

ORIGINAL ARTICLE

Acceptance and Rejection of Covid-19 Vaccine among Pregnant and Breast Feeding Women – a survey conducted in Outpatient Department of a tertiary care setup

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ABSTRACT

Aim: To ascertain the frequency of acceptance and rejection of covid-19 vaccination and the reasons behind their choices among pregnant and breast feeding women visiting outpatient department of a tertiary care setup.

Methods: This cross-sectional study was conducted in the Department of Obstetrics and Gynaecology, Jinnah Postgraduate Medical Centre, Unit -1 for a period of one month. All women attending outpatient department during the study, fulfilling the inclusion criteria and willing to participate in the study were included after informed consent. A questionnaire designed to acquire general information about the study participant was filled by the researcher. Data was entered and analyzed using SPSS vr 21.0.

Results: Out of 500 enrolled women, 249(49.8%) women were pregnant and 251(51.2%) were breast feeding. 171(34.2%) were vaccinated and 329(65.8%) were unvaccinated. There is a significant association between the concept regarding unavailability of significant data regarding safety during pregnancy and breast feeding or vaccine being harmful during pregnancy and breast-feeding for mother & baby and acceptance of vaccine (p-value < 0.001)

Conclusion: Safety concerns regarding the vaccine for pregnant and breast-feeding mothers still hold them from getting vaccinated. Obstetricians and Gynaecologists of the country need to play a vital role in building up the confidence of this population over vaccination and should strongly recommend pregnant and breast feeding women following up in clinics to get vaccinated.

Keywords: Covid vaccination, pregnancy, breast-feeding and covid vaccine, Covid pandemic.

INTRODUCTION

Since the first outbreak of covid-19 in Wuhan, China in 2019; Covid-19 has spread its wings far and wide involving more than 213 countries. Covid-19 has proved to be a serious global threat and has been declared as pandemic by WHO¹. As of October 2021, there are 219 million confirmed Covid positive cases worldwide and 4.55 million deaths have been reported globally. In Pakistan there are 1,263,664 cases reported till October 16, 2021 and 28252 deaths.² Covid-19 pandemic has been declared as a public health emergency of international concern by WHO on 30th January 2020³.

Pakistan has been at risk of high infectivity as it shares borders with countries with worst outbreaks of covid-19 like India, Iran and China.⁴ Along with the exponential rise of Covid-19 is the rise of myths associated with it.⁵ Various myths regarding treatment of covid- 19 with vital oils, colloidal silver circulate across face-to-face and often web-based media⁶. Initially it was believed that hot climate destroys the virus, but later it was seen that covid-19 cases were on the rise in hot climate as well. Some people considered taking zinc, ginger, and other Indian herbs help in protection and combatting the disease.⁷ As now vaccine against Sars-COV 2 is widely available, but because of the confusion and myths associated with it, initially it did not receive the acceptability from public. Pakistan is a country with high illiteracy rate where there is a strong believe in various fallacies and myths endorsed by various regional tales or religious backgrounds⁸. Doubtfulness regarding vaccination is a significant challenge for Pakistan owing to conspiracy theories.⁹ Previously such theories were prevalent for polio vaccine. Because of these theories, Pakistan is among the three countries that still report polio cases.¹⁰ One of the serious myths regarding polio vaccination was its biological effect on human body mainly propagated by some religious clerics and public figures. Covid-19 Vaccine also received similar fate when it comes to the acceptability in the general public.¹¹ A well-known Pakistani political figure and columnist stated Covid-19 pandemic as a Jewish propaganda and an attempt to control muslim world by insertion of nano-chips through vaccination¹². Similarly some

believe that it is a plot to make muslims infertile. Covid-19 vaccine is available in Pakistan since February 2021. Initially the SOPs issued by the government of Pakistan stated vaccines like Sinopharm, Sinovac and Cansino as contraindicated in pregnancy and breast-feeding mothers because of insufficient safety data. The guidelines were later revised in May 2021 and vaccines like Sinopharm, Sinovac, Astrazeneca, Pfizer and Moderna were declared safe during pregnancy and breast feeding. Since then, National Command and Operations Centre (NCOC) recommends vaccinating pregnant and breast-feeding women. Due to lack of awareness and fear of the staff at mass vaccination centres, pregnant and breast-feeding women were not getting vaccinated. This matter was highlighted by Society of Obstetricians and Gynaecologists of Pakistan (SOGP) and various awareness programs were initiated to spread the message far and wide¹³.

Various awareness programs initiated by the government are playing a role in debunking the myths but still there is a long way to go. As Pakistan belongs to Low-Middle income countries (LMIC), extensive lockdowns are not possible because of economic turmoil. Pakistan has poor health system and limited budget to fight against this deadly pandemic. The only hymn Pakistan can hook up to is "Prevention is better than cure". Therefore mass vaccination against covid-19 is dire need of the country. A cross-sectional survey conducted by Qamar MA. Et. Al. showed 37.8% acceptability of covid-19 vaccine in Sindh by general population¹⁴ however, currently no regional study is available that determines the acceptability of covid-19 vaccine among pregnant and breast feeding women. A study conducted in UK regarding acceptance of Covid-19 vaccine during pregnancy showed that 81.2% women would definitely want to receive vaccination when they are not pregnant however the acceptance is significantly lower during pregnancy i.e. 62.1%¹⁴. Another study conducted in US by Townsel C. et. al showed that pregnant women were six times likely to delay the vaccine and twice likely to decline¹⁵. A systemic review done by Januszek SM et al showed acceptance of covid vaccine by pregnant women varied between 29.7 and 77.4%¹⁶.

The aim of this study is to see the acceptance and rejection of covid-19 vaccine in pregnant and breast-feeding women and factors leading to those beliefs. This survey can help us to know

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the positive facts that can lead to acceptability of the vaccine. In this way we can re-enforce the true facts and debunk the myths and provide awareness to the women of reproductive age-group of our society.

MATERIALS AND METHODS

Study setting and Population: This Cross-Sectional study was conducted Jinnah Postgraduate Medical Centre, Karachi, Department of Obstetrics & Gynaecology Unit for a period of one month from October 1st 2021 – November 1st 2021. Ethical approval was taken from Institutional Review Board, Jinnah Postgraduate Medical Centre, Karachi (NO. F. 2-81/2021-GENL/67148/JPMC).

Although sample size for the study was calculated as 321, taking the acceptance of Covid-19 vaccine among pregnant women as 29.7%¹⁶, confidence interval of 95% and margin of error 1.1% but total 500 women were enrolled in the study to compensate for any missing data and gather opinions as close to population as possible. Non probability consecutive sampling technique was used. Pregnant and breast feeding women reporting in outpatient department of Gynaecology and Obstetrics Unit – 1 were included in the study. Whereas other women of reproductive age group (who were neither pregnant nor breast feeding) and menopausal women (confirmed by the reported age and history of cessation of menses for at least 1 year) were excluded from the study.

Selection of Study Participants: A total of 2770 pregnant and breast feeding women visited JPMC during the course of study. These patients were randomly distributed in 3 chambers. Initial 700 out of 950 women who were sent to Principal Investigator's OPD were offered to participate in the study to obtain a sample size of 500 patients (Figure: 1). Non-probability consecutive sampling technique was used. Out of 700 pregnant and breast feeding women, 200 refused to participate in the study. Most common reason was lack of awareness regarding covid-19 vaccine, fear of expressing their thoughts, fear of being sent away from outpatient department because of not being vaccinated.

Data collection tool: A structured questionnaire was designed in English and local language (urdu) containing 26 questions. The questionnaire was designed after keeping in view already published material regarding covid-19, community concerns and prevalent myths.^{7, 8, 12} Demographics contained information regarding age, marital status, religion, occupation, socioeconomic status and current reproductive status (either pregnant or breast feeding). Few questions regarding general knowledge about covid-19, availability of vaccine and if the participant is vaccinated or not are asked. Further reason for acceptability or rejection of covid-19 vaccine is asked keeping in view the myths associated with the vaccine.

Data analysis: Data was entered and analyzed using SPSS version 21.0. Descriptive statistics were calculated for all variables. Continuous variables like age, is presented by mean \pm SD. Categorical variables like religion, education level, socioeconomic status, occupation, current reproductive status and vaccination status are presented in terms of frequency and percentage. Each reason for acceptance and rejection is presented in terms of frequency and percentage. Stratification is done on the basis of vaccination status. To determine the association of vaccination with religion, socioeconomic status, education, occupation and reproductive status chi-square/ fisher's exact test was applied and p value ≤ 0.05 was taken as significant.

RESULTS

Total 500 pregnant and breast feeding women visiting out-patient department of Department of Obstetrics & Gynaecology, Jinnah Postgraduate Medical Centre Karachi were enrolled in the study.

Demographics: Out of 500 enrolled women, 249 (49.8%) women

were pregnant and 251 (51.2%) were breast feeding. Mean age was 27.15 ± 4.788 years. 333 (66.6%) women belonged to low socioeconomic class with monthly income of less than Rs. 20,000/- 139 (27.8%) women belonged to low-middle class with monthly income between Rs. 20,000- 40,000/-. 23 (4.6%) women belonged to upper middle class family where monthly income was between Rs. 40,000- 60,000/-. 5 (1%) women belonged to upper class family with monthly income of Rs. 100000/- or above. 446 (89.2%) out of 500 women were muslim, 23(4.6%) were hindu, 28(5.6%) were Christians and 3(0.6%) were budhist. 162(32.4%) women enrolled in the study were uneducated, 130(26%) received primary education, 129(25.8%) received secondary education, 42 (8.4%) received intermediate education, 32(6.4%) were graduates and 5(1%) received postgraduate education. Out of 500 women, 440(88%) were housewives, 25(5%) were house hold workers, 6(1.2%) were company workers, 10(2%) were teachers, 5(1%) were nurses, 4(0.8%) were doctors, and 10(2%) had other profession (beautician, small scale business etc.).

Information regarding Covid-19 pandemic and vaccination:

Among 500 enrolled women, 476 (95.2%) have heard about Covid-19 pandemic. 24(4.8%) women were still unaware of covid 19. 405 (81%) women consider it as a serious threat. 428(85.6%) believe that protective measures like face mask, social distancing and hand hygiene can protect against covid-19. 148(29.6%) women have either acquired Covid infection themselves or knew someone in family who had acquired covid infection. 68(13.6%) women had someone in family who developed serious complications or died due to Sars CoV-2 infection. 473(94.6%) women have heard about availability of covid-19 vaccine in Pakistan but only 171(34.2%) have got vaccinated for Sars CoV-2. Chi-square was applied to see association of acceptance of Sars CoV-2 vaccination with income, religion, occupation, educational status. There was no significant association seen between acceptance of Sars CoV-2 vaccine with socioeconomic status, religion, educational status and occupation.

Views regarding Sars CoV-2 vaccine of vaccinated women:

Out of 171 women who were vaccinated, 140 (81.9%) believe vaccine can save a person from acquiring covid-19 infection. 132 (77.2%) believe that vaccine can protect from developing serious complications related to Sars CoV-2 infection. 89 (52%) women believe that vaccination can bring covid-19 to an end. Only 68 (39.8%) women believe that vaccine cannot harm a pregnant or breast-feeding mother and their baby.

Views regarding Sars CoV-2 vaccine of unvaccinated women:

Out of 329 women who were unvaccinated 104(31.6%) believe covid-19 pandemic is a drama/propaganda created by media and it cannot cause serious illness. 159(48.3%) women believe it is an agenda to control humans by insertion of microchip. 102(31%) women believe that the vaccine is a trap to make people infertile. 97 (29.5%) women believe that the vaccine is being experimented on human subjects. 100 (30.4%) women believe the vaccine is a dangerous injection that can cause death of a person within 2 years. 183(55%) women believe the vaccine has limited/no safety data during pregnancy. 163 (49.5%) believe that the vaccine can cause serious hazardous side effects in mother and baby. 82 (24.9%) women want to get vaccinated but do not get vaccinated as their partner (husband) is not convinced and does not let them get vaccinated.

Chi-square test was applied to see the association regarding safety concerns of vaccine during pregnancy and breast feeding and acceptance of vaccine among pregnant and breast-feeding women. There is a significant association between the concept regarding unavailability of significant data regarding safety during pregnancy and breast feeding or vaccine being harmful during pregnancy and breast-feeding for mother & baby and acceptance of vaccine (p-value: 0.000).

Fig:1 Enrollment in Study

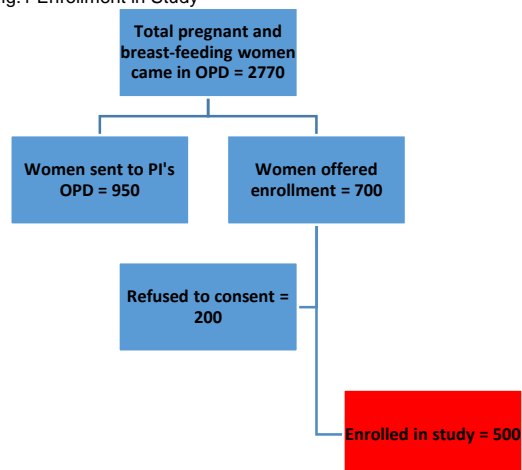


Figure 2: Distribution on the basis of religion

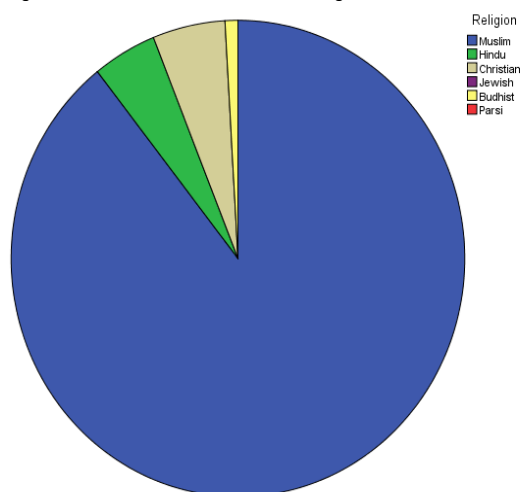


Figure 3: Distribution on basis of education

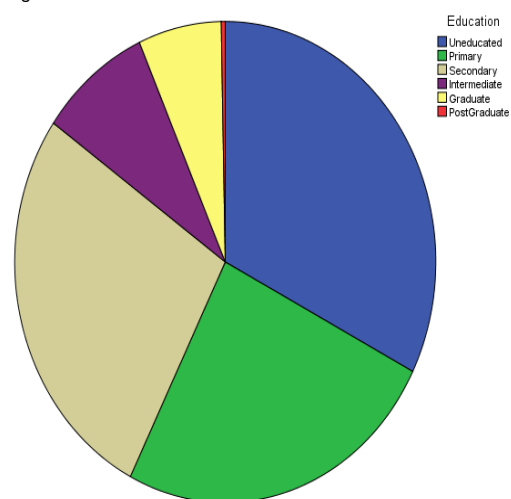


Figure 4: Distribution on basis of career

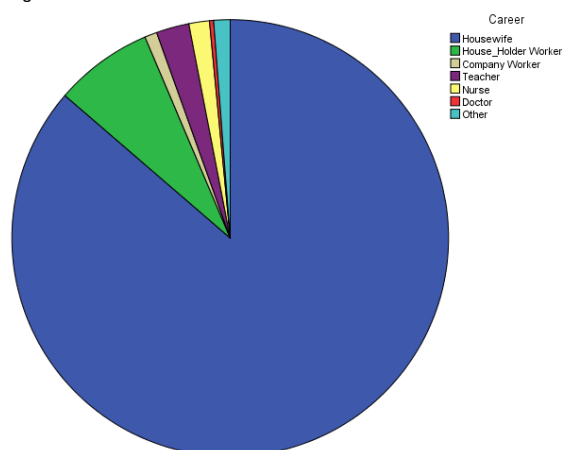


Figure 5: Distribution on basis of Income

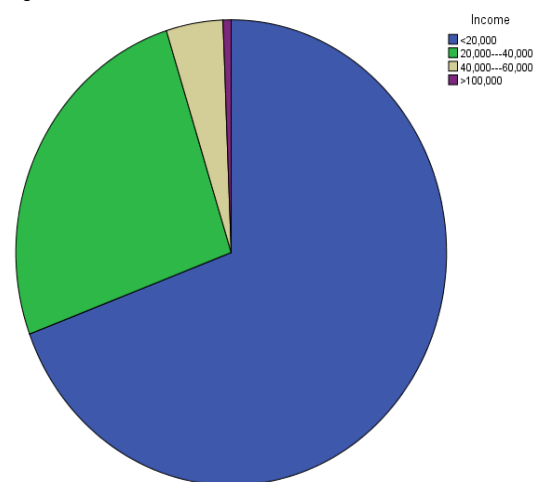


Figure 6: Responses of unvaccinated women regarding myths by uneducated women

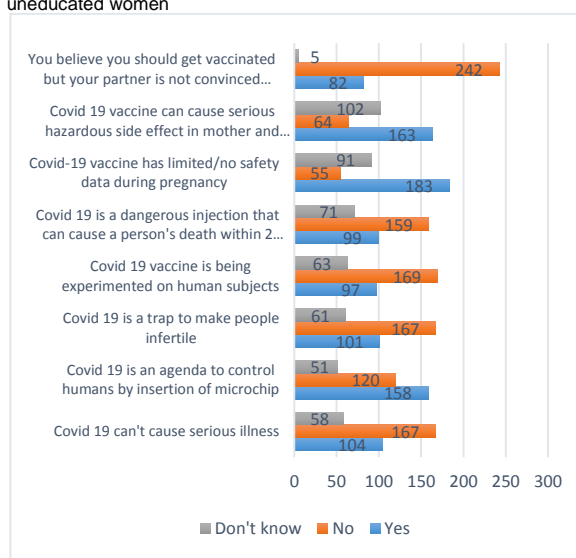
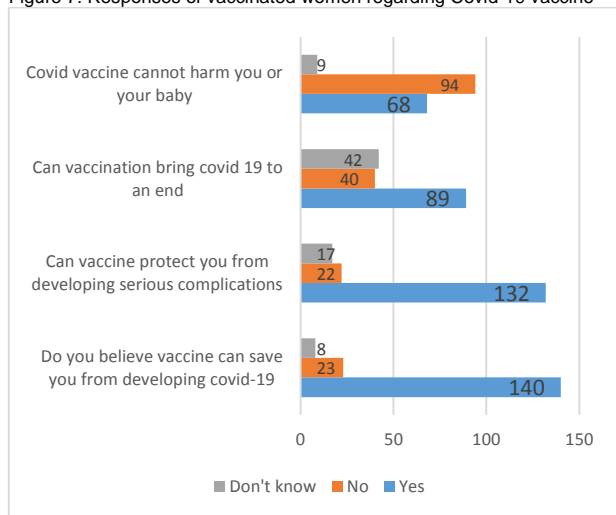


Figure 7: Responses of vaccinated women regarding Covid-19 vaccine



DISCUSSION

Vaccine hesitancy is an internationally prevalent phenomenon.¹⁷ Ever since the outbreak of covid-19 pandemic, various myths and theories are in the air. Pakistan is a country with diverse social and religious cultures, ethnicities with high illiteracy rate and majority belongs to low-middle income class. This leads to creation of various fallacies and beliefs among general population. Before Sars CoV -2 infection, other diseases that could have been eradicated with effective vaccination and herd immunization also faced the same fate. Still in Pakistan, people dread for polio vaccination and Polio immunization team is also subject to threats and abuse in some areas. Therefore unfortunately Pakistan still reports polio cases.¹⁸ In the beginning of Covid-19 pandemic, it was a general belief that the infection is nothing more than just flu like illness.¹⁹ Similarly it was once thought that hot weather will kill the propagation of the virus and hence pandemic will end in summer season. Some people call Sars CoV-2 as a man-made virus and a biological war weapon against muslim countries. This claim further lead to the bizzare beliefs regarding vaccination causing infertility and vaccination being a way of insertion of microchips to control people and gain power.²⁰ Unfortunately many media influencers also had the same vision and this paved way for creation of more confusion among general population. Efforts regarding awareness of Sars Cov-2 infection and vaccination are being carried out by the government, that has led to dismissal of some of the bizzare claims regarding infection and vaccine but still there is a long way to go.

According to Qamar et al. only 35% people of Sindh were aware about vaccine availability in Pakistan.⁸ In our study we found out that now 95.2% women are aware of Sars Cov 2 infection but only 34% opted for vaccination. In our study 31% women still consider it as a propaganda by western world. The ratio has decreased as according to Gallup Pakistan 62% women considered it a foreign conspiracy in August 2020.²¹ According to survey of Gallup Pakistan in August 2021, 49% women still consider it a foreign agenda.²² 48.3% of unvaccinated women still consider it as a trap to make people infertile. It is still a higher ratio as Qamar et al. reported it as 27.4%.⁸ 29.5% believe vaccination is being experimented on human subjects and 30.4% think they would die within 2 years of receiving the vaccine. However the ratio has tremendously decreased as seen in previous studies. There is a continuous up-surge when asked if either they or anyone in family has acquired covid infection. In survey of Gallup Pakistan 24% responded positively whereas in our study 29% women responded positively.²²

Qamar et al. reported that 59.8% people think that pregnant and breast feeding women should not get vaccinated because of safety concerns for mother and baby.⁸ In our study we found out that only 34% women opted for vaccination. Even vaccinated women were unsure about its safety during pregnancy and breast-feeding. Only 13.6% women consider the vaccine safe for a woman and baby during pregnancy and breast feeding. Vaccine hesitancy during pregnancy and perinatal period is globally prevalent especially in LMIC like Pakistan, India and Bangladesh. Even in developed countries, vaccine hesitancy has become a challenge. Murphy et al. reported vaccine hesitancy in UK as 31% and 35% in Ireland²³. Mohan et al. reported vaccine hesitancy rate of 75% in Qatari females²⁴.

Reluctance to vaccination has been reported as greatest health threats by World Health Organization even before covid-19 pandemic.²⁵ Royal College of Obstetricians and Gynaecologists (RCOG) and American College of Obstetricians & Gynaecologists (ACOG) both recommend pregnant and breast feeding women to get vaccinated.^{26, 27} Society of Obstetricians and Gynaecologists of Pakistan (SOGP) also support vaccinating pregnant and breast-feeding women as they are more vulnerable to develop serious complications.²⁸ This message needs to be spread to all health care professionals and staff of mass vaccination centers. Pregnant and breast-feeding women are still being turned down at vaccination centers as there is lack of knowledge and trust of staff at vaccination centers. There is still fear regarding safety concerns of vaccine among general population, health care professionals (especially general practitioners), and staff at vaccination centers. Gynaecologists and Obstetricians need to play a vital role to debunk the myths and safety concerns regarding vaccination. Effective use of social media platform plays a vital role in conveying the message to masses as it provides easy access to seeking information and making up an opinion.^{29,30}

CONCLUSION

Although there is a great change in people's views regarding Covid-19 pandemic; many myths are being debunked and people are opting for vaccination against covid infection but safety concerns regarding the vaccine for pregnant and breast-feeding mothers still hold them from getting vaccinated. Obstetricians and Gynaecologists of the country need to play a vital role in building up the confidence of this population over vaccination and should strongly recommend pregnant and breast feeding women following up in clinics to get vaccinated. Social media platforms should be used effectively to educate medical fraternity, staff and general population regarding benefits of vaccination, building up their confidence and helping them in making an opinion.

Conflict of interest: Nil

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