

COVID-19 vaccine hesitancy among women leaving jails: A qualitative study

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Abstract

In many correctional facilities across the United States, COVID-19 vaccine refusal rates are as high as 50%. Most women leaving jails have low SES, health literacy, and mistrust of governmental institutions, thus exacerbating existing health disparities and making women leaving jail vulnerable. Data from 25 interviews with recently released women suggest that interventions to promote vaccines to this population will have to address health education and mitigate mistrust, misinformation, and conspiracy theories.

KEYWORDS

COVID-19, health literacy, vaccine, vaccine hesitancy, women leaving jails

1 | INTRODUCTION

Of all the developed nations, the United States has one of the largest numbers of women in correctional or detention facilities. A study by ACLU shows that women's incarceration has grown at twice the pace of men's incarceration in the last decades and that most women are held in jails, not prisons (Kajstura, 2019). These women often come from marginalized communities, have complex trauma, mental health, and drug problems. They are less likely to have stable employment, health insurance, or a medical home once they leave jail, often compounded by low education, low health literacy, and low self-efficacy in navigating the medical system, even under "normal" conditions. Some of them are chronic drug users or sex workers. The COVID-19 pandemic has added to and complicated the problems these women face when leaving jail. They risk exposure while detained, and most of these women return to communities that the coronavirus epidemic has ravaged. Correctional and detention facilities in the United States have had the second-highest incidence of COVID-19 outbreaks among U.S. institutions, involving inmates and their staff (Williams et al., 2020). Women incarcerated before March 2020 are being released in a novel reality, one with an abundance of restrictions and limitations in employment opportunities and social life. It is a changed life in which information about the pandemic abounds, but it is not easy to understand or disputable. The ideologically and socially polarized

American society has become the perfect ground for disseminating half-truths and conspiracy theories (Dib et al., 2021). Women leaving jails are exposed to a barrage of misinformation, fabrications, and "fake news." From posts shared on social media to "documentaries" with a "scientific" undertone - *Plandemic, 2020* - American media abounds of COVID-19 information that is false and geared toward creating mistrust in authorities and discontent (Flaskerud, 2021). The COVID-19 pandemic shaped the perfect backdrop for what is labeled as a resurgence of concentrated attacks to polarize U.S. audiences further. Persons with low health literacy or suspicion of the government are the perfect targets for such messages. How women in the criminal justice system uptake recommended preventive measures, from social distancing to vaccines, are impacted by mistrust in the health care system and on scientific approaches that try to mitigate the novel coronavirus infection. These behaviors will exacerbate existent health disparities and make women leaving jail even more vulnerable.

Although acceptance of the COVID-19 vaccine is relatively high, between 30% to 40% of Americans have stated that they will not be getting the vaccine, which poses a severe challenge to achieving herd immunity and eliminating the pandemic (SteelFisher et al., 2021). In many correctional facilities across the United States, both staff and inmates refuse vaccines, with refusal rates as higher as 50%, by citing safety concerns, religious beliefs, or conspiracy theories for not voluntarily accepting the vaccine (Manganis, 2021).

TABLE 1 Vaccine acceptance ($N = 25$)

Attitude	Number of participants	Percentage
Not willing to vaccinate	13	52
Maybe, but not right now	2	8
Yes, but only if they must because of work requirements or family reasons	3	12
They would not refuse it if offered but would not voluntarily pursue it	1	4
Yes, but with serious concerns	1	4
Yes, they would vaccinate	5	20

Public health interventions with women leaving jail focused on disease preventive behavior have been proven effective in eliciting attitude and behavioral change (Ramaswamy et al., 2017). However, they need to be tailored to the particularities of how this audience perceives a particular topic. To that purpose, this study explores the underlying reasons that drive vaccine hesitancy among women leaving jail.

2 | METHOD

Between March 5 and March 25, 2021, we conducted 25 phone interviews with women recently released from jail to explore their attitudes and behaviors related to COVID-19 vaccination. The women were part of a larger cohort participating in an NIH-funded study on health literacy among incarcerated women.¹ All women are from Midwest USA and spent at least part of 2020 in jail. A team of public health and communication specialists with over ten years of experience working with this population developed the study's interview guide. The interviews explored beliefs about the pandemic, acceptance, and practice of containment measures, beliefs and attitudes about COVID-19 vaccines, behavior drivers and sources of information, trust in the medical system and pharmaceutical companies, opinion about the U.S.'s pandemic management, and overall expectations on life returning to normality. A question about the number of deaths from COVID-19 in the United States was used to gauge current information's uptake about the pandemic. Demographic questions included age, education, employment status, race, caretaker role, income, and flu shot in the last three years.

The Institutional Review Board of the University of Kansas Medical Center approved the study. Women received \$10 compensation for their time participating in the interview. A total of 40 women were contacted via telephone or text messages and asked to participate. The response rate was 62.5 percent.

All phone interviews were audio-recorded and transcribed verbatim. Open-coded analysis was conducted using Dedoose analytic software. The analysis yielded 91 codes, grouped around 21 distinct

themes, reflecting the interview guide's structure, which were used 482 times, retrieving 471 corresponding excerpts.

Of the 25 women participating in the study,² 20 identified as White, three as American Indian, and two as Black. The average age was 38.9 years. None of them had the COVID-19 vaccine. Sixty percent of them had a flu vaccine in the last three years. Eight women graduated only high school, one completed training at a vocational school, eleven had some college education, four completed an Associate Degree, and one graduated from a 4-year college. Sixty percent of the women were caretakers, either for minor kids, for elders, or both. Fifty-six percent of the women considered themselves low earners, and the rest perceived themselves as medium-income earners. Eight women were employed full-time, five were employed part time, two were self-employed, and nine were not employed when the interview took place. The interviews varied in length between eight minutes and 16 min, with an average length of about 11 min.

3 | RESULTS

None of the women had received the vaccine against COVID-19 (at the time of the interviews, the states where these women reside only vaccinate adults 65+ years old and essential workers). Although all participants stated that they abided by mitigation recommendations (social distancing, washing their hands, avoiding crowds, using face masks) in their quest to protect themselves and to protect others, most women stated they were tired of the pandemic and social distancing and that wearing masks is one of the major nuisances of the mitigation protocols:

"I felt like I had to wear the mask thing. Okay, I feel claustrophobic, I feel so claustrophobic, and I have to wear it to work, and the reason why that is kind of annoying because you cannot breathe, and nobody can hear you when you're talking. They say repeat yourself 100 times, you know." (Dolores, 52 years old, unemployed, would not vaccinate).

¹Sexual health empowerment for jail-involved women's health literacy and prevention (2R01CA181047, 2019–2024), PI Ramaswamy.

²To protect participants' privacy, all the names used in this manuscript are not their real names. All the quotes in the paper have been slightly edited for clarity, when needed, without changing the ideas shared by the participants.

Several participants even stated that not having to wear masks anymore is a solid incentive to get the vaccine:

"If I had to get it or if it is available, I guess I would [get vaccinated]. That way I could, you know, when they say we don't have to wear masks anymore. I can do away with it. [...] Yeah, I mean, c**p! I have lipstick I'd like to wear, and there's no point in putting it on. You got to wear a mask." (Carolina, 37 years old, employed part time, would vaccinate)

The attitudes of participants regarding vaccine acceptance are presented in Table 1.

Over half of our sample of women refused the vaccine, with an aggregated vaccine hesitancy (defined as a delay in acceptance or refusal of vaccination despite vaccination services availability) higher than 60%. Only 20% of the women interviewed said that they were ready to get the vaccine. The most common reasons for refusals were not trusting the vaccine because of its pace of development or because they were concerned about long-term adverse effects:

"Because I'm not going to take a vaccine that they made in a year. I'm just not comfortable with something that they rush to put together to give everybody." (Meghan, 32 years old, employed full time, would not vaccinate)

"I don't think I would have just because I don't know long-term side effects [...] long-term side effects are unknown at this point." (Taneisha, 28 years old, employed full time, would not vaccinate)

Opinions shared by family and friends seem to be a significant contributor to their own opinions about vaccines, either for vaccination or against them. Although many women listed news outlets as their source of information about the vaccine, only a few could pinpoint a definitive news source they systematically follow (such as FoxNews, CNN, or CNBC). Many women embraced social media as a primary source of information, although some stated that they do not believe "everything posted on Facebook." Conspiracy theories about the vaccines abounded in these interviews, from statements such as "All I know is that they [pharmaceutical companies] may have raised the thing flu (sic!) themselves" (Kerri, 44 years old, employed full time, will not vaccinate), to the current pandemic being a form of population control by elites:

"Really, they took the time and had us locked down. [...] That is just crazy how they can literally take the common flu and set a whole world down." (Tracey, 41 years old, employed part time, will not vaccinate).

Often, supporters of the "government control theory" argued that the number of deaths from COVID-19 was artificially inflated to scare the population into compliance, a theme that appeared several times in our interviews:

"I would think at least half of what they said didn't die from COVID. You know, I think that everybody else, which I understand that maybe it was COVID that pushed them there. But that's not what they got sick. It shouldn't have been a COVID death, because the flu is the same exact way. But you didn't hear any reports on flu. Once COVID was here, nobody got flu this year. You know, it's like, what the heck, you know, I mean, there, it's got to be flu still out there. But everybody, it's just all COVID." (Dalida, 39 years old, self-employed, will not vaccinate)

Many of the themes seem to reflect those shared on right-wing social media, including that today's COVID-19 vaccines have electronic chips in them, or they are nothing else but placebo:

"You know, they phased it out. How do I know the first batch wasn't the only good one, and the next batch is, you know, placebos and the fake stuff. How do I know? It's all real?" (Tracey, 41 years old, employed part time, will not vaccinate),

or that China had COVID for years and knew how to deal with it:

"So I guess China had it like that for a long time. Right. Ant they were first exposed to and knew how to live like we are, you know, face coverings and stuff, for years." (Barbara, 32 years old, not employed, would vaccinate because she must)

There is a lack of knowledge and correct understanding about COVID-19 and how vaccines work. Some women had dismissive views of the pandemic, considering it similar to the flu:

"It's just a type of flu. [...] they died more from the swine flu disease, as they have so far from COVID." (Kerri, 44 years old, employed full time, will not vaccinate).

Others see themselves as immune to it because they have not caught the virus, so they do not need the vaccine:

"I don't want to take the chance if I haven't caught it already. I don't think I'll get it. [...] But since I didn't get it, I'm thinking that maybe I might be immune to it." (Ileana, 48 years old, not employed, will not vaccinate).

Some women are more scared of the vaccine than the disease, as there is only limited knowledge of what the vaccine is and how it works. The theme of the vaccine being able to cause the disease surfaced several times during the interviews:

"I tell you what, the vaccinated are taking it to give you the COVID. Some people say that they're going to give it to you on purpose. Kind of freaks me out. Not knowing what's in there." (Margaret, 43 years old, employed full time, will not vaccinate)

Nine women said that they trust pharmaceutical companies, three said they do not know or do not care, and 13 said that they do not trust the pharmaceutical companies that have developed the vaccine. Our analysis suggests a direct correlation between trust in the pharmaceutical industry and willingness to receive the vaccine. Many do not trust the pharmaceutical companies that are developing vaccines because their financial interest and the speed with which the vaccine was developed:

"I'm not sure if it's the pharmaceutical company itself, or if it's the doctors and pharmaceutical companies together, but I've watched too many people die because pharmaceuticals, they cause abuse, excessive use of pharmaceuticals can cause as much damage as not using them. So I don't know. Pharmaceutical companies just see a lot of big money in there. People don't always make decisions that are a benefit to society when there's money involved." (Mary, 48 years old, employed full time, undecided about vaccination).

Although the previous quote seems to paint both the pharmaceutical and medical professions in the same light, our participants seem more trusting of the medical establishment overall. Only 24% of the interviewed women said that how the USA handled the pandemic was good.

When asked about their expectations for life to return to normal, as it was before the pandemic, most held a pessimistic view, with 44% of them saying that we will never return to how things were before, 20% that it will take several years and 32% that it will take less than a year. One person did not provide an estimate.

"I don't think we ever will [return to normal]. Why is that? Because the virus, I think, is airborne. So I don't think it's ever going to get under control unless everybody does that vaccination, and a lot of people ain't gonna do that" (Jennifer, 40 years of age, employed part time, will not vaccinate)

Seven out of the eight women who hoped for life to return to normal in less than a year said they would be vaccinated, and one was undecided. With one exception, all of the women who believed that life would never return to normal stated they would not get the vaccine.

Forty-four percent of participants think that they know enough about the vaccine to make an informed decision about their immunization choice, and 56% think they do not know enough about the vaccine. Only three women said that they actively searched for information about the vaccine to educate themselves; most of the women in our sample were passive recipients of information from news outlets, social media, or their circle of family and friends.

To provide an estimate of how much they are up to date with general information about the pandemic, we asked them to estimate the number of deaths in the United States, to date, from COVID-19, a metric that was present in the media almost daily. Only four women out of 25 were able to provide a figure close to the official number of COVID-19 deaths. Most other estimations varied significantly, often by orders of magnitude, from several thousand to millions of deaths.

4 | DISCUSSION

Our findings reflect previous reports that correctional workers and inmates do not embrace the COVID-19 vaccines and have lower immunization rates than the general population. They also resonate with studies showing that lower SES groups have higher government and institutional mistrust, impacting their health behavior (Wright, 2021). Although recent studies have focused on the vaccine hesitancy of minorities due to social oppression and previous experimental abuse, this may not be the case in our sample consisting mainly of white women. According to the SAGE Working Group on Vaccine Hesitancy's "Three Cs" model, hesitancy is influenced by factors such as *complacency* (perceived risk of vaccine-preventable disease is low), *convenience* (availability and access to the vaccine), and *confidence* (trust in the effectiveness and safety of vaccines, the system that delivers them, and the motivations of policymakers) (MacDonald, 2015). Our findings support this model, with complacency and confidence being the drivers of women's behavioral intent toward having the COVID-19 vaccine (convenience was not a component of the study, as all participants were asked about their behavior under the assumption that they could get a vaccine at the time of the interview).

Furthermore, we found that trust issues were the primary behavioral determinants, with trust in the vaccine being the most relevant issue. A lack of knowledge and correct understanding of the disease and the vaccine and suspicion of any authority that may play a role in the development or administration of the vaccine are fueling this distrust. Our results align with previous research that showed that low-income groups and women are two of the most significant predictors of COVID-19 vaccine uncertainty and refusal (the other two being noncompliance with COVID-19 government guidelines and living with children) (Paul et al., 2021). The probable low health and informational literacy of these women leave them vulnerable to influence from family and friends, many sharing and promoting disinformation and conspiracy theories frequently shared by homegrown anti-vaccine organizations (Hotez et al., 2021). There is also an evident lack of primary education about both COVID-19 and vaccines,

so women have no factual reference toward which new information can be contrasted or evaluated.

There is an immediate need for interventions to address vaccine hesitancy among this vulnerable population. Previous research suggests that tailored interventions considering this audience's particularities are practical and can be successfully implemented (Geana et al., 2021). We estimate that, due to the complexity of factors that impact these women's immunization-related behavior, interventions to promote vaccines to this population will have to be complex and decisive and include health education, as well as mitigation for mistrust, misinformation and conspiracy theories.

CONFLICT OF INTEREST

None.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study, consisting of all coded excerpts from the interviews, are available on request from the corresponding author. The raw data are not publicly available due to privacy or ethical restrictions.

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