Covid-19 Vaccine Phobia in Bangladesh: A Study on its Communication Perspectives

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ABSTRACT

This study investigates Covid-19 vaccine phobia in Bangladesh's Rangpur division, focusing on underlying reasons and the effectiveness of communication methods in reducing hesitancy. A survey of 500 respondents across diverse demographics revealed that 60.4% received the vaccine, while 39.6% did not. Most respondents (78.2%) believed the vaccine was safe, though 21.8% considered it unsafe. Vaccine phobia was absent in 71.4%, yet 28.6% exhibited hesitancy due to concerns like side effects (27.6%), needle phobia (18.2%), distrust in vaccines from other countries (18%), and fear of contracting Covid-19 from the vaccine (17.6%). The study underscores the pivotal role of communication in shaping vaccine attitudes, with social media being the most influential source for 45.2% of respondents and the most informative for 36.8%. Traditional media also had a notable impact. Effective communication strategies, especially via social media, are essential for dispelling misinformation, reducing vaccine fears, and improving public health outcomes during pandemics.

Keywords: Covid-19, vaccine phobia, communication, media, messages.

INTRODUCTION

The Covid-19 pandemic had created many new challenges in the global public health sector, as there was no treatment or herd immunity at the primary stage of the pandemic. Later, the researchers invented Covid-19 vaccines that shed light of hope among the people to fight this deadly infectious disease. Bangladesh has a success story in public health especially immunization of children for six diseases under the state-run "Expanded Programme on Immunization (EPI)," launched on 7 April 1979 following the 1977 recommendation of WHO at Alma Ata in Kazakhstan (Sarkar et. al., 2015). Bangladesh started rolling out Covid-19 vaccines in January 2022 with AstraZeneca doses aiming to vaccinate 70 percent of the population with two doges by the middle of 2022 as suggested by WHO. As of April 6, 2022, "Bangladesh has administered one dose of the Covid-19 vaccine to 75.25 percent of the population, two doses to 67.37 percent and three doses to 9.10 percent – figures that are the envy of many upper middle-income countries (Byron & Habib, 2022)." But, when the Covid-19 vaccine became available in Bangladesh, many people had feared of taking it indicating its side effects (Kallal, 2021). Observing Covid-19 vaccine phobia and needle phobia Bangladesh Prime Minister Sheikh Hasina several times during the pandemic urged everyone to get vaccinated without fear to fight the deadly disease. On 11 February 2021, the Prime Minister said "some people have needle phobia, but the government is expecting they would receive vaccine… (New Age, 2021)." One year later the Bangladesh Premier again made a call for getting vaccinated without unnecessary fear (The Daily Star, 2022). The head of the government's such call is a clear indication of vaccine phobia existed among the people of Bangladesh during Covid-19 pandemic. A study on a previous disease outbreak (H1N1 in 2009) also found that "26 percent of refusers were worried about safety and 17 percent did not believe in the vaccine (As cited in Mahmud, 2021)." Though Bangladesh has a success story in immunization why such Covid-19 vaccine phobia existed among the people? Was it failure of the mass media or communication channels to disseminate proper messages on the vaccination and make a counter against misinformation or disinformation or rumour on social media? This

question has arisen because mass media and other communication sources play a massive role in not only combating fake information about vaccination but also disseminating health messages, including urgency of taking vaccines, and reducing doubts about its safety and efficacy. So, it is urgent to know the severity or frequency of Covid-19 vaccine phobia among the people? What were the reasons behind such vaccine phobia? Were the mass media or other communication sources playing due role in this regard, or which media had contributed to increase vaccine phobia in Bangladesh? Which mass media or communication sources were trusted one for Covid-19 information about vaccination or from which communication sources of Covid-19 vaccine were mostly used? Answers of these questions need to be dug up through a systematic investigation for fighting such future disease pandemic or help develops theories relating to effective use of mass media and other communication approaches. This study will also be helpful for policymakers and campaigners towards vaccination during any pandemic as well as find out a way how vaccine phobia will be removed using means and methods of communication.

Objectives

1. To find out Covid-19 vaccine phobia among the people in Bangladesh;
2. To explore the reasons behind Covid-19 vaccine phobia;
3. To find out which communication sources, or strategies are used in disseminating Covid-19 vaccine information or fight vaccine phobia.

RELATED LITERATURES

Bono et al. (2021) conducted a cross-sectional survey of Covid-19 vaccine acceptance in nine Low-and Middle-Income Countries (LMICs) involving 10,183 participants, with assumed vaccine effectiveness at 90% and 95%. The study found that acceptance rates increased from 76.4% at 90% effectiveness to 88.8% at 95% effectiveness. Malaysia, Thailand, Bangladesh, and five African countries had lower acceptance odds compared to Brazil at 90% effectiveness. Higher acceptance was linked to viewing vaccination as essential for self-protection, having Covid-19 knowledge, fear of the virus, higher income, younger age, and negative Covid-19 test results. The main reasons for vaccine refusal were fear of side effects (41.2%) and lack of confidence in vaccine effectiveness (15.1%).

El-Shitany et al. (2021) surveyed 455 Saudi Arabian residents using a Google Form questionnaire. They reported adverse effects following the first and second doses of the vaccine, with the most common being injection site pain, headaches, flu-like symptoms, fever, and tiredness. Less common side effects included a rapid heartbeat, whole-body aches, difficulty breathing, joint pain, chills, and drowsiness.

Willis et al. (2021) found that 21.86% of participants were hesitant to take a Covid-19 vaccine. Hesitancy was highest among Black/African Americans (50%), those with household incomes below $25,000 (30.68%), individuals with some college education (32.17%), those with little to no fear of Covid-19 infection (62.5%), and those with low trust in vaccines generally (55.84%).

Love & Love (2021) indicated that 24% of the US population is under 19 years old. Among the remaining 76%, a segment would refuse vaccination for various reasons when two vaccines were developed by Pfizer/BioNTech and Moderna in December 2020.

Nir et al. (2003) found that injection phobia and negative past vaccination experiences were significantly associated with fainting.

Freeman et al. (2021) surveyed 15,014 UK adults online and discovered that Covid-19 vaccine hesitancy correlated with higher scores on scales measuring specific phobias, medical fears, and injection fears. These fears were more pronounced in younger individuals and Black and Asian ethnic groups.

Kaplan et al. (2021) conducted an online survey of 1,574 healthcare professionals in Turkey, including physi

cians, nurses, dentists, pharmacists, and other healthcare personnel. About 84.6% of healthcare professionals were willing to accept the Covid-19 vaccine, but the highest rejection rate was among nurses at 33.5%.

Marco-Franco et al. (2021) found that almost half of their respondents were unwilling to be vaccinated when available, citing a preference to wait (50.1%), concern about side effects (44.4%), and disbelief in vaccine efficacy (4.6%).

Yigit et al. (2021) reported that 66.1% of parents were reluctant to receive foreign Covid-19 vaccines, whereas only 37.4% were hesitant about domestic vaccines, primarily due to anxiety about side effects.

Mahmud et al. (2021) found that unwillingness to vaccinate was mainly due to doubts about the vaccine's safety and efficacy.

Hossain et al. (2021) reported a vaccine hesitancy prevalence of 46.2%. Higher hesitancy was observed among Muslims and those living in city corporation areas. Geographic variation in hesitancy was also noted, with higher rates in Khulna compared to Sylhet. Increased knowledge about the vaccine and the vaccination process was associated with reduced hesitancy.

METHODOLOGY

Quantitative data from primary sources have been collected using a Google Form questionnaire as the strict lockdown was enforced across the country. Before conducting the online survey, the questionnaire was developed and pre-tested with 15 respondents. Based on the pre-test, the Google Form questionnaire was modified and finalized. This study was conducted online on 500 respondents from Rangpur divisions of Bangladesh from March 2021 to April 2021. The online links of Google Form questionnaire were sent to 658 prospective respondents from various occupations uding various online platforms, including WhatsApp and Facebook Messengers, and emails. Before sending the Google Form link of the questionnaire. it was confirmed that the respondents were from Rangpur division of Bangladesh. Of the 658 possible respondents, 500 confirmed their participation in the study with submitting their responses on the Google Form. The respondents were selected both Covid-19 vaccinated and non-vaccinated persons using purposive sampling. Quantitative analysis was made for the study.

Demography of the Respondents

The survey has been conducted on 500 respondents from different professions. Most of the respondents (53.8%) are under the age group of 18-30 while 12.6% under 31-40, 12,2% under 41-50, 11.2% under 51-60, and 10.2 % above 60. Of the respondents, 66.2% are male and 33.8% female. 70.4% (n-352) respondents are unmarried and 29.6% (n-148) are married. Most of the respondents (63.5%) completed graduation while 14% post-graduation, 3% secondary level, 18% higher secondary level, o.5% primary education and 1% others.

Of the respondents, 23.6% are students while others are teachers (7.4%), physicians (6.6%), engineers (7.6%) journalists (6.4%) lawyers (6.2%), businesspersons (7%), govt. employees (7%), non-Govt. employees (9%), farmers (6.4%), housewives (6.4%) and others (6.4%).

RESULTS AND DISCUSSION

Table 2: Knowledge about Covid-19 vaccine

Responses towards knowledge about Covid-19 vaccine	Frequency	Percentage
Yes	394	78.8%
No	106	21.2%
Total	500	100%

(Source: Survey)

Table 2 shows that 78.8% of the respondents have knowledge about Covid-19 vaccine while 21.2% of the respondents have no knowledge about Covid-19 vaccine. The high percentage of knowledgeable respondents suggests that efforts to disseminate information about the Covid-19 vaccine have been largely effective. This could be attributed to widespread public health campaigns, media coverage, and educational initiatives aimed at increasing vaccine literacy. The fact that 21.2% of respondents lack knowledge about the Covid-19 vaccine indicates gaps in communication and outreach. Certain populations may not have been effectively reached by public health messages.

Table 3: Attitude towards Covid-19 vaccine

Category	Frequency	Percentage
Agree	221	44.2%
Strongly agree	107	21.4%
No comment	64	12.8%
Not agree	52	10.4%
Strongly not agree	56	11.2%
Total	500	100%

The respondents were asked whether they agree with the statement which is that vaccine would develop antibody to fight against corona virus. Table 3 reveals varied opinions on the statement that vaccines develop antibodies to fight the coronavirus. While 44.2% agree and 21.4% strongly agree, indicating a majority (65.6%) support this belief, a significant minority remain skeptical. Specifically, 10.4% disagree and 11.2% strongly disagree, totaling 21.6%. Additionally, 12.8% offered no comment. These figures highlight the need for enhanced strategic communication efforts to address misconceptions and reinforce scientific understanding about vaccine efficacy and its role in developing immunity against Covid-19. Addressing these gaps is crucial for improving vaccine acceptance and public health outcomes.

Table 4: How Covid-19 vaccine administered

Responses	Frequency	Percentage
Contact with hospital directly	78	15.6%
Fill-up online form on website or Surakkha App	257	51.4%
Place birth certificate/ National identity card at any state-run immunization centre	92	18.4%
No knowledge how to take Covid-19 vaccine	73	14.6%
Total	500	100%

The respondents were asked how they would get Covid-19 vaccine? In reply to this, Table 4 shows that 15.6% of the respondents said they contacted with hospital directly, 51.4% filled-up online form on website or “Surakkha App”, 18.4% said placed birth certificate/national identity card at any state-run immunization centres while 14.6% had no knowledge of taking Covid-19 vaccine.

Table 5: Attitude towards safety of taking Covid-19 vaccine

Is Covid-19 vaccine safe?	**Frequency**	**Percentage**
Yes	391	78.2%
No	109	21.8%
Total	500	100%

(Source: Survey)

Table 5 indicates that 78.2% of respondents believe the Covid-19 vaccine is safe, while 21.8% consider it unsafe. This highlights a strong confidence in vaccine safety among the majority, though significant skepticism remains, underscoring the need for continued trustworthy communication about vaccine safety.

Table 6: Covid-19 vaccination taken or not?

Do you take Covid-19 vaccine?	**Frequency**	**Percentage**
Yes	302	60.4%
No	198	39.6%
Total	500	100%

(Source: Survey)

Table 6 shows that 60.4% of the respondents are administered with Covid-19 vaccine while 39.6% didn't take Covid-19 vaccine.

Table 7: Reasons of taking Covid-19 vaccine*

Reasons	**Frequency**	**Percentage**
Self-motivation	110	22%
Motivated by famous people	21	4.2%
Self-awareness	91	18.2%
Have to stay at work	45	9%
For ensuring family safety	82	16.4%
Motivated by neighbour	20	4%
Motivated by mainstream media	41	8.2%
Motivated by social media	33	6.6%
Motivated by family, relatives and friends	33	6.6%
For overcoming obstacles to go abroad	24	4.8%

* Multiple responses.

Respondents cited various motivations for receiving the Covid-19 vaccine. Self-motivation was the leading factor for 22%, followed by self-awareness (18.2%), and concerns for family (16.4%). Work requirements influenced 9%, while 8.2% were inspired by mainstream media, and 6.6% by social media. Influences from family, relatives, and friends accounted for 6.6%, with an additional 6.6% motivated by neighbors. Famous personalities inspired 4.2%, and 4.8% took the vaccine to facilitate travel abroad.

Table 8: Reasons for not taking Covid-19 vaccine

Reasons	**Frequency**	**Percentage**
Not safe	35	17.68%
Serious side effect	40	20%
Limited research	20	10%
Difficult registration process	35	17.68%
Lack of information from government	20	10%
Others	48	24.24%
Total	198	100%

Table 8 says that 15.8% of the respondents believe that Covid-19 vaccine is not safe for them while 17.2% indicate serious side effect on human body, 14.6% think that research on the vaccine is still very limited, 16.4% identify difficult registration process for taking vaccines, 13.6% say lack of information from the government and 22.4% mentions some other reasons for not taking Covid-19 vaccine.

Table 9: Maintaining hygiene after taking Covid-19 vaccine

Did you maintain hygiene after taking Covid-19 vaccine?	**Frequency**	**Percentage**
Yes	395	79%
No	105	21%
Total	500	100%

Table 9 shows that 79% of the respondents maintain hygiene after taking Covid-19 vaccine while 21% don't do it.

Table 10 Covid-19 vaccination phobia

Do you have Covid-19 phobia?	**Frequency**	**Percentage**
Yes	357	71.4%
No	143	28.6%
Total	500	100%

Table 10 shows that 71.4% of the respondents said they have no Covid-19 vaccine phobia while 28.6% have phobia towards Covid-19 vaccination.

Table 11: Reasons of Covid-19 vaccine phobia

Reasons of Covid-19 vaccine phobia	**Frequency**	**Percentage**
Needle phobia	91	18.2%
Side effects	138	27.6%
Distrust in vaccines made in other countries	90	18%
Having risk of affected corona with the Covid-19 vaccine	88	17.6%
Genuine information and benefits of Covid-19 vaccine are still unknown	93	18.6%

(Source: Survey)

Table 11 reveals that 18.2% of the respondents have needle phobia while 27.6% apprehend side effects, 18% think lack of confidence in vaccines developed in other countries, 17.6% having phobia of affecting corona virus with Covid-19 vaccination and 18.6% have Covid-19 vaccine phobia for lack of genuine information and benefits of the vaccine.

Table 12: Most informative media for Covid-19 vaccine

Communication media	**Frequency**	**Percentage**
Family and relatives	41	8.2%
Newspapers	60	12%
Television	73	14.6%
Radio	0	00
Opinion leader	35	7%
Social media	226	45.2%
Leaflet/poster	31	6.2%
Others	34	6.8%
Total	500	100%

Table 12 reveals that 8.2% of the respondents said they are mostly informed about Covid-19 vaccine from family and relatives while 12% from newspapers, 14.6% television channels, 7% from opinion leaders, 45.2% from social media, and 6.2% from leaflets/posters and 6.8% from other sources.

Table 13: Information about Covid vaccine satisfactory or not

Satisfactory or not?	**Frequency**	**Percentage**
Yes	341	68.2%
No	159	31.8%
Total	500	100%

Table 13 shows that 68.2% of the respondents who get vaccine information from communication media term it sufficient and satisfactory while 31.8% is not satisfied over the information about the vaccine from media.

Table 14: Covid-19 vaccination motivated by communication media

Communication media	**Frequency**	**Percentage**
Family and relatives	61	12.2%
Newspaper	52	10.4%
Books	31	6.2%
Television	65	13%
Radio	31	6.2%
Opinion leader	36	7.2%
Social media	184	36.8%
Others	40	8%

Table-14 shows that all the respondents who was administered vaccine said that communication media motivated them to take Covid-19 vaccine. Of them, 12.2% motivated by family and relatives, 10.4% by newspapers, 6.2% by books, 13% by television channels, 6.2% by radio, 7.2% by opinion leaders, 36.8% by social media and 8% by other forms of communication media.

Table 15: Insufficient or misleading information from communication media discouraged taking Covid-19 vaccines

Responses	**Frequency**	**Percentage**
Yes	141	28.2%
No	359	71.8%
Total	500	100%

Table 15 reveals that 28.2% of the respondents said insufficient or misleading information from communication media discouraged them from taking Covid-19 vaccines while 71.8% said no media information was discouraged them from taking the vaccines.

Table 16: What misconception about Covid-19 vaccin**e**

Misconception	**Frequency**	**Percentage**
Covid-19 vaccine transform gender	120	24%
Developing mustaches of children or women after taking Covid-19 vaccine	122	24.4%
Increases risk of death	134	26.8%
Covid-19 vaccine causes Corona virus	124	24.8%
Total	500	100%

Table 16 reveals alarming misconceptions among respondents due to misleading information. A significant 24% believe the vaccine could transform their gender, 24.4% fear it could cause mustaches to grow on children or women, 26.8% think it increases the risk of death, and 24.8% state it causes Covid-19. These findings underscore the critical need for comprehensive public health education and targeted misinformation campaigns to dispel these dangerous myths. Addressing these beliefs is essential for improving vaccine uptake and public trust in vaccination programs, thereby enhancing community health and safety.

RECOMMENDATIONS

1. **Ensure accurate and comprehensive media coverage**: Mass media should provide clear, accurate, and thorough information about vaccination to prevent the spread of misinformation during any pandemic.

2. **Sensitive reporting on adverse events**: In the event of deaths or illnesses due to vaccine side effects, media headlines and reports should be crafted carefully to avoid inciting fear or doubt about vaccines.

3. **Frequency of messaging**: The frequency of vaccine-related messages should be pragmatically determined based on public need and the significance of the issue, ensuring the right balance between informativeness and oversaturation.

4. **Planned communication strategy**: To mitigate vaccine phobia, a strategic communication plan utilizing both social media, and various traditional and folk media should be used.

5. **Enhanced motivational messaging**: Media communication should incorporate more motivational contents to effectively counteract vaccine hesitancy and encourage positive public attitudes towards vaccination.

6. **Articulate and persuasive messaging**: Vaccine messages should combine factual information with thoughtful interpretation, designed to inspire immediate and positive actions from the audience.

7. **Integrated communication approach**: During pandemics, epidemics, or vaccination programs, a coordinated communication plan should be executed, involving all relevant government and non-government stakeholders to ensure a unified and effective public health message.

CONCLUSION

Communication plays an indispensable role in mitigating vaccine phobia, especially during pandemics when vaccines are rapidly developed. This study highlights that effective communication, characterized by clarity, accuracy, and motivational content, significantly influences public attitudes and behaviors towards vaccination. The media's ability to convey comprehensive and reliable information, manage sensitive reporting on adverse events, and utilize both traditional and modern communication channels is crucial in fostering public trust and acceptance.

The findings emphasize that strategic communication can transform public knowledge and attitudes, encouraging positive behavioral changes. This underscores the need for media and communication professionals to collaborate closely with stakeholders to craft and disseminate messages that support public health objectives, ultimately leading to higher vaccine uptake during vaccination campaigns.

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