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Research Article

Impact of Acceptance and Intake of COVID – 19 Vaccines among Rural People in TamilNadu

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Abstract: The novel beta-coronavirus SARS-CoV-2 is believed to have emerged last year in 2019 in Wuhan from Bats. Crossing the species barrier it entered human beings with furtherance of infection through human to human transmission. As studies indicate that people perceive COVID-19 as a threatening disease, the demand for a vaccine against the disease could be expected to be high. Vaccine safety concerns might nevertheless outweigh the perceived disease risks when an individual decides whether or not to accept the vaccine. We investigated the role of perceived risk of COVID-19 (i.e., perceived likelihood of infection, perceived disease severity, and disease-related worry) and perceived safety of a prospective vaccine against COVID-19 in predicting intentions to accept a COVID-19 vaccine. Three Finnish samples were surveyed: 825 parents of small children, 205 individuals living in an area with suboptimal vaccination coverage, and 1325 Facebook users nationwide. As points of reference, we compared the perceptions of COVID-19 to those of influenza and measles. COVID-19 was perceived as a threatening disease—more so than influenza and measles. The strongest predictor of COVID-19 vaccination intentions trusted the safety of the potential vaccine. Those perceiving COVID-19 as a severe disease were also slightly more intent on taking a COVID-19 vaccine. Informing the public about the safety of a forthcoming COVID-19 vaccine should be the focus for health authorities aiming to achieve a high vaccine uptake.

The Coronavirus disease 2019 (COVID-19) pandemic is a major threat to public health and has had a significant impact on all aspects of life. An effective vaccine is the most anticipated resolution. This study aims to evaluate acceptance and intake of COVID- 19 vaccinated.

Keywords: COVID- 19; Coronavirus; COVID -19 Vaccinations; Vaccine Acceptance; intake

1. Introduction

COVID-19 pandemic, the world faces a novel infectious disease, for which there currently is no treatment or herd immunity. In December 2019, a new coronavirus disease (COVID-19) emerged in Wuhan (China) and then rapidly spread worldwide. The incident was classified as a Public Health Emergency of International Concern by the World Health Organization (WHO) on 30 January 2020 and declared a pandemic on 11 March 2020. The pandemic poses a serious threat to our health and well-being and researchers are racing to develop and test vaccines against COVID-19. When vaccines become available, the success of the vaccination program will depend on the public's acceptance of the vaccines. Recent studies have indicated that whereas the majority report they would accept a future vaccine against COVID-19. The present study will explore the role of two of these key factors—the perceived risk of the disease the vaccine protects against and the perceived safety of the vaccine—in people's acceptance of a vaccine against COVID-19. This study investigated the associations between various beliefs and perceptions and the intention to accept and to intake a vaccination against COVID-19. It will be useful to understand Rural people' views on COVID-19 vaccination for an outbreak response and management, as well as for the period after the pandemic. Therefore, this study investigated the various factors influencing COVID-19 vaccination acceptance and actual intake among rural people in the society.

Health Authorities Boost Vaccine Acceptance:

The Rural People feel hesitant towards a vaccine against COVID-19 is of paramount importance, as this can help health authorities boost vaccine acceptance to limit the spread of the disease. Research shows that vaccine acceptance is a complex decision-making process influenced by a wide range of factors.

The health impact of COVID-19

- it has a significant economic burden that cannot be underestimated
- It has caused a substantial reduction in workforces and an increase in unemployment globally these negative impacts have encouraged pharmaceutical companies to develop a vaccine urgently.
- In December 2020, several vaccines were authorized to prevent COVID-19 infection), and more than 50 COVID-19 vaccine candidates were being developed.
- Vaccination has now begun in several countries around the world
- The rapid development of vaccines casts doubt on safety. Previously, the rapid development of vaccines has been linked to adverse issues.

Vaccines have been a successful measure of disease prevention for decades

Public perceptions & Vaccine Acceptance:

COVID-19 vaccine acceptance now that vaccines are available to the general public. Most of the previous studies on vaccine acceptance were conducted in the pre-pandemic stage when no COVID-19 vaccines were available or only focused on certain groups, such as healthcare professionals. Thus, the existing literature may not provide a good indication of likely vaccine uptake because of changing public perceptions of the epidemic and the vaccine as the situation evolves. Additionally, there are numerous differences between healthcare professionals and the general population: healthcare workers are more susceptible to illness than the general public as a direct result of their employment and they may be endowed with specialist knowledge as a result of their professional status. It has been shown that healthcare workers that are on call for emergencies or are ready to carry out extra consultations to deal with the pandemic, as well as those who show positive attitudes towards COVID-19 protection methods, are more likely to accept a COVID-19 vaccination.

Effectiveness of Vaccination Program:

Vaccine acceptance among general population was also associated with factors such as the perceived risk of COVID-19 infection and concern regarding its side effects. Studies on the uptake of seasonal influenza vaccination have shown that the perceived risk of catching influenza and belief in the efficacy of the vaccine are the main drivers towards vaccine acceptance whilst fear of adverse effects is the main deterrent.

Effective Public Health:

The literature related to SARS and A/H1N1 indicated that people are more likely to comply with the recommendations if they believe that the consequences of the illness are serious, that the information provided by the government on the outbreak is accurate; that the government can be trusted to manage the outbreak; and that the outbreak is likely to last for a long time. . People with a family and/or children and those suffering from a severe chronic illness are also likely to accept the COVID-19 vaccination. The effectiveness of a vaccination program is dependent on wide vaccine uptake, even for vaccines with high efficacy. Thus, it is important to understand the various factors that affect a person's willingness to get vaccinated in order to establish effective public health strategies during a pandemic

Perceived risk of disease

- A key determinant in people's vaccination decisions is the risk they associate with the disease the vaccine protects against.
- These risk perceptions are often measured as the perceived likelihood of contracting the disease and the perceived severity of the symptoms.
- Risk perceptions are also generally considered to have an emotional dimension, including fear and worry.
- The individuals who perceive the risk of contracting a vaccine-preventable disease as low, consider the symptoms of the disease as mild, and worry little about the disease, report less intent to take the vaccines and more often remain unvaccinated.

Corona Virus:

The risks related to the novel corona virus SARS-CoV-2, which causes COVID-19, have been given considerable attention. On March 11th 2020, the World Health Organization (WHO) declared the outbreak of COVID-19 a pandemic, calling for nations to take "urgent and aggressive" action. The pandemic is a global health crisis that has been covered extensively by the media, and governments and health authorities have taken extensive measures to control the spread of the disease. Therefore it is not surprising that recent studies show that people experience COVID-19 as a threatening disease.

2. Objectives of the Study:

- To obtain information on the perceived risk of COVID-19 and trust in the safety of a prospective vaccine against COVID-19
- To examine if the intention to intake a vaccine against COVID-19 is related to the perceived risk of the disease and the perceived safety of the vaccine.
- To Analysis the perceived risk of influenza and measles, as well as the perceived safety of the influenza and measles vaccines were also measured

3. Research Methodology of the Study

The present study is made to analyze intention to intake a vaccine against COVID-19 is related to the perceived risk of the disease and the perceived safety of the vaccine. We can taken 120 respondents for data collection but only 100 questionnaires were found complete for extracting information. Research methodology is purely and simply basic frame work for a study that guiders the collection of data and analysis of the data. In surveys adopted this description research design in collection and analyzing of the data.

4. Research Design

The research design that has been used for the study is Descriptive. This type of research is done with the help of questions that are formulated prior to the actual exercise of data collection.

CONSTRUCTION OF TOOLS

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The required data was collected through a questionnaire that was designed by the researcher.

DATA COLLECTION

For the purpose of the present study. The data was collected from two sources.

- Primary Sources
- Secondary Sources

PRIMARY SOURCE

Primary data has been collected through the structured Questionnaire for the purpose of collecting the responses from 120 residents have been selected in the TamilNadu.

SECONDARY SOURCE

Secondary data has also been collected from the Books, Journals, Manuals and Websites for the purpose of the study.

SAMPLE SIZE:

Considering the time and cost factor, the total sample respondent was random basis. The sample size was 120 people through the questionnaire method.

Statistical Tools

This study has used the following statistical tools for analysis.

- Percentage Analysis
- Chi-Square Test

PERIOD OF STUDY

The data are collected for a period of three month Jan- 2021 to March- 2021from 120 respondents.

AREA OF STUDY

This study is based on the data collected from respondents of tamilnadu.

Disease-risk perceptions:

- perceived likelihood of infection,
- perceived disease severity,
- Disease-related worry, the perceived severity and worry, risk related to both oneself and others were measured.

COVID-19 VACCINE RECOMMENDED

In parents of small children, the study investigated whether the perceived risk of the disease predicted intentions to take a potential COVID-19 vaccine recommended by authorities. As COVID-19 has caused more severe symptoms and higher mortality among rural people.

VACCINE ACCEPTANCE; INTAKE

The willing individuals were to take a test-phase COVID-19 vaccine, and whether this willingness was predicted by disease-risk perceptions. The test-phase vaccine was included to represent a vaccine that is likely perceived as less safe, but where perceived disease risk is held constant (the vaccine also protects against COVID-19). The study was conducted in a sample living in an rural area people with sub-optimal uptake of vaccines offered in the national vaccination program.

Perceived vaccine safety:

The important factor in a vaccination decision is how safe the individual considers the vaccine to be. Individuals who perceive vaccines as safe are more likely to accept vaccinations Because vaccines against COVID-19 are still under development, information about the safety of the vaccines is limited. Research, however, suggests that when there is a lack of information and experience about the safety of a new vaccine, people tend to form their opinions based on attitudes to existing vaccines. This has been demonstrated for example in studies showing that attitudes to childhood vaccines predict intentions to use a hypothetical vaccine against the Zika virus. Another vaccine that might affect attitudes towards a COVID-19 vaccine is the Pandemrix vaccine. Pandemrix may be particularly relevant because it was implemented during a pandemic of a new infectious disease, the swine flu, only a decade ago.

Public's Trust and Safety

The Pandemrix vaccine caused big controversy due to its association with an increased risk of narcolepsy. In Finland, where the present study was conducted, the connection between narcolepsy and the Pandemrix vaccine received a great deal of media attention and this may have exacerbated vaccine hesitancy, especially related to influenza vaccines. This hesitancy might, in turn, affect the public's trust in the safety of a potential vaccine against COVID-19.

Rural people Unaware about the Vaccine benefits:

Another vaccine that has been subject to controversies and may affect the uptake of a COVID-19 vaccine is the MMR vaccine (against measles, mumps, and rubella). This is because a publication in 1998 falsely suggested a link between the vaccine and autism. Although a large amount of research has since shown that the claim of a link is unsubstantiated, some individuals still have unwarranted fears about the vaccine. Paradoxically, vaccine safety concerns might be especially common when the prevalence of the vaccine-preventable disease is low and

when vaccination programs have been successful. In those cases, the disease is not considered a high risk, and the perceived risks of vaccination might outweigh the perceived risks of the disease.

Vaccines recommendations - WHO

- The vaccines must be proven safe and effective in large (phase III) clinical trials. Some COVID-19 vaccine candidates have completed their phase III trials, and many other potential vaccines are being developed.
- Independent reviews of the efficacy and safety evidence is required for each vaccine candidate, including regulatory review and approval in the country where the vaccine is manufactured, before WHO considers a vaccine candidate for prequalification. Part of this process also involves the Global Advisory Committee on Vaccine Safety.
- In addition to review of the data for regulatory purposes, the evidence must also be reviewed for the purpose of policy recommendations on how the vaccines should be used.
- An external panel of experts convened by WHO, called the Strategic Advisory Group of Experts on Immunization (SAGE), analyzes the results from clinical trials, along with evidence on the disease, age groups affected, risk factors for disease, programmatic use, and other information. SAGE then recommends whether and how the vaccines should be used.
- Officials in individual countries decide whether to approve the vaccines for national use and develop policies for how to use the vaccines in their country based on the WHO recommendations.
- The vaccines must be manufactured in large quantities, which is a major and unprecedented challenge – all the while continuing to produce all the other important life-saving vaccines already in use.
- As a final step, all approved vaccines will require distribution through a complex logistical process, with rigorous stock management and temperature control.

Vaccines safe for adults:

Vaccines are usually tested in adults first, to avoid exposing children who are still developing and growing. COVID-19 has also been a more serious and dangerous disease among older populations. Now that the vaccines have been determined to be safe for adults, they are being studied in children. In the meantime, make sure children continue to physical distance from others, clean their hands frequently, sneeze and cough into their elbow and wear a mask if age appropriate.

Ensuring the safety and quality of vaccines is one of WHO are highest priorities. WHO works closely with national authorities to ensure that global norms and standards are developed and implemented to assess the quality, safety and efficacy of vaccines.

COVID-19 VACCINE SAFE AND EFFECTIVE

The process to develop COVID vaccines is fast-tracked while maintaining the highest standards: Given the urgent need to stop the pandemic, pauses between steps, often needed to secure funding, have been shortened, or eliminated, and in some cases, steps are being carried out in parallel to accelerate the process, wherever that is safe to do. COVID-19 vaccine developers have issued a joint pledge not to seek government approval for their vaccines until they've been proven to be safe and effective.

Global Advisory Committee on Vaccine Safety.

Once a clinical trial shows that a COVID-19 vaccine is safe and effective, a series of independent reviews of the efficacy and safety evidence is required, including regulatory review and approval in the country where the vaccine is manufactured, before WHO considers a vaccine product for EUL or prequalification. EUL or Prequalification verifies to those countries that would want to procure a particular vaccine that there has been an assurance by WHO that the regulatory review process, usually in the country of manufacture, has held up to the highest standards. Part of this process also involves a review of all the safety evidence by the Global Advisory Committee on Vaccine Safety.

Precautions after take Vaccine

After a COVID-19 vaccine is introduced, WHO supports work with vaccine manufacturers, health officials in each country, and other partners to monitor for any safety concerns on an ongoing basis.

Vaccination protects you from getting seriously ill and dying from COVID-19. For the first fourteen days after getting a vaccination, you do not have significant levels of protection, then it increases gradually. For a single dose vaccine, immunity will generally occur two weeks after vaccination. For two-dose vaccines, both doses are needed to achieve are required to provide the highest level of best immunity possible. We can give the proper awareness to rural people vaccine health safety and security.

Guidance -Local Authorities:

While a COVID-19 vaccine will protect you from serious illness and death, we still don't know the extent to which it keeps you from being infected and passing the virus on to others. To help keep others safe, continue to maintain at least a 1-metre distance from others, cover a cough or sneeze in your elbow, clean your hands frequently and wear a mask, particularly in enclosed, crowded or poorly ventilated spaces. Always follow guidance from local authorities based on the situation and risk where you live.

5. Finding of the Study:

We found that the intention to get vaccinated or intake of the COVID-10 vaccine were positively related to the perceptions of becoming infected, perceptions of the severity of the potential long-term effects, the vaccine's efficacy, and the benefits of vaccination. Meanwhile, the intention to get the vaccine or vaccine intake were decreased by perceptions of the negative side-effects and the general impediments to vaccination. The most crucial factor was the perception of the vaccine's efficacy, and respondents with this belief had over 4 times greater likelihood of intending to receive the vaccine. There was also a significant relationship between being vaccinated and the perception of the pandemic situation in the country in three months' time. Next, it is interesting to note that while the media's overreporting of the side-effects was associated with the intention to get vaccinated, no such relationship was found for having been vaccinated. Additionally, having a chronic illness and general health conditions were both associated with having been vaccinated and the intention to get vaccinated. However it was significantly associated with the intention to get vaccine in the future. Belief in the vaccine's efficacy and benefits increased the likelihood of having already been vaccinated, while the perception of the side effects was negatively associated with having already been vaccinated.

6. Suggestion of the Study:

The main aim of this study was to investigate the various factors influencing COVID19 vaccination acceptance and actual intake among rural people in tamilnadu. people showed increased intention to get vaccinated, and having a chronic illness was associated with an increased likelihood of wanting to be vaccinated against COVID-19. This stronger tendency to accept the vaccination amongst single people could be related to concerns about not having someone to care for them if they fall ill. Another explanation could be that single people are less worried about the potential risks from vaccination because they have no dependents to be affected by these risks. The fact that chronically ill people already received the COVID-19 vaccine might be concordant with the fact that those with a chronic illness were more likely to follow rules, guidelines, and recommendations during the COVID-19 pandemic, or to take a seasonal influenza vaccination. the present study, these factors were not found to be associated with vaccination intention. Vaccination uptake intention was found to be rather medium, irrespective of socioeconomic or demographic factors. Despite this low uptake, an encouraging aspect of this result is that the campaigns intended to increase vaccine uptake rates are likely to be equally effective among a wide range of people. The Government should provide proper awareness about the vaccinated benefits for health safety and security.

7. Conclusion

The final regression model revealed that there was no link between the demographic (apart from marital status and having a chronic illness) or situational factors and the respondent's intention to be vaccinated against COVID-19. It is clear from the results reported in this study that vaccine-related factors are more important than epidemicrelated factors in determining vaccination intention and intake. Thus, to improve the vaccination uptake rates during the COVID-19 pandemic, health authorities should focus on the vaccine-related factors rather than the aspects related to the illness. This could be particularly important in encouraging vaccine uptake in the later stages of the outbreak since people are likely to be well-informed about the illness but have misconceptions and concerns about the vaccine. Eliminating these misunderstandings and concerns is likely to increase the vaccine uptake rates during the current COVID-19 pandemic.

We can finally conclude several factors influencing the level of acceptance. Since vaccination appears to be an essential preventive measure that can halt the COVID-19 pandemic, factors relating to low vaccine acceptance need to be urgently addressed by public health strategies.

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