

Attitude of Egyptian Pregnant Women to Covid-19 Vaccination

Original
Article

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ABSTRACT

Background: Compared to women who are not pregnant, pregnant women are known to be at much higher risk of serious COVID-19-related problems. Thus, safeguarding pregnant women against COVID-19 is crucial. The effectiveness of vaccination as a safeguard against a severe COVID-19 infection has increased.

Aim of the Work: To ascertain how Egyptian pregnant women feel about receiving the COVID-19 vaccine and whether they are hesitant to do so.

Patients and Methodology: This prospective study, which included 295 expectant women who visited OPC for antenatal care, was carried out in Kasr Al-Ainy Obstetric and Gynecology Hospital. A face-to-face survey was used to get the data. All participants gave their consent in writing after being fully informed.

Results: 101 respondents (34.2%) of the 295 who completed the poll said they would get the vaccine if it was advised for expectant mothers. Sixty-six (22.4%) of the patients had high-risk pregnancies, according to the study. The two main reasons given by pregnant women who indicated they would refuse the vaccine were: (1) potential injury to the unborn child or to one's own body (90.2% and 72.7%, respectively); and (2) a lack of information regarding vaccine safety (79.9%). Acceptance of the COVID-19 vaccine and women education showed a marginal inverse connection ($P < 0.005$).

Conclusion: This sample of pregnant women had a low acceptance rate for the COVID-19 immunization. The COVID-19 vaccine's acceptability was heavily reliant on having access to adequate information. It will be crucial to identify attitudes among priority groups while creating immunization efforts to combat COVID-19.

Key Words: Acceptance, COVID-19 vaccine, hesitancy, pregnant.

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INTRODUCTION

Even though it has been two years since the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic hit the globe, there is still no particular treatment for the illness. Up until February 2022, the WHO reported that millions of deaths had been reported globally. Thus, it's critical to prevent infection^[1].

As a result of the body's higher demands during pregnancy and its weakened immune system, infections are more likely to cause difficulties. It is well recognized that pregnant women have a far higher chance of developing serious COVID-19-related problems than non-pregnant women^[2,3]. Hence, protecting pregnant women from COVID-19 is crucial. A dependable defense against a severe COVID-19 infection has emerged: vaccination^[4,5].

The (ACOG) highly advises that women who are pregnant get the COVID-19 vaccine. Completing the initial COVID-19 immunization series is important for this population because to the risk of serious illness and mortality during pregnancy. The emphasis should be on

receiving the vaccine as soon as feasible to maximize maternal and foetal health. Vaccination may occur in any trimester^[6]. Despite this, pregnant women have not yet been enrolled in any clinical studies for the COVID-19 vaccine^[7].

Making decisions on the COVID-19 vaccination has been complicated by the ambiguity surrounding pregnant women. Because of the conflicting available data and the worry about potential injury to the foetus or the mother, we believe that pregnant women would avoid the COVID-19 immunization. Our research intends to characterize the level of acceptability and reluctance towards the COVID-19 immunization among a sample of expectant mothers in Cairo, Egypt.

PATIENTS AND METHODS

This prospective cohort study, which included 295 pregnant women presenting to OPCs for antenatal care and ranging in age from 18 to 40, was carried out at Kasr Al-Ainy Obstetrics and Gynecology Hospital between February 26, 2022, and June 9, 2022.

A face-to-face survey was used to get the data. All participants gave their consent in writing after being fully informed. Individuals who refused the research, had obstetric emergencies, or tested positive for COVID 19 at the time of the survey were eliminated.

The final period or first-trimester crown-to-rump length was used to determine the patients' pregnancy stage. Questions on sociodemographic traits, vaccination history, risk perception connected to the COVID-19 pandemic, the pandemic's effects, and acceptance of and attitudes towards future COVID-19 vaccinations were all included in the questionnaire.

Preterm labour, foetal deformities, numerous pregnancies, medical conditions, and placenta previa were all signs of a high-risk pregnancy. Positive COVID-19 swab results were used to identify previously infected cases. Obesity, compromised immunity, chest or heart conditions, etc., were all high risk factors for COVID-19 infection.

Version 23 of the Statistical Package for the Social Sciences was used for the analyses. While qualitative data were given as number and percentage, quantitative data were reported as mean \pm SD. Categorical variables were compared using the Chi square test. The Spearman's test was used to compare the groups to determine whether socio-demographic factors and COVID-19 vaccination acceptance were correlated. *P value* less than 0.05 was deemed significant.

RESULTS

Table 1 displays the socio-demographic characteristics of the participants. 101 (34.2%) of the 295 patients who completed the questionnaire and expressed an intention to obtain the vaccine if it was advised for pregnant women. Sixty-six (22.4%) of the patients had high-risk pregnancies, according to the study.

Table 1: Sociodemographic data

Sociodemographic data (N=295)	
Age	26.732 \pm 5.13
Gravidity	2.6 \pm 1.4
Parity	1.43 \pm 1.187
Gestational age	23.7 \pm 9.17
Number of occupants in the home	3.97 \pm 1.67
Number of children going to school	0.57 \pm 0.87
Number of old age > 65 yrs	0.27 \pm 0.57
High risk pregnancy	66 (22.4%)
Low income	213 (72.2%)
Non educated	45 (15.3%)
1ry education	80 (27.1%)
2ndry education	128 (43.4%)
University	40 (13.6%)
House wife	200 (67.8%)
Husband Worker	103 (34.9%)
Husband Employer	70 (23.7%)
Husband Private sector	120 (40.7%)

While qualitative data were given as number and percentage, quantitative data were provided as mean and SD.

Table 2 provides acceptance rates for the COVID-2019 vaccination as well as comparisons of the responses from patients with high-risk and low-risk pregnancies. For high-risk COVID 19 cases, prior COVID 19 infection, and patients not receiving enough information regarding COVID 19 immunizations, there were significant differences between the high-risk and low-risk groups, with *P values* of 0.005, 0.034, and 0.005 respectively.

Table 2: Acceptance of the COVID 19 vaccine and a comparison of cases with high and low risk

	Response	Recommend (N=101)	Not recommend (N=194)	<i>P Value</i> *	High risk (N=66)	Low risk (N=229)	<i>P Value</i> *
Ever vaccinated	Yes	96 (95.04)	186 (95.9)	0.743	61(92.4)	221(96.5)	0.155
	No	5 (4.96)	8 (4.1)		5 (7.3)	8(3.5)	
High risk for COVID	Yes	24 (23.8)	46 (23.7)	0.992	41(62.1)	29 (12.7)	< 0.005
	No	77 (76.2)	148 (76.3)		25 (37.9)	200 (87.3)	
Close contact to suspected or Infected cases	Yes	84 (83.2)	166 (85.6)	0.587	56 (84.8)	194 (84.7)	0.979
	No	17 (16.8)	28 (14.4)		10 (15.2)	35 (15.3)	
Hygiene	Yes	30 (29.7)	66 (34)	0.453	22(33.3)	74 (32.3)	0.876
	No	71 (70.3)	128 (66)		44 (66.7)	155 (67.7)	
Social Distancing	Yes	20 (19.8)	31 (15.9)	0.41	9 (13.6)	42 (18.3)	0.373
	No	81 (80.2)	163 (84.1)		57 (86.4)	187 (81.7)	
Wear Mask	Yes	54 (53.5)	94 (48.5)	0.414	36 (54.5)	112 (48.9)	0.42
	No	47 (46.5)	100 (51.5)		30 (45.5)	117 (51.1)	
Got infected	Yes	53 (52.5)	83 (42.8)	0.113	38(57.6)	98 (42.8)	0.034
	No	48 (47.5)	111 (57.2)		28 (42.4)	131 (57.2)	
Heard about vaccine	Yes	93 (92.1)	178 (91.8)	0.922	59 (89.4)	212 (92.6)	0.405
	No	8 (7.9)	16 (8.2)		7 (10.6)	17 (7.4)	
Enough information	Yes	36 (35.6)	15 (7.7)	<0.005	4 (6)	47 (20.5)	0.06
	No	65 (64.4)	179 (92.3)		62 (94)	182 (79.5)	

*chi-square test

Data are represented as number (percentage)

Table 3 provides a summary of the arguments against the COVID-19 vaccine refusals. The two main reasons given by pregnant women who indicated they would refuse the vaccine were: (1) potential injury to the unborn child or to one's own body (90.2% and 72.7%, respectively); and (2) a lack of information regarding vaccine safety (79.9%).

Table 4 shows the relationship between sociodemographic characteristics and the acceptability

of the COVID-19 vaccine. Acceptance of the COVID-19 vaccine and women education showed a marginal inverse connection ($P < 0.005$).

Pregnant women in their first trimester reported a stronger desire to forego the COVID-19 vaccination than those in the second and third trimesters (only 26.4% recommended the vaccine), although this difference was not statistically significant ($P = 0.573$).

Table 3: Provides a summary of the grounds for COVID-19 vaccine refusal

	Response	Not recommend (N=194)	High risk (N=66)	Low risk (N=229)	P value*
Fear of Injection	Yes	28 (14.4)	6 (9.1)	22 (9.7)	0.9
	No	166 (85.6)	60 (90.9)	207 (90.3)	
Harm body (affect future fertility , cause cancers)	Yes	141(72.7)	35 (53)	106 (46.3)	0.334
	No	53 (27.3)	31 (47)	123 (53.7)	
Harm baby	Yes	175 (90.2)	47 (71.2)	128 (55.9)	0.26
	No	19 (9.8)	19 (28.8)	101 (44.1)	
Cause infection	Yes	72 (37.1)	19 (28.8)	53 (24)	0.347
	No	122 (62.9)	47 (71.2)	176 (76)	
COVID is Not serious disease	Yes	26 (13.4)	4 (6)	22 (9.6)	0.371
	No	168 (86.6)	62 (94)	207 (90.4)	
Low risk of COVID infection	Yes	23 (11.9)	4 (6)	19(8.3)	0.550
	No	171 (88.1)	62 (94)	210 (91.7)	
Vaccine not effective	Yes	65 (33.5)	12 (18.2)	53 (24)	0.391
	No	129 (66.5)	54 (81.8)	176 (76)	
Family hesitancy	Yes	70 (36)	14 (21.2)	56 (24.5)	0.585
	No	124 (64)	52 (78.8)	173 (75.5)	
Lack of information	Yes	155 (79.9)	36 (54.5)	119 (51.9)	0.711
	No	39 (80.1)	30 (45.5)	110 (48.1)	
Lack of vaccine Availability	Yes	43(22.2)	8 (12.1)	35 (15.3)	0.521
	No	151 (77.8)	58 (87.9)	194 (84.7)	

*chi-square test

-Data are represented as numbers (percentages)

Table 4: Shows the relationship between sociodemographic characteristics and the acceptability of the COVID-19 vaccine

	R	P ^a
Age	0.055	0.346
Gravidity	0.022	0.708
Parity	0.024	0.684
GA	0.033	0.573
number of occupants in the home	0.038	0.638
School child	0.016	0.784
Age >65	- 0.04	0.492
High risk	- 0.096	0.1
Low income	- 0.94	0.105
Non education	- 0.167	<0.005
House wife	0.84	0.148
Husband worker	- 0.109	0.062
Husband employer	0.085	0.148
Husband private work	0.42	0.468

Spearman's correlation test^a

DISCUSSION

This study found that a sample of pregnant women (34.2%) had a low acceptability of the COVID-19 immunization. When compared to the vaccine refusal group, the vaccine acceptance group felt that they had received sufficient information about the COVID-19 vaccination ($P < 0.05$). Their primary information source was media sources. To inform all populations about the value of immunization, public information outlets are crucial.

Pregnant women should discuss their immunization history with their healthcare professionals, according to women's health organizations^[8,9]. When weighing the benefits and drawbacks of vaccines, it's crucial to remember that no study has yet shown that the COVID-19 vaccine is safe for foetuses and newborns^[10].

The potential harm to the foetus was the main COVID-19 vaccination worry in the refuse group. Fears about the vaccine's potential carcinogenic effects or its impact on future fertility are felt strongly by a sizeable fraction of pregnant Egyptian applicants. Despite the CDC classifying pregnant women as a high-risk demographic, no COVID-19 vaccine trials have specifically targeted this population. Notwithstanding pregnant women's exclusion from clinical trials, the Advisory Committee on Immunization Practices issued an appeal for their adoption of the COVID-19 vaccine^[10,11].

Compared to low-risk pregnant women, anxiety was more common among high-risk pregnant women. The significant disparities in COVID-19 vaccine acceptance between high-risk and low-risk categories on the basis of

high risk for COVID 19, prior COVID 19 infection, and delivering sufficient information led us to believe that this anxiety level might lead to COVID-19 vaccine acceptance in high-risk pregnant women.

The most common justifications for rejection among respondents with low-risk pregnancies were: the possibility COVID-19 vaccine can cause harm to their health or the health of the unborn children; the vaccine might not work; family members' misgivings about the COVID-19 immunization; and a lack of knowledge regarding vaccines. This finding brought to light the need to properly inform the low-risk pregnant group, where disbelief in the COVID-19 immunization is more pronounced.

The reception of the COVID-19 vaccine was found to be negatively correlated with a woman's level of education ($P < 0.05$), underscoring the significance of educating the public about the disease and the vaccine through the ministry of health and social media.

Compared to participants in the 2nd and 3rd trimesters (26.4%), first-trimester participants showed relatively little enthusiasm for receiving the COVID-19 immunization. In the first trimester of pregnancy, depression and anxiety were typical problems, as demonstrated by Suzuki and Eto^[14] and Suzuki^[15], who also released new findings suggesting that women who were in their first trimester of pregnancy during the COVID-19 outbreak may have more psychological distress than in years past (Table 5). Moreover, concerns about potential foetal injury, particularly during this very early stage of foetal development, may provide a reason for the decreased acceptance rate in this group of pregnant women in our research.

Table 5: COVID 19 vaccine acceptance regarding to trimesters of pregnancy

Trimester	1 st trimester (N=53)	2 nd trimester (N=126)	3 rd trimester (N=116)	<i>P value</i> ^a
Patient recommending vaccine	14 (26.4%)	47 (37.3%)	40 (34.5%)	0.573

^a spearman test

Many researches have shown that passive placental antibody acquisition via vaccination effectiveness is the greatest method for protecting neonates during the first few months of life^[13]. Over 90% of pregnant women who refused the vaccine claimed potential harm to their foetus from the COVID-19 vaccine as their justification, though. The significance of providing accurate information regarding the vaccine is underscored once more. The uniqueness, prospective format, and quantity of study factors were the present study's key strengths.

In summary, the COVID-19 vaccination has positive side effects and is advised for use during pregnancy by numerous health organizations. In our opinion, this is the first research into pregnant Egyptian women's perceptions of the COVID-19 vaccine. One of the biggest barriers to immunization, particularly for recently produced vaccinations, is uncertainty about vaccine safety. Pregnant

women, in our opinion, ought to be included as soon as feasible in immunization trials. Also, clinical studies that look into how vaccines can affect future fertility or the emergence of cancer should be targeted. It will be helpful to create vaccination preventive programs and address vaccine-related misunderstandings if perspectives among priority populations can be identified.

CONFLICT OF INTERESTS

There are no conflicts of interest.

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