

COVID-19 Vaccine Hesitancy Among Pregnant Individuals: A Literature Review

BroadStreet + COVID-19 Data Project

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Abstract

The COVID-19 pandemic has had debilitating global effects for both pregnant and not pregnant people. The key method for many countries in managing the virus is vaccination, of which there continues to be hesitancy among many populations. One such population is pregnant individuals, who have been excluded from the COVID-19 vaccination randomized controlled trials until very recently. Additionally, pregnant individuals have often received competing recommendations when it comes to accepting the COVID-19 vaccine. These two factors likely contribute to a proportion of pregnant individuals feeling hesitant about receiving the COVID-19 inoculation. This literature review seeks to investigate the reasons pregnant individuals may experience vaccine hesitancy with respect to the COVID-19 vaccine, in addition to discussing what measures can be taken to increase COVID-19 vaccine uptake within the population.

Introduction

Pregnant individuals are of particular importance when it comes to pandemic illness, as studies often exclude them from non-obstetric investigations [12]. Even though the Centers for Disease Control and Prevention (CDC) have considered pregnant women to be of high-risk when it comes to the COVID-19 pandemic [6], in the case of COVID-19 vaccination trials, pregnant women have been excluded up until very recently. However, these current trials are expected to continue into 2022 [8]. This is of particular importance to note, as there exists evidence that pregnant individuals have higher morbidity and mortality rates than individuals that are not pregnant, with respect to COVID-19 [15]. However, in the United States, COVID-19 inoculation among pregnant individuals hovers around 22%, reflecting global trends [1, 9, 10], due to hesitancy surrounding the vaccine. In this literature review, vaccine hesitancy is defined according to the WHO guidelines: a “delay in acceptance or refusal of vaccines despite

availability of vaccine services” [13]. Search terms included words such as COVID-19, vaccination, pregnancy, and hesitancy. Articles discussing general vaccine hesitance were actively excluded unless a portion of the published literature also discussed COVID-19 hesitance.

General Vaccine Hesitance in Pregnancy

While there exists published research regarding general vaccine hesitance, research that seeks to focus specifically on general vaccine hesitance in pregnancy is much more minimal. One such literature review that did investigate the relationship between general vaccine hesitance and pregnancy found the primary reasons pregnant people may experience hesitancy are safety concerns, internet and media influence on knowledge, and lack of recommendations from their healthcare providers [14]. Additionally, over half of the research investigated in the review indicated the social circles and the community with which a pregnant individual associates have a large influence on the individual’s decision to vaccinate. There exists some evidence that pregnant individuals that belong to historically excluded ethnicities may experience vaccine hesitancy during pregnancy, as well [14]. Finally, it is also important to note the role access plays in vaccine hesitancy; if a vaccine is economically difficult for a pregnant individual to receive, the individual may be more hesitant toward inoculation [7].

Literature Review

While there already exists insufficient published research investigating general vaccine hesitance during pregnancy, in the current COVID-19 pandemic climate, there currently exists very few published investigations targeting COVID-19 inoculation during pregnancy. One study investigating COVID-19 vaccine hesitancy among pregnant individuals in Turkey indicated that

some of the rationales behind vaccine hesitancy for COVID-19 included negative portrayals of the vaccine in the media, in addition to uncertainty about safety and potential side-effects [7]. However, the specifics of those concerns were not explored. Furthermore, the study found almost half of the participating women indicated they would not want to receive the COVID-19 vaccination when it became available; information regarding the true quantity of those in this study that received the vaccine after its production is unavailable [7]. It is important to note that the proportion of participants in this study wishing not to receive the COVID-19 vaccine when available was higher than the proportion that have general vaccine hesitancy.

Even further, this study also found evidence that hesitancy and economic level appear to be correlated, with lower economic level coinciding with higher vaccine hesitancy rates. COVID-19 vaccine hesitancy in this study also appeared to be correlated with risk perception; if the perceived risks were thought to be stronger than the benefits of receiving the COVID-19 vaccination during pregnancy, the participants exhibited higher rates of vaccine hesitancy. The same is true for the reverse, as well: those that perceived stronger immunity to the SARS-CoV-2 virus as a result of vaccination had lower vaccine hesitance [7]. This reluctance to be vaccinated during pregnancy out of concern for both personal and fetal harm, stemming from the lack of perceived safety, is reflected internationally, as well [11].

Another similar study out of Turkey found lack of data to be the primary barrier to COVID-19 vaccine uptake during pregnancy. There also existed no difference in COVID-19 vaccine acceptance between high- and low-risk pregnant women; however, low-risk pregnant women were more likely to refuse vaccination due to perceived harms to health, lack of efficacy, and hesitant family members [3]. Vaccine uptake was greatest among participants in their first trimester when compared to second and third trimesters, although this was not further

investigated [3]. This conflicts with information found in a study of pregnant individuals out of the United Kingdom, where participants were actively more hesitant to receive inoculation earlier in the pregnancy. Participants voiced fears regarding unknown effects of the COVID-19 vaccine, in addition to feeling that the potential risks of inoculation did not outweigh the perceived benefits [2].

An additional study of the United Kingdom investigated 1328 pregnant women in London, England, of which only 141 (28.7%) received a COVID-19 vaccination. Barriers to vaccine hesitancy were found to be lower socioeconomic level, younger age (under 30), and Afro-Caribbean ethnicity [5]. With regards to positive vaccine outcomes, there were high levels of vaccine uptake among pregnant women with pre-pregnancy diabetes, thought to be due to the early COVID-19 vaccination recommendations that pregnant individuals should only get vaccinated if they have underlying health conditions [5].

Furthermore, a survey of 16 countries on COVID-19 vaccine hesitance during pregnancy found concern for harmful fetal side effects, the thought that the vaccine was approved too quickly due to political motivations, and lack of sufficient data demonstrating safety for the birthing individual to be the primary barriers to uptake [11]. Even with a recommendation from their healthcare providers, less than 50% of pregnant women stated they would be more likely to receive the COVID-19 vaccine during pregnancy. Predictors of COVID-19 vaccine acceptance in pregnant women were also found to be geographical; India, the Philippines, and Latin America all exhibited acceptance rates above 50%, while the United States and Russia had low acceptance rates [11]. Pregnant women surveyed in these latter two countries also exhibited poor confidence in the safety and trust of the vaccine, in addition to poor belief in beneficial outcomes [11].

In fact, the pandemic itself might be a protective factor in increasing general vaccination uptake during pregnancy. Some pregnant individuals were found to have experienced a decrease in vaccine hesitancy due to the COVID-19 pandemic, outweighing those whose hesitancy increased [7]. However, for this to apply to the COVID-19 vaccine, it necessitates belief in more than just the pandemic's high burden of disease, but also that the vaccines are both safe individually and important for safety on a mass scale [11].

Discussion

Findings from this literature review are consistent with findings from research investigating general vaccine hesitance. This investigation confirms that COVID-19 vaccine hesitancy during pregnancy is attributable to a variety of factors. Many of these studies found that despite general vaccine acceptance, COVID-19 vaccine hesitancy, and even skepticism, was much higher due to a severe lack of data targeting pregnant people in particular; perceived safety and efficacy concerns for both the pregnant individual and the child; the perceived risk-to-benefit ratio of contracting the virus versus inoculation; and lack of trust (both with media portrayal and approval for political reasons).

Less often, but still occurring with some frequency, was hesitance due to perceptions of the pregnant individual's social and community relationships, the quick pace with which the vaccine was developed (especially when compared to the typical developmental life of a vaccine), and hesitance related to the trimester in which the vaccine was to be administered. Additionally, higher rates of vaccine hesitancy were also sometimes associated with younger age, lower socioeconomic status, and pre-existing conditions.

Recommendations to Increase COVID-19 Vaccine Uptake

General vaccine hesitancy during pregnancy is often addressed via education from healthcare providers, such as primary care physicians, midwives, and perinatal clinic staff. Healthcare professionals are recommended to discuss vaccinations both at prenatal visits and during pregnancy; this allows for both primary care physicians and obstetric physicians the chance to disseminate vaccine education to individuals with the potential to be, and looking to become, pregnant [4]. Education to increase general vaccination uptake during pregnancy is also recommended to include training clinical staff on vaccination discussion, in addition providing physical and visual material within perinatal clinics and facilities, such as leaflets and posters [4]. These suggestions are also applicable to COVID-19 vaccine hesitance in pregnant individuals. When it comes to preventing COVID-19 vaccination misinformation via the media and internet, education on vaccination disseminated by trusted individuals, via websites and mobile apps, to pregnant individuals is thought to be helpful [7].

Nevertheless, education and recommendations from healthcare professionals on their own are insufficient methods to successfully increase COVID-19 vaccination uptake. A survey of 16 countries indicates the necessity for politicians and policymakers to combat pandemic denial and fear by employing clear and uniform communication measures about the SARS-CoV-2 virus and related vaccines [11].

Finally, and perhaps most crucially, it is recommended that clinical trials and investigations actively include pregnant and perinatal individuals in their studies to provide sufficient data and build trust for the population by proxy. Trust was one of the biggest barriers to COVID-19 vaccine uptake, and increased data on the safety and efficacy may help individuals decide whether to receive the COVID-19 vaccine during pregnancy.

However, it must be noted that there does not exist a one-size-fits-all solution to COVID-19 vaccine hesitancy among pregnant individuals. Reservations differ by country and need to be culturally sensitive, empathetic to the role gender plays geographically [14], and addressed according to the needs of the individual in order to be most successful. One of the biggest limitations of this literature review and studies therein is that these results may not be generalizable. However, various similarities across the geographies included in the studies with respect to COVID-19 inoculation hesitance during pregnancy lend credence to certain predictors perhaps being universal [11]. At the very least, this review offers a frame of reference on why pregnant individuals may experience vaccine hesitancy during the COVID-19 pandemic, such that we can work to increase vaccine uptake in a particularly vulnerable population.

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