, p-value	Different groups
	N (%)	N (%)	N (%)		
The threat of COVID-19 is greatly exaggerated Intention to get vaccinated –total scores (Mean ±SD)†	45 (16) 8.82±3.35	67 (23.8) 9.11 ±2.97	169 (60.1) 9.46±3.57	.735, .480	--
Herd immunity would be beneficial for COVID-19 and this fact is covered up Intention to get vaccinated –total scores (Mean ±SD)†	55(19.6) 8.58±3.05	104 (37) 8.94±3.10	122 (43.4) 9.88±3.71	3.661, .027	3>1
The government restrictions are stronger than is needed Intention to get vaccinated –total scores (Mean ±SD)†	62(22.1) 8.51±3.27	84 (29.9) 8.82±3.15	135 (48) 9.91±3.51	4.820, .009	3>1

†

One-way ANOVA test f-test value with df of (2,278) with Scheffe as a posthoc test