Abstract
Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) poses risks to pregnant women and their infants. The spread of misinformation about COVID-19 vaccination is a barrier to optimizing vaccination rates among women of childbearing age. We conducted an environmental scan to identify misinformation about COVID-19 vaccination, pregnancy, and fertility, and a review to identify evidence to refute misinformation and strategies to correct and prevent the spread of misinformation. Seven identified themes of misinformation are: the vaccine causes female infertility; can cause miscarriage; and can decrease male fertility; mRNA vaccines attack the placenta; pregnant and breastfeeding persons should not get the vaccine; the vaccine can change menstrual cycles; and vaccinated people can spread infertility symptoms to unvaccinated people. Strategies that can be implemented by social media platforms to help prevent misinformation spread and correct existing health misinformation include improving information regulation by modifying community standards, implementing surveillance algorithms, and applying warning labels to potentially misleading posts. Health services organizations and clinicians can implement health misinformation policies, directly recommend vaccinations, provide credible explanations and resources to debunk misinformation, educate patients and populations on spotting misinformation, and apply effective communication strategies. More research is needed to assess longer-term effects of vaccination among women of childbearing age to strengthen the defense against misinformation and to evaluate strategies that aim to prevent and correct misinformation spread about COVID-19 vaccinations.

Key words: Algorithms; COVID-19 vaccines; Infertility; Misinformation; Pregnancy.

STRATEGIES TO ADDRESS COVID-19 VACCINE AND PREGNANCY MYTHS

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Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) poses major health risks to pregnant women and their infants (Centers for Disease Control and Prevention [CDC], 2022a; Delahoy et al., 2020; Woodworth et al., 2020). To reduce these risks, the CDC (2022b), American College of Obstetricians and Gynecologists (ACOG, 2021), Society for Maternal-Fetal Medicine (SMFM), and American Society for Reproductive Medicine (ASRM, 2021) recommend that women who are trying to conceive, pregnant, or breastfeeding receive the coronavirus disease of 2019 (COVID-19) vaccine. However, during the week of February 4, 2023, only 71.7% of those who are currently pregnant, age 18 to 49 years, had completed the primary COVID-19 vaccine series and 20.9% had received the updated bivalent booster dose before or during pregnancy (CDC, 2023). Commonly cited reasons people forgo the COVID-19 vaccination are the misconceptions that the vaccine may cause pregnancy complications, fertility problems, or give them COVID-19 infections (Ayhan et al., 2021; Sutton et al., 2021). Public trust in COVID-19 vaccines has been undermined by misinformation circulating on the internet and social media, and politicization of science and the COVID-19 vaccine, creating a culture of confusion and distrust (Bolsen & Palm, 2022; Cascini et al., 2022; Jennings et al., 2021; Lee et al., 2022).

Background

Misinformation about COVID-19 vaccinations is widespread. In one cross-sectional study of working adults in the United States, 57.6% reported being exposed to inaccurate information about COVID-19 vaccinations (Jennings et al., 2021). In a systematic review, identified themes of COVID-19 misinformation were medical misinformation, vaccine development, and conspiracies (Skafle et al., 2022). An analysis of all news spread on Twitter from 2006 to 2017, including approximately 126,000 unique stories shared by over 3 million distinct users, found that misinformation was 70% more likely to be shared and reach more unique users than the truth (Vosoughi et al., 2018).

Vaccine misinformation did not begin with the COVID-19 infodemic (World Health Organization, 2020). A few historical examples of misinformation include childhood vaccines cause autism; the human papillomavirus (HPV) vaccine is not needed, safe, or recommended; and vaccines contain unsafe levels of toxins (Annenberg Public Policy Center, 2022; Davidson, 2017; Eggertson, 2010; Sonawane et al., 2021). In 1998, a case series of 12 children with regressive developmental disorders was published in the *Lancet*; parents of eight children attributed this problem to the measles, mumps, and rubella (MMR) vaccination (Eggertson, 2010). Despite retraction of this paper 12 years later, and other studies demonstrating that this association was false, this unsubstantiated fear has continued, in part because the MMR vaccine administration typically occurs near the time that signs of autism appear (Davidson, 2017). A cross-sectional study used data from the National Immunization Survey and Vaccine Adverse Event Report System to identify reasons that adolescents had not initiated the HPV vaccine series. The top reason reported by caregivers (n = 39,364) was concerns about vaccine safety (Sonawane et al., 2021). Other specified reasons were the HPV vaccine is not needed or not recommended, and adolescents were not sexually active (Sonawane et al., 2021). Some distrust in vaccines has been attributed to unfounded concerns that vaccines contain unsafe levels of toxins, such as antifreeze, formaldehyde, mercury, and aluminum (Annenberg Public Policy Center, 2022; Public Health.org, 2022).

Historically, misinformation spreads through print news, television, public radio, and word of mouth (Posetti & Matthews, 2018). Although these routes continue to exist, social media, text messaging, and email chains have facilitated rapid and diffuse spread of misinformation, often without verification (Posetti & Matthews, 2018; Soll, 2016). Within social media platforms, algorithmic recommendations can create information silos often connecting like-minded followers (Agustin, 2021; Dunn et al., 2015). Process automation and artificial intelligence take these a step further, as robot technology ("bots") emulates human behavior for content generation and engagement (Ferrara et al., 2016). These bots are frequently misused for social malintent by spreading misinformation and malware (Ferrara et al., 2016). Once misinformation is broadcast into the world, influencers spark peer-to-peer spread of information sharing on social media and word of mouth, much like the spread of an infectious disease (Hodas & Lerman, 2014).

The COVID-19 vaccine is recommended for women who are pregnant, breastfeeding, and trying to conceive.

Circulation of misinformation has allowed the COVID-19 virus to thrive by encouraging noncompliance with public health recommendations, including quarantines, mask use, physical distancing, and vaccinations (Hornik et al., 2021; Lockyer et al., 2021). One survey of a nationally representative sample of US adults (n = 1074) found participants reporting higher beliefs in misinformation also reported lower compliance with mask-wearing and social distancing (Hornik et al., 2021). Among interview participants in another study conducted in the United Kingdom, widespread and diverse COVID-19 information was associated with reports of confusion, mistrust, and vaccine hesitancy (Lockyer et al., 2021). Confusion and mistrust have been linked to increased incidents of violence against frontline workers (Basis et al., 2021). In one survey, conducted in Italy to assess violence against health services workers during a COVID-19 campaign, 59% of responding nurses, doctors, and other health services workers reported some type of violent assault against them, primarily verbal abuse (Presti et al., 2022).

We conducted an environmental scan and rapid review to explore misinformation about COVID-19 vaccination, pregnancy, and fertility, as well as evidence to refute the myths. Our objectives are to identify and summarize published misinformation that is being disseminated about the COVID-19 vaccination, pregnancy, and fertility, scientific evidence that refutes the identified myths, and strategies to correct and prevent the spread of misinformation.

Methods

One investigator (HEB) conducted Internet searches to identify examples of potential misinformation about COVID-19 vaccination and pregnancy and PubMed and CINAHL to identify scientific evidence to validate or dispute suspected misinformation, and strategies to prevent misinformation spread (Table 1 Supplemental Digital Content at http://links.lww.com/MCN/A84). We excluded resources not readily available in English. Prior to conducting searches, browsing histories, cache, and cookies were cleared from the web browser because personalization algorithms, prevalent on commercial search engines, social media, and personal social connections and browsing history, may prevent the discovery of some examples of pregnancy and infertility-related COVID-19 vaccination misinformation; this content is not aligned with our typical, evidence-based engagement preferences. Primary misinformation examples were identified through hyperlinks available in gray literature rather than social media platforms. Gray literature is defined as content produced outside of traditional publishing and distribution channels; it may also refer to user-generated web-content. Our search process was tracked using a matrix of search terms, by search platform and topic. We screened resources, by reviewing titles, sources of information, and abstracts, to assess relevance to our three topics: potential misinformation about COVID-19 vaccination and pregnancy; scientific evidence to validate or dispute misinformation; and strategies to prevent misinformation spread. When searching for misinformation, we assessed source titles of the first 25 web pages of results to determine baseline relevance for review. The screening process was tracked by documenting the number of identified and included resources by electronic search platform and search terms, for each of the three topics. We collected data for each information category until saturation, defined here as reviewing five resources without additional information. Information was abstracted from relevant resources and documented in three data tables: COVID-19 vaccination and infertility misinformation, evidence-based information about vaccination and infertility, and strategies to prevent COVID-19 vaccine misinformation (Table 2). We documented references, study contexts, methods, and outcomes for published studies, and summarized information by theme.

Results

Misinformation Themes and Evidence to Refute Misinformation

We identified seven themes of misinformation about COVID-19 vaccination and pregnancy: the vaccine causes female infertility, the vaccine can cause miscarriage, the vaccine can decrease male fertility, mRNA vaccines attack the placenta, pregnant and breastfeeding persons should not get the vaccine, the vaccine can change menstrual cycles, and vaccinated people can spread infertility symptoms to unvaccinated people.

COVID-19 Vaccination Causes Female Infertility

One misinformation theme is the COVID-19 vaccine causes female infertility (Abbasi, 2022; Gregory, 2021; Hamel et al., 2021; Isaacs-Thomas, 2021; Kelen & Maragakis, 2021; North, 2021). A YouTube influencer, Zed Phoenix, falsely cited GlaxoSmithKline in June 2020, claiming that research indicated that 97% of women receiving the COVID-19 vaccine would become infertile (Gregory, 2021). This post went viral. The Kaiser Family Foundation conducted a survey of 1,519 adults in the United States in October 2021; one third of participants had heard that COVID-19 vaccines cause infertility, with 8% continuing to believe the false claim (Hamel et al., 2021).

Scientific evidence disputes this misperception; COVID-19 vaccinations have not been shown to be associated with female infertility (Morris, 2021; Wesselink et al., 2022). In one prospective cohort study conducted in the United States and Canada (n = 2,126), fully vaccinated females in the United States and Canada were 1.07 times more likely to conceive than unvaccinated females (Wesselink et al., 2022). In a US study comparing implantation rates between persons who had received the COVID-19 vaccine and were SARS-CoV-2 seropositive, had seropositive-confirmed COVID-19 infections, and tested negative for COVID-19, using frozen embryo transfer, implantation rates and sustained implantation rates did not vary by study group (Morris, 2021).

TABLE 2. STRATEGIES TO ADDRESS COVID-19 VACCINE MISINFORMATION

Social Media Platform Strategies		Health Service Organizations Strategies	
Community Standards	• Users are required to agree to community standards that condemn the spread of misinformation • Apply protocols to remove harmful health misinformation • Apply consequences to users, ranging from lockouts to permanent account suspension	Organizational Policy	• Social media is useful for communicating accurate health information during crisis • Organizational policies should promote evidence-based information from trusted resources
Surveillance Algorithms	• Artificial intelligence algorithms can surveil for antivaccine misinformation, including hashtags, images, and text	Communicating Misinformation	• Direct recommendation to vaccinate • Provide easy-to-understand and current information • Fact sandwich communication • Combine evidence with personal anecdotes • Provide visual aids • Motivational interviewing • MisinfoRx Toolkit
Warning Labels	• Posts identified as misinformation or disinformation are labeled as false, if not deleted	Community Engagement	• Grass-roots efforts with trusted community members and vaccine ambassadors • More effective in communities with low governmental trust

COVID-19 Vaccination Increases the Risk for Miscarriage

There is a misconception is that COVID-19 vaccinations are associated with an increased risk of miscarriage (Abbasi, 2022; Gregory, 2021; Isaacs-Thomas, 2021). Several studies, including one in Norway and two in the United States, have found that risk for miscarriage is similar between persons who have and have not received COVID-19 vaccinations (Magnus et al., 2021; Shimabukuro et al., 2021; Zauche et al., 2021).

COVID-19 Vaccination Negatively Affects Male Fertility

Although there is a misconception that vaccination decreases male fertility by decreasing sperm count and possibly causes erectile dysfunction (Abbasi, 2022; Ramasamy, 2021), evidence does not support beliefs that COVID-19 vaccination has adverse effects on male fertility (Gonzalez et al., 2021). In a prospective cohort study, fully vaccinated males were as likely to conceive as unvaccinated males (Wesselink et al., 2022). In one US study, median sperm concentration in semen specimens were higher 75 days after the second mRNA COVID-19 vaccine dose compared with prevaccine levels (Gonzalez et al., 2021).

COVID-19 mRNA Vaccines Attack the Placenta

Social media posts claimed that mRNA vaccines, such as COVID-19 vaccines, target the placental protein Syncytin-1 because it is similar to a spike protein of the SARS-CoV-2 virus (Abbasi, 2022; Kelen & Maragakis, 2021; Reuters, 2021). These posts implied that mRNA vaccines attack the placenta, prevent healthy pregnancies, and potentially cause infertility. The gene sequence of the SARS-CoV-2 spike protein was compared with the human genome using the Basic Local Alignment Search Tool; no sequencing alignment was found between the spike protein and human genome (Nirenberg, 2020). In a prospective cohort study that examined and compared placentas of US women who had received the SARS-CoV-2 vaccine during pregnancy (n = 84) and those who had not received the vaccine (n = 114), the incidence of placental lesions was not higher in the vaccinated group (Shanes et al., 2021).

Pregnant and Lactating Persons Should Not Receive COVID-19 Vaccine

Some sources erroneously claim that pregnant and breastfeeding persons should refrain from COVID-19 vaccination (Hamel et al., 2021; Isaacs-Thomas, 2021). However, COVID-19 vaccination is recommended for pregnant, breastfeeding, and trying to conceive persons (ACOG, 2021; ASRM, 2021). Recommendations are supported by studies that reported no increase in preterm births or small for gestational age births among women who received a COVID-19 vaccine during pregnancy compared with unvaccinated women (Lipkind et al., 2022). In one study, babies born to mothers vaccinated during pregnancy had positive SARS-CoV-2 antibody titers (Trostle et al., 2021); and, in a case-control study, US mothers of babies hospitalized with a COVID-19 infection were less likely to have received the COVID-19 vaccine than mothers of infants hospitalized without COVID-19 (Halasa et al., 2022).

Pregnant persons who are not vaccinated against COVID-19, and their babies, are at risk for adverse outcomes if mothers are infected while pregnant (Woodworth et al., 2020). Pregnant women are at increased risk for more severe COVID-19 illness that may require hospitalization and mechanical ventilation, presumably because of the increased physical demands of pregnancy (Fu et al., 2021; Woodworth et al., 2020). A

COVID-19 infection during the second and third trimesters of pregnancy has also been linked to preterm birth, with more infants testing positive for COVID-19 when the mother tested positive within 1 week before birth (Woodworth et al., 2020). Risks of the COVID-19 virus for pregnant women and their babies far surpass unfounded myths of adverse effects of COVID-19 vaccination during pregnancy (Fu et al., 2021; Woodworth et al., 2020).

COVID-19 Vaccination has Permanent Effects on Menstruation

After receiving the COVID-19 vaccine, some women reported heavier than usual menstrual cycles, which led to the misbelief that the vaccination has possible permanent effects on menstruation (Abbasi, 2022; Brumfiel, 2021; Gregory, 2021; Isaacs-Thomas, 2021; Lu-Culligan & Epstein, 2021). Some reports of menstrual changes in the few cycles immediately after receiving the vaccine have been reported; however, research suggests that changes are not permanent (Edelman et al., 2022). In one US study (n = 3,959), vaccinated participants experienced an average increase in menstrual cycle length of 0.71 days in the cycle after vaccination; however, changes in cycle length resolved by the third cycle after vaccination (Edelman et al., 2022).

Vaccinated Persons Can Spread Infertility to the Unvaccinated

A misunderstanding of the mechanisms of herd immunity and COVID-19 vaccines has been linked to the belief that vaccinated persons can spread vaccine side effects, such as infertility, to unvaccinated persons (Brumfiel, 2021; Gregory, 2021). The current mRNA and viral vector COVID-19 vaccines do not contain live virus; therefore, the recipient is unable to spread the virus (CDC, 2022c). Any symptoms felt after vaccination are a part of the body's immune response to the vaccine and are also not able to be spread (CDC, 2022c).

Correcting and Preventing the Spread of Misinformation

We identified several strategies that help prevent misinformation spread and correct existing health misinformation. Social media platforms can improve information regulation by modifying community standards, implementing surveillance algorithms, and applying warning labels to potentially misleading posts (Broniatowski et al., 2021; Gabarron et al., 2021; Wang et al., 2021; Zhang et al., 2021). Health services organizations can implement health misinformation policies, apply effective community strategies, provide credible explanations and resources to debunk misinformation, and educate patients and populations on spotting misinformation (CDC, 2021a, 2021b; Gabarron et al., 2021; Murthy, 2021).

Social Media Platform Improvements to Address Misinformation

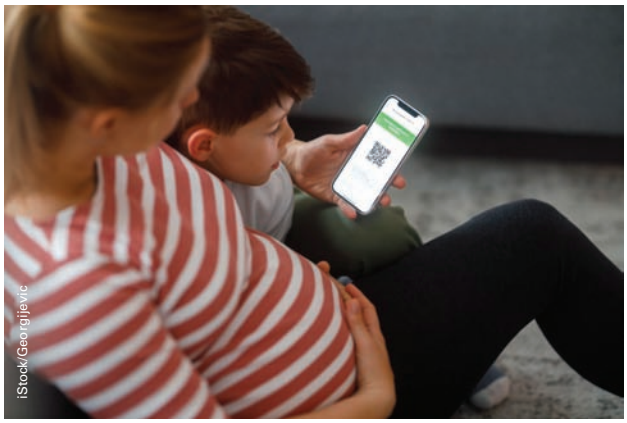
Community Standards. Social media platforms have taken some steps to develop and implement regulations and procedures to address the spread of false information (Gabarron et al., 2021). Facebook and Twitter require users to agree to community standards about misinformation (Meta, n.d.-a). Meta, the parent company of Facebook and Instagram, and Twitter have released statements condemning misinformation spread and promoting removal of "harmful health misinformation," including regarding COVID-19 vaccination (Broniatowski et al., 2021; Facebook, 2022; Meta, n.d.-b; Twitter, 2021). Similarly, Twitter's misinformation policy defined COVID-19 misinformation and specifies consequences ranging from a 12-hour account lock to permanent account suspension (Twitter, 2021). However, Twitter indicated they stopped enforcing their COVID-19 misinformation policy as of November 23, 2022 (Twitter Safety, 2021).

Surveillance Algorithms. Researchers have developed algorithms for surveillance of misinformation across social media platforms using artificial intelligence (Wang et al., 2021). Meta (2022a) describes their artificial intelligence model as a machine learning system that can perform human tasks, such as understanding text and photographs. Programmers can teach these models to identify posts that disregard community standards, such as misinformation (Meta, 2022a). Human reviewers then verify the model accuracy, and work to enhance accuracy over time. One team developed an artificial intelligence model to identify social media posts containing vaccine misinformation (Wang et al., 2021). This model used machine learning to analyze hashtags, images, and text to determine if a post contained antivaccine messaging. It was more than 90% accurate (Wang et al., 2021).

Warning Labels. A warning screen may be placed over social media posts identified as having intentionally misleading content, if not deleted (Meta (2022b). For example, if an Instagram user attempted to view a video on false allegations of vaccine shedding, the user would see the following warning: "False Information: Reviewed by independent fact-checkers," with an option for the user to click to learn why (@otogomes, 2021). Labeling social media posts with a misinformation warning has been shown to be an effective tool for highlighting posts as misinformation (Zhang et al., 2021).

Health Services Approaches to Address Misinformation

Organizational Policy. Social media can be useful for communicating accurate health information during a public health crisis (Chou et al., 2018; Mustafa et al., 2020; Yuksel & Cakmak, 2020). Health services organizations can leverage these tools by implementing policies that promote communication of evidence-based information from trusted sources on social media, for example, by recording videos with accurate information about COVID-19 vaccination and posting them on social media (CDC, 2021a; Chou et al., 2018). In one study that analyzed YouTube videos related to pregnancy and COVID-19 (n = 76), videos from physicians and news agencies had more views than videos recounting personal experiences (Yuksel & Cakmak, 2020).



Social media platforms can improve information regulation by modifying community standards, implementing surveillance algorithms, and applying warning labels to potentially misleading posts.

Communication Strategies. Health care providers and lay health advisers or vaccine ambassadors may apply communication approaches to address misinformation. As a starting point, clinicians need to make a clear recommendation to vaccinate (CDC, 2021b). Communication that comes from trusted members of a community may help to address misconceptions (CDC, 2021b).

One communication approach to address misinformation involves using a combination of evidence and anecdotes (Arkes & Gaissmaier, 2012; de Wit et al., 2008; Perrier & Martin Ginis, 2018). To help audiences understand scientific evidence, visual displays such as fact boxes and pictographs may be used (Arkes & Gaissmaier, 2012). Motivational interviewing is a strong communication technique that has been shown to be associated with reduced vaccine hesitancy (Reno et al., 2018). This technique involves applying principles and skills, such as expressing empathy and acceptance, and use of open-ended questions, affirmations, reflective listening, and summaries (Miller & Rollnick, 1991). The MisinfoRx toolkit describes another communication technique, the Three "Cs" Approach, which stands for compassionate understanding, connection, and collaboration (Pasquetto et al., n.d.). Misinformation may also be corrected by providing current and easy-to-understand information from trustworthy sources (CDC, 2021a; Winters et al., 2021), for example, by presenting evidence in a fact sandwich (National Association of Community Health Centers, 2022; Winters et al., 2021). This method starts with presenting the truth with clear and memorable supporting facts. Second, alert the recipient about misinformation and explain how correct information could have been misinterpreted. Conclude by restating facts, using information that is more memorable than the misinformation (CDC, 2021a; National Association of Community Health Centers, 2022).

Community Engagement. Misinformation often originates through social media, some news sources, YouTube videos, and speculation among friends and families (Hamel et al., 2021; Li et al., 2022; World Health Organization, 2020). A grass-roots effort can be used to correct misinformation using trusted members of the community, such as religious leaders, and messages tailored to communities' culture and beliefs (CDC, 2021a; Murthy, 2021). This approach may be more effective in communities with low trust in government sites or local health departments (CDC, 2021a; Murthy, 2021).

Discussion

We identified seven themes of COVID-19 vaccination misinformation. Published research refutes these myths (Lipkind et al., 2022; Magnus et al., 2021; Morris, 2021; Shanes et al., 2021; Trostle et al., 2021; Wesselink et al., 2022).

We also identified strategies shown to address or prevent spread of misinformation and correct health misinformation. Some social media platforms have begun to implement strategies, such as community standards, search algorithms, warning labels, removing misinformation, and suspending user accounts when misinformation is posted (Meta, n.d.-a; Wang et al., 2021). Health services professionals can provide the public with access to credible information and use evidence-based communication strategies to promote vaccination (CDC, 2021a; Chou et al., 2018; Gabarron et al., 2021; Murthy, 2021; Pasquetto et al., n.d.).

Our review has several limitations. It was challenging to identify misinformation because of the way commercial search engines and social media cater to end-users. Searches were limited by personalization algorithms that are prevalent on commercial search engines, social media, and personal social connections and browsing history. These algorithms may prevent the discovery of some examples of pregnancy- and infertility-related COVID-19 vaccination misinformation because this content is not aligned with our typical, evidence-based engagement preferences. Therefore, some key information may have been missed.

Implications for Research

Our findings point to the need for more research to assess longer-term effects of vaccination on fertility among pre- and peripubescent populations, and infants born to mothers vaccinated while pregnant. More robust research is needed to further assess each misinformation theme, focused on effects of COVID-19 vaccination on male and female fertility, conception, miscarriage, erectile dysfunction, menstrual changes, sex hormones, pregnancy, and breastfeeding. Research is needed to advance machine learning and artificial intelligence surveillance algorithms to capture all modes of audiovisual content creation while discouraging the spread of misinformation, yet maintaining freedom of speech (Wang et al., 2021; Zhang et al., 2021). Research is needed to assess effectiveness of misinformation retraction and correction, and communication strategies applied to COVID-19 vaccinations (Ecker et al., 2021; Swire-Thompson et al., 2022).

CLINICAL IMPLICATIONS

- There is strong evidence for nurses to support COVID-19 vaccination among pregnant women, persons of childbearing age, and others who may be concerned about possible effects of vaccination on pregnancy and fertility.
- Making a clear and direct recommendation for vaccinating is an important approach for addressing misperceptions.
- Nurses can work with their employers to develop internal policies that outline strategies for promoting evidence-based communication about COVID-19 vaccination.
- Nurses can consider identifying existing or developing fact sheets and other materials to support communication with patients and the public about COVID-19 vaccination. These materials should be easy to understand and may include a balance of anecdotes and evidence, presented with visual displays, such as fact boxes or pictograms.
- The public generally has a high degree of trust in nurses, which may be leveraged by nurses developing videos about pregnancy and COVID-19 vaccination and disseminating information on social media sites, clinic waiting rooms, and other sites.
- Evidence-based communication strategies, such as motivational interviewing and fact sandwiches, may be used by nurses when discussing vaccinations with patients and their families.
- Health services organizations can engage trusted community leaders and lay health advisors to communicate about vaccinations to enhanced credibility of accurate messages.

Clinical Implications

This environmental scan and rapid review has implications for clinical practice, specifically on effects of COVID-19 vaccination on pregnancy and fertility and strategies to address misinformation. The US Surgeon General states: "Limiting the spread of health misinformation is a moral and civic imperative that will require a whole-of-society effort" (Murthy, 2021, p. 2). Health services organizations should consider implementing misinformation policies and educating clinicians about misinformation correction and effective communication strategies. Nurses and other trusted health professionals are often the first line of defense in the battle against health misinformation (NORC, 2021; Saad, 2022). They may consider listening to patients' concerns and providing factual information in a way that is personal and easy to understand, applying communication strategies, such as motivational interviewing, providing credible resources to debunk misinformation, educating patients and populations on spotting misinformation, and assisting with research and evaluation to strengthen existing evidence about COVID-19 vaccination and strategies to address misinformation. ✣

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