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Marketing Medical Products In Jordan: An Analysis Of The People's Intention To Accept Vaccination Against COVID-19: The Application Of An Extended Theory Of Reasoned Action (TRA)

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Abstract

The primary purpose of this research is to understand the potential influence of various factors namely, attitudes, subjective norms, and mass media on the Jordanians' intention to take the vaccination against COVID-19. A survey was carried out among 152 Jordanian citizens through a self-administered questionnaire. The data were analyzed using various statistical techniques such as Cronbach's alpha for testing the reliability of the data, skewness and kurtosis to check the normality of data, and multiple regression using SPSS version 25 for examining the hypotheses. The findings revealed that attitudes of citizens, subjective norms, and mass media positively influenced Jordanians' intention to accept take the vaccination against COVID-19. This study has provided several contributions to the body of knowledge and practice. First, because little is known about Jordanian acceptance of COVID-19, this study has been conducted to understand the influence of several factors on intention to accept the vaccine. Second, the findings of this study could assist the practitioners of the vaccine industry by identifying and understanding the essential factors that drive individuals to accept the vaccine.

Keywords

Marketing, Vaccine, COVID-19, Jordan, Intention, TRA.

Introduction

Coronavirus has been emerged in Wuhan, China, specifically in December 2019 (Holshue et al., 2019). By 20 of January 2020, the first confirmed case was figured out in the USA and the first death case was reported on 29 of February 2020. As a result of this disease, the World Health Organization (WHO) and the International Committee on Taxonomy of Viruses (ICTV) have named this pandemic as Coronavirus Disease 19 (COVID-19). Globally, the COVID-19 pandemic potentially has a serious impact on the citizens' mental well-being in different countries (Paredes et al., 2021). In addition, the COVID-19 pandemic has affected the daily life of a lot of individuals' worldwide and caused many crises related not only to humanity's health but also to the economics of the countries worldwide (Eriksson and Stenius, 2020; Laato et al., 2020).

The spreading of COVID-19 pandemic is deemed to be very fast amongst people internationally. As a result of this disaster, most governments across the world have decided to take serious decisions to prevent and protect the population from the COVID-19 pandemic. In this context, for example, most of the countries have closed their borders and force their students and workers to study and work online using various forms of platforms. Medically, experts argued that there are some symptoms that insure the infection of COVID-19, for instance, patients may have one of or all of these symptoms namely, dry cough, sputum production, high temperature, headache, and sometimes loss of smell and taste (Zhang et al., 2020). Thus, most of people need to understand these symptoms and know the negative impact of COVID-19 on their life.

Due to the COVID-19 pandemic, a lot of researches and experiments have been conducted to develop and produce a suitable vaccines that may help humanity to avoid the infection of such pandemic (Ahmed et al., 2020; Zhai et al., 2020). Based on marketing science, this vaccine can be considered as a product, which is one of the marketing mix elements (Kotler et al., 2016). Furthermore, medical experts revealed that the vaccine is deemed to be central to controlling COVID-19 (Williams et al., 2021). Additionally, it is recommended that the take of the COVID-19 vaccine would assist people to avoid the infection of this pandemic (Coustasse et al., 2021). Therefore, most of individuals must accept and take the vaccination against COVID-19 pandemic. Accordingly, most the governments try to support the pharmaceutical industry and other practitioners to produce and develop such vaccines which could help the public to avoid COVID-19 worldwide. Also, the effectiveness of COVID-19 vaccine depends on its acceptance, thus, the acceptance of taking the vaccine has to be taken by the majority of people (Pogue et al., 2020). In this context, individuals' acceptance of the COVID-19 vaccine is closely

correlated with the fear of such disease and people's trust in governments (Pley et al., 2020). Moreover, several studies reported that people's intention to accept COVID-19 vaccine is linked to its safety (Lin et al., 2020). In this regard, the literature stated that there is a possibility of refusing or accepting the take of COVID-19 vaccine (Graffigna et al., 2020; Kwok et al., 2021). Accordingly, it is very important to figure out and understand the public's intention to accept this vaccine (Wang et al., 2020; Williams et al., 2021). Correspondingly, the governments in different countries need to develop and formulate appropriate strategies to promote and persuade the population to take and accept COVID-19 vaccine.

In Jordan, World Health Organization (WHO) reported that there are approximately more than confirmed cases of 336,839 and around 4,385 confirmed death cases till the date of 10 of February 2021. So, Jordan is no exception to the infection of COVID-19 pandemic. In addition, the literature argued that it is necessary to measure and understand the individuals' attitudes and intention towards COVID-19 vaccine (Pogue et al., 2020). Similarly, the literature pointed out that there is a need to carry out research in the Jordanian context to better understanding the Jordanians attitudes and intention towards the use of COVID-19 vaccine.

It may be argued that misinformation and disinformation on COVID-19 vaccine play an important role in increasing the level of people's skepticism regarding COVID-19 vaccine, therefore, mass media such as TV, Print media, and Radio would lead to increase the individuals' knowledge and information about the vaccine (Enitan et al., 2020; Li et al., 2020; Sherman et al., 2020; Freeman et al., 2021). In addition, the literature pointed out that further studies have to be conducted to understand how mass media impacts individuals' intention to accept and take the vaccination against COVID-19 (Williams et al., 2021). Also, the literature reported that several theories related to understand and predict individuals' intention to do a certain behavior.

It can be said that one of the widely used theories that predict the human's behavioral intention to do action is the Theory of Reasoned Action (TRA) (Ajzen, 2005). To the best of the authors' knowledge, TRA was not previously utilized in the context of intention to accept COVID-19 vaccine. Based on the abovementioned discussion, the authors carried out this study to fill up the gap by providing a better understanding of the Jordanians' intention to accept COVID-19 vaccine for the first time. Also, in this study, the authors employed the Theory of Reasoned Action (TRA) to obtain more insights into the factors that potentially influence the Jordanians' intention to accept COVID-19 vaccine. Also, the authors extended the reasoned action (TRA) using the mass media factor. The justification

for employing this factor is that mass media is deemed as essential factors in the case of increasing individuals' information on COVID-19 vaccine (Enitan et al., 2020; Freeman et al., 2021; Li et al., 2020; Sherman et al. 2021). Further, as indicated previously, there is a need to further understanding the influence of mass media on citizens' intention to accept the COVID-19 vaccine.

Based on the abovementioned evidence, this research is conducted to address the gaps identified in the literature. It is important to carry out studies that fill the gaps found in academic research. These gaps are as follows. To the best of the authors' knowledge, this study is the first one that investigated the Jordanians' intention towards accepting COVID-19 vaccine. Also, little is known about the influence of mass media on individuals' intentions towards acceptance of COVID-19 vaccine. Further, to the best of the authors' knowledge, the Theory of Reasoned Action (TRA) has not been utilized in the context of the COVID-19 vaccine. Hence, this study aims to achieve the following objective:

- To examine the influence of various factors (attitudes, subjective norms, and mass media) on the Jordanians' intention to accept COVID-19 vaccine.

Literature Review

As mentioned previously in the introduction, the COVID-19 vaccine is a product that was developed to avoid the infection of COVID-19. Individuals' intentions to do certain behavior can be influenced by several factors (Chen and Lobo, 2012). The intention is defined as indications of an individual's readiness to perform a given behavior (Ajzen, 1991). There are numerous studies explaining individuals' intention to accept and take COVID-19 vaccine. In this regard, a recent study undertaken by Kwok et al. (2021) reported that approximately 63% of the individuals were willing to accept the vaccination against COVID-19. Further, they found that young people were more likely to accept the vaccine than other categories of people. They also stated that individuals' intention to accept the vaccine is strongly associated with work stress. Likewise, another study undertaken in Saudi Arabia by Al-Mohaithef and Padhi (2020) argued that about 65% of the people were likely to accept the vaccine. They also confirmed the importance of the availability factor in the context of accepting the vaccine. Based on their study, many people would like to accept the vaccine if it is available in hospitals and different places of vaccinations. Moreover, the elder was more willing to vaccinate than young people.

A review study conducted by Lin et al. (2020) revealed that many citizens preferred to wait until other people have taken the vaccine. Thus, social influence is the key in this case. Further, they argued that various factors drive people's intention to accept the vaccine. For example, individuals were significantly influenced by trust, safety of the vaccine, physicians' recommendations, and perceived risk concern when they think to take the vaccine. In the same way, Karlsson et al. (2021) claimed also that the perceived risk of COVID-19 disease and the safety of the vaccine were the main determinants of the people's intention to accept the vaccine in Finland. They also suggest that it is necessary to increase awareness of people towards COVID-19 vaccine. Moreover, Brunon et al. (2021) undertook a study to better understanding individuals' intentions to accept COVID-19 vaccine in France. The outcomes of the study demonstrated that also the safety of the vaccine and perceived risk were deemed to be the key factors when taking the vaccine. They observed that 95% of the respondents were willing to accept the vaccine.

On the other hand, Sherman et al. (2020) asserted that the individuals' intention to accept the vaccine against COVID-19 is correlated with their attitudes towards the vaccine. In addition, they noticed that about 64% of the respondents were willing to take the vaccine, whilst only 9% were unlikely to vaccinate against COVID-19. Yoda and Katsuyama (2021) explored the Japanese intention to accept COVID-19 vaccine. They argued that about 65.7% of the respondents revealed that they would like to receive and accept the vaccine. In addition, males showed less hesitancy towards being vaccinated.

Furthermore, a study carried out in Scotland by Williams et al. (2021) claimed that around 74% of the participants were more prospects to take the vaccine. Also, they found that there were significant differences between demographic variables towards COVID-19 vaccine acceptance intention. In Nigeria, in another study done by Enitan et al. (2020), it was found that approximately 96% of the respondents had poor knowledge and less information about the vaccination against COVID-19. They also claimed that about 80% of the people who participated in the study were unlikely to accept the vaccine. Thus, it can be said that the participants need to be well educated regarding the vaccine; also, based on this study's findings, it may be argued that media is an essential choice to increase the individuals' awareness and knowledge of COVID-19 vaccine (Freeman et al., 2021; Li et al., 2020; Sherman et al., 2021). Similarly, Paul et al. (2020) demonstrated that the adults in the UK had poor knowledge about COVID-19 vaccine; also, around 14% of the UK adults were unwilling to accept the vaccine. In addition, some of the respondents approximately 16% were doubted the vaccine. Thus, based on the results of this study, it

may be argued that the interest in increasing the levels of trust and knowledge of the individuals about COVID-19 vaccine is crucial.

Unlike, Wang et al. (2020) observed that 91.3% of the Chinese respondents showed a high willingness to accept the vaccine. In addition, Wang and his colleagues asserted that around 47% of the Chinese respondents consider the safety of vaccines. Moreover, they argued that other factors were essential to determine the Chinese's intentions to accept the vaccine. The respondents reported that they considered the availability of the vaccine, risk of infection, doctors' recommendations, and the price as key determinants for accepting the vaccine. In the same way, recently, Freeman et al (2021) noticed that 71.7% of the UK individuals were happy and accepted to take COVID-19 vaccine, but on the other side, they pointed out that 16.6% of the individuals were unsure and around 11.7% were hesitant to accept the vaccine. Additionally, their study found that the vast majority of the UK individuals indicated that the trust factor is important when it comes to COVID-19 vaccine.

Similarly, doctors' recommendations were found to be one of the crucial motives to accept the vaccine. They asserted that most of the US who participated reported that they were influenced by the opinions and recommendations given by their doctors. So, based on the TRA, doctors' recommendations play the role of subjective norms. Furthermore, most of the respondents stated that their intention to take the vaccine is high. The findings of the mentioned study also appeared that unemployed people and who did not complete high school were unwilling to accept the vaccine.

Other studies focused on the role of promotion on the persuasion of the public to accept the vaccine against COVID-19. In this regard, Pogue et al. (2020) investigated the Americans' intention to take COVID-19 vaccine. They confirmed that approximately 68% of the participants were willing and likely to accept the vaccine; they reported high intention to accept it. Moreover, the authors found that messages sent to the US audience to motivate them to take the vaccine were effective and persuasive as a promotional tool, also, US people showed positive attitudes towards the vaccine provided by the government. Similarly, Mohamud et al. (2021) suggested that most of the people in Somalia were unaware of COVID-19 vaccine. Thus, this increases the importance of media to educate the public regarding the danger of COVID-19 disease on human health, and enhance the people knowledge towards the benefits of the vaccine against such disease. They also found that approximately 64% of the respondents rejected to be vaccinated against COVID-19, whilst just 36% accepted the vaccine. In addition, most of the respondents reported that the vaccine is unavailable in Somalia.

A recent Australian study conducted by Pickles et al. (2021) noticed that due to misinformation on COVID-19 vaccine, some of the Australians did not interest and had no intention to accept such vaccine. Furthermore, they demonstrated that Australians look at the trust factor as the main driver to accept CONID-19 vaccine. Thus, arguably, it can be said that providing reliable information and strengthen the trust in government are the key factors to enhance the Australians' intention towards accepting the vaccine. Similarly, a US study undertaken by Coustasse et al. (2021) stated that many people in the US had skepticism towards COVID-19 vaccine. Hence, in this case, skepticism leads to the trust factor as well. Their findings indicated that about 50% of the respondents were willing to accept and take the vaccine, while, about 30% were unsure and around 20% refused to accept the vaccine, on the other side, they reported that about 67% of the old people were more likely to accept the vaccine.

On the other hand, some studies such as the Italian study carried out by Graffigna et al. (2020), examined the influence of various factors on the Italians' intention to accept COVID-19 vaccine. Their outcomes asserted that health engagement positively influenced the respondents' intention to accept and take the vaccine. In addition, they found that attitudes towards the vaccine also positively impacted the individuals' intention towards taking the vaccine. Other research (Harapan et al., 2020) demonstrated that perceived risk of COVID-19 and individuals' healthcare were the essential factors that positively influenced Indonesians' intention to accept and take COVID-19 vaccine. Additionally, they revealed that the vast majority of the Indonesian respondents (93.3%) showed a high probability to accept the vaccine.

In Malaysia, the perceived benefits of the vaccine and the economic and financial situations of the individuals were the most important factors that motivate the acceptance of the vaccine. Also, approximately 48.2% of the Malaysians intent to accept the vaccine, followed by 29.8% reported that they probably would accept the vaccine, while only 16.3% were unsure to mention their willingness to accept the vaccine. Another study carried out in England by Bell et al. (2020) confirmed that most of the respondents (96%) were willing to accept the vaccine. They pointed out that people who had lower incomes refused to take the vaccine. Further, Bell and his colleagues claimed that self-protection and the vaccine's safety were the main factors motivating individuals' intention to accept the vaccine.

An American study conducted by Olagoke et al. (2020) examined the influence of health locus of control (HFOC) in the relationship with religion on Americans' intention to take the vaccination against COVID-19. They found a negative association between religion

and intention to accept the vaccine, but they noticed that there was an association between health locus of control (HLOC) and Americans' intention to accept the vaccine.

After an intensive review of the literature, it can be concluded that various motives influence the individuals' intentions to accept COVID-19 vaccine. As mentioned previously, these motives play an important role in convincing individuals to take such a vaccine. On the other hand, other factors such as the price of the vaccine, financial ability of some persons, poor knowledge on the vaccine, lack of trust in some of the vaccination institutes, and the limited availability of such vaccine in some countries were considered to be barriers that restrict the uptake of it.

Conceptual model and Hypotheses

As indicated in the introduction, the authors undertook this study to examine the influence of individuals' attitudes, subjective norms, and mass media on the intention to accept COVID-19 vaccine. Accordingly, and based on the Theory of Reasoned Action (TRA), attitudes and subjective norms were employed as independent variables that directly influence the Jordanians' intention to accept COVID-19 vaccine. Further, in this study, intention was used as the dependent variable. In addition, the current study extended the Theory of Reasoned Action (TRA) by using additional variables namely mass media as another independent variable. Figure Illustrates the proposed conceptual model developed for this study.

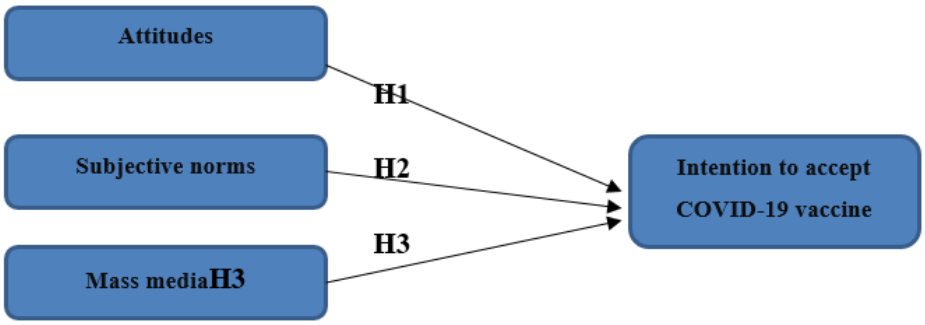

Figure I The conceptual model

Based on the proposed model, the following hypotheses were developed and postulated as follows:

H1: Attitude has a positive influence on Jordanians' intentions to accept COVID-19 vaccine.
H2: Subjective norms have a positive influence on Jordanians' intentions to accept COVID-19 vaccine.

H3: Mass media has a positive influence on Jordanians' intentions to accept COVID-19 vaccine.

The first hypothesis was developed to examine the influence of attitudes on the Jordanians' intention to accept the vaccine, while the second hypothesis was formulated to examine the influence of subjective norms on the intention of Jordanians to accept such vaccine, and the last hypothesis was proposed to figure out if there is an influence for mass media on the intention to accept the vaccine in the Jordanian' context.

Method

Research Design

This study is quantitative, where data were gathered using a questionnaire. The survey was distributed using a self-administered questionnaire to the selected respondents. The first part of the questionnaire was comprised of questions related to the demographic characteristics of the respondents (gender and age). As stated by O'leary (2004) and Brace (2018), any survey research should include questions that describe the respondents' demographic traits. Thus, in this research, the researcher utilized two questions to describe the demographic characteristics of the respondents. This included information about the respondent's gender and age. The second part of the questionnaire contains questions related to the individuals' infection of COVID-19. In this regard, the author asked the respondents if they have been infected with COVID-19 disease before, further, the author asked the respondents if they have been tested to check if they have the disease. Also, in this section, a question was asked to ensure if there is any member of the respondents' family confirmed his\her infection of COVID-19 disease. Moreover, the author asked a question to determine if any of the respondents have any kind of chronic diseases. The last question in this section was used to check if any of the respondents have allergies regarding any kind of vaccine.

The third part of the questionnaire includes questions related to the factors that influence the individuals' intention to accept COVID-19 vaccine. The options provided for the respondents to answer those questions are based on the five-point Likert Scales which include strongly disagree, disagree, neutral, agree, and strongly agree.

Population and Sample

The population of this study can be defined as the individuals or people or individuals aged 18 and older and reside in the south of Jordan. A simple random sampling method

was employed by approaching the primary individuals who would accept or do not accept the vaccine. To reach the appropriate respondents, the questionnaires were sent randomly using the Google forms technique. Many methods were adopted to select the sample. For example, the author used Facebook as one of the social media to post the link of the questionnaire and invited the public to participate in the survey. Further, the questionnaire was randomly sent to different types of forums to invite the individuals participating in the study. Moreover, the researcher collected data in the period 3 December 2020 to 1 January 2021.

With regards to sample size, there is a debate regarding the number of respondents needed to participate in the survey. For instance, Kline (2015) argued that the researcher may use the general rule of thumb that is 20:1. This means that the researcher may utilize 20 respondents for each variable in the conceptual model. On the other hand, Hair et al. (2010) claimed that the researchers may adopt a ratio of 5 to 10 respondents for each item in the scale. Other scholars such as Kline (2011) said that 200 cases as a sample size are sufficient. The existing study used 4 variables and 12 items. So, based on the above discussion, the study should use 80 or 120 or 200. The sample size of this study was 152 respondents which exceeded the required sample size. Hence, the sample size used in the current study is sufficient and in the line with the above suggestions.

Data Analysis

For data analysis, the researcher used SPSS software version 25. For analyzing demographic data (gender and age) and questions included in the second part of the questionnaire, frequency and percentage were used. To calculate the reliability of the data, Cronbach's alpha was adopted. Concerning the value of Cronbach's alpha, Hair et al. (2010) argued that Cronbach's alpha with a value of .0.6 and higher is acceptable. To check the normality of the data, skewness, and kurtosis were utilized. To ensure the normality of data, the value of skewness should be 2 or less, and the value of kurtosis should be 7 or lower. To test the study's hypotheses, a multiple regression equation also was employed to accept or reject the relevant hypotheses. Tables I, II, III, and IIII demonstrate the results.

Results

Analysis of Demographic Characteristics of the Respondents

Table 1 presents an overview of the participants' demographic traits; demographic characteristics of the participants include gender and age.

Table 1 Demographic characteristics of the participants

Characteristics		Frequency	Percentage
Gender	Male	73	48%
	Female	79	52%
Age	18-25	15	9.9%
	26-33	61	40.1%
	34-41	47	30.9%
	42-49	19	12.5%
	50-57	5	3.3%
	58 or more	5	3.3%

As seen in the above table, a total of 152 Jordanians participated in the study. Seventy-three were males and one seventy-nine were females with age ranging from 18 years to 58 years old or more. Approximately 80.9 % of the respondents were young adults (18-41), followed by 12.5 being middle-aged (42 to 49 years), while only 6.6% of the respondents were aged between 50 and 58 or more.

Analysis of the Behavioral Questions

In this study, the authors asked the respondents some questions related to their medical history of allergy regarding various forms of vaccines; also, a question on to the individuals' or their families' infection of COVID-19 has been asked. Moreover, the authors asked a question to determine if any of the respondents have any kind of chronic diseases. Also, the authors asked the respondents if they have been tested to check if they have the disease. Table 2 shows the frequencies and percentages of the answers of the respondents regarding these questions.

Table 2 Respondents' behavioral questions

Question	Yes	No
Have you been infected in COVID-19 before?	34 (22.6%)	116 (77.4%)
Is someone in your family is sick with COVID-19?	55 (36.6%)	95 (63.4%)
Do you suffer from any kind of chronic diseases?	19 (12.6%)	131 (87.4%)
Have you an allergic reaction to any types of vaccine?	23 (15.3%)	127 (84.7%)

Table 2 shows the participants' responses to the asked questions. About 34% of participants confirmed that they were sick with COVID-19, whereas 77.4% stated that they had no sick with this disease. Approximately 63.4% of the respondents indicated that one or more of their family members had no sick with COVID-19, while about 36.6% of their family members had sick with this disease. In this study, the majority of the respondents (87.4%) asserted that they have no types of chronic diseases, whereas just

12.6% indicated that they suffer from some types of chronic diseases. Table II reports that 84.7% of the sample had an allergic reaction when they take other types of vaccine, while only 15.3% of them reported that they had no allergic reaction when they have been vaccinated.

Analysis of the Interval Data of the Study

In an analysis of quantitative data, scholars argue that data has to be free of missing values, and must also be normally distributed (Kothari, 2004; Hair et al., 2010; Sekaran and Bougie, 2016). With regards to missing data, researchers need to check for missing values in the data set (Hair et al., 2010). One of the statistical methods for determining values missing from data sets is Missing Value Analysis which is available in SPSS software (Hair et al., 2010). Thus, in the current study, after collecting all the questionnaires, the authors utilized SPSS software version 25 and performed the option 'Missing Value Analysis' for all the data included in the survey. The output of this test reported that there were no missing values in this study. Further, to ensure the normality of the data, skewness and kurtosis techniques were adopted. As indicated in the method section, the value of skewness should be 2 or less, and the value of kurtosis should be 7 or lower.

In quantitative studies, it is important to check the reliability of the data (Hair et al., 2010). This can be ensured using Cronbach's alpha technique. As previously mentioned, Cronbach's alpha with a value of 0.6 and higher is acceptable (Hair et al., 2010). Also, a multiple regression equation was employed to examine the relevant hypotheses (Hair et al., 2010). Table 3 demonstrates the results of reliability, normal distribution, while table 3 shows the results of hypotheses' examinations.

Table 3 Reliability and Normal distribution of Data

Factor	Skewness	Kurtosis	Cronbach's alpha (α)
Attitudes	0.488	-0.672	0.945
Subjective norms	0.395	-0.422	0.875
Mass media	0.165	-0.970	0.845
Intention	0.406	-0.757	0.854

As shown in the above table, the results confirmed that the data are reliable and normally distributed. The outcomes of SPSS report that the values of Cronbach's alpha, skewness, and kurtosis were in the line with the suggested values. Concerning the examination of the hypotheses, table 4 illustrates the results of multiple regression equations.

To test the hypotheses, multiple regression analysis was used. Regression can be performed to examine the causal effects between the variables. To accept the hypothesis, critical value (critical t-value) should be reported and the value of this test must be 1.96 or greater, with a P-value no greater than 0.05 (Hair et al., 2010; Kline, 2011). Table 4reports the results of the hypotheses' examination. As shown in table IIII, the value of (t) is acceptable for all the variables, and the P value was accepted for the hypotheses H1, H2, and H3.

Table 4 Regression analysis results

Multiple Regression Analysis					
Model	Unstandardized Coefficients		Standardized Coefficients	(t) value	Sig.
	B	Std. Error	Beta		
Attitudes	.444	.058	.509	7.720	.000
Subjective norms	.341	.078	.358	4.341	.000
Mass media	.679	.054	.402	4.813	.000
a. Dependent Variable: Intention to accept COVID-19 vaccine					

As illustrated in the conceptual model, the first hypothesis which examines the influence of attitudes on the Jordanians' intention to accept the vaccine. As reported in table 4, the results show that the Attitude construct significantly influenced Jordanians' intention to accept the vaccine (p-value was significant at <0.000 level ***). In addition, the path coefficient (β) was 0.444 with a critical ratio (t-value) of 7.720. So, an increase in one unit of the attitude construct would lead to an increase in the Jordanians' intention to accept the vaccine by 0.444. Therefore, this hypothesis was supported.

The second hypothesis was formulated to examine the influence of subjective norms on the Jordanians' intention to accept the vaccine. The regression analysis revealed that the subjective norms construct significantly influenced the Jordanians' intention to accept the vaccine (p-value was significant at <0.000 level ***). In addition, the path coefficient (β) was 0.341 with a critical ratio (t-value) of 4.341. So, an increase in one unit of the subjective norms construct would lead to an increase in the intention to accept the vaccine by 0.341. Therefore, this hypothesis was supported.

Concerning the third hypothesis, after performing regression analysis, the outcomes revealed that mass media has a significant influence on the Jordanians' intention to accept the vaccine (p-value was significant at <0.000 level ***). Also, the path coefficient (β) was 0.679 with a critical ratio (t-value) of 4.813. So, an increase in one unit of the mass media construct would lead to an increase in the intention to accept the vaccine by 0.679. Therefore, this hypothesis was supported.

Discussion

The findings of this paper are in line with the literature. Concerning the attitudes, past studies revealed that attitudes have a crucial influence on the individuals' intention to accept the vaccine. In this regard, Sherman et al. (2020) indicated that people's attitudes play a vital role in the acceptance and adoption of COVID-19 vaccine. Moreover, Pogue et al. (2020) revealed that Americans had positive attitudes towards COVID-19 vaccine, thus, more positive attitudes lead to more acceptance of the vaccine. Similarly, Graffigna et al. (2020) claimed that the Italians' intention to accept COVID-19 vaccine is strongly associated with their attitudes towards the vaccination against COVID-19.

With regards to the subjective norms, literature stated that social influence that comes from friends; physicians, and family members positively influence people to accept the vaccination against COVID-19. In this context, Lin et al. (2020) asserted that individuals are influenced by their social relationships with relatives and friends when it comes to COVID-19 vaccine. In the same way, Wang et al. (2020) noted that many people listen to the recommendations of the doctors about the vaccine and its benefits to avoid COVID-19 disease. Additionally, doctors' recommendations were found to be one of the crucial motives to accept the vaccine. Hence, based on the TRA, the influence of the individuals' social ties such as friends, relatives, and even doctor's recommendations belong to subjective norms.

The literature stated that mass media is considered to be one of the main factors that influence people's awareness and knowledge about the vaccine (Sherman et al., 2020; Freeman et al., 2021). This study found the same argument. Mass media was found to have a significant influence on people's acceptance of the vaccination against COVID-19. In this context, some studies asserted this finding. For instance, scholars argue that mass media such as TV, Print media, and Radio play a crucial role in increasing individuals' awareness and knowledge about vaccination against COVID-19 (Enitan et al., 2020; Li et al., 2020; Sherman et al., 2020; Freeman et al., 2021).

Research Contributions and Implications

The present study provided contributions to the body of knowledge, as well as to the practice. Theoretically, due to the limited number of studies undertaken to understand the intentions of people to accept COVID-19 vaccine in Jordan, this study has contributed to the body of knowledge by understanding the influence of various factors on the Jordanians' intention to accept the vaccine. Hence, this study contributed to increasing the body of knowledge on Jordanians' intentions to accept such vaccines. Moreover, the

current study extends the Theory of Reasoned Action (TRA) by using an additional factor namely mass media. Practically, this study provided some useful implications to the practitioners of the vaccine industry. The results of the present study could help the governmental institutions such as the Ministry of Health, Private Hospitals, and Jordan Food and Drugs Foundation to formulate and create the right guidelines in the formulation of the right strategies to enable them to successfully target and persuade the people about the benefits of the vaccine. Moreover, the outcomes of this study may also assist the decision-makers in these organizations that could influence the Jordanians' attitudes towards the COVID-19 vaccine.

Limitations and Future Work

This study provides a brief discussion about the limitations of the study and suggests some directions for future research. First, the generalizability of the findings is one of the limitations in scientific research. So, the current study is not an exception. The current study has been conducted in the south of Jordan. Therefore, to expand the validity of the findings, future researches need to be carried out in other regions of Jordan. Second, although the sample size of this study was appropriate, future researchers could use a larger sample to enhance the findings' robustness.

Conclusion

In conclusion, the existing study has been undertaken to examine the influence of various factors on intention to accept COVID-19 vaccine in the Jordanian context. This study used a quantitative approach to achieve the research objective. This study empirically examined the influence of (attitudes, subjective norms, and mass media) on the Jordanians' intention to accept the vaccine using a questionnaire. The findings of this study indicated that individuals' attitudes, subjective norms, and mass media positively influenced the Jordanians' intention to accept the vaccination against COVID-19.

This study has provided several contributions to the body of knowledge and practice. First, because little is known about Jordanian acceptance of COVID-19, this study has been conducted to understand the influence of several factors on intention to accept the vaccine. Second, the findings of this study could assist the practitioners of the vaccine industry by identifying and understanding the essential factors that drive individuals to accept the vaccine. The practitioners may adopt the findings of the current study in the formulation of policies and development of strategies to attract more people to accept the vaccine.

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