



Available online at www.ijtmrph.org

INTERNATIONAL JOURNAL OF TRANSLATIONAL
MEDICAL RESEARCH AND PUBLIC HEALTH
ISSN: 2576-9499 (Online)
ISSN: 2576-9502 (Print)
DOI: 10.21106/ijtmrph.407

ORIGINAL ARTICLE | COVID-19 VACCINE

A Qualitative Exploration of Perceptions of the COVID-19 Vaccine in the United Kingdom During the Later Stages of the Vaccine Rollout

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ABSTRACT

Background and Objective: Although COVID-19 vaccine uptake in the United Kingdom (UK) has been encouraging, many individuals are either hesitant to get vaccinated for COVID-19 or refuse to do so. Research has uncovered associated demographic and psychological factors, but there is a lack of qualitative work involving individuals across the UK to explore reasons for this hesitancy. We aimed to qualitatively explore perceptions of the COVID-19 vaccine in individuals across the UK during the latter stages of the vaccine rollout.

Methods: Free-text responses were collected within an online survey assessing factors associated with COVID-19 vaccine acceptance. In total, 861 individuals took part (156 males, 698 females, 1 non-binary, 6 preferred not to say); 217 provided free-text responses. The mean age was 42.04 ($SD = 13.20$). Six hundred thirty-one respondents (73.3%) had been vaccinated, and 230 (26.7%) had not. An inductive thematic analysis was conducted.

Results: Five themes were yielded, describing fear as a vaccination barrier; perceptions of the COVID-19 vaccine being ineffective, unnecessary, unnatural, and experimental; perceived pressure to get vaccinated; practical barriers to getting vaccinated; and getting vaccinated to protect others and 'get back to normal.'

Conclusion and Implications for Translation: Measures to increase COVID-19 vaccine uptake should target misinformation, fear, and practical factors as deterrents. Interventions such as motivational interviewing should be considered for guiding individuals towards considering COVID-19 vaccination.

Keywords: • COVID-19 • Vaccine Hesitancy • Coronavirus Conspiracy Beliefs • Vaccine Acceptance • Vaccination Intention

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I. Introduction

1.1. Background of the Study

Vaccination is critical to ending the COVID-19 pandemic.¹ Around 7.6 billion doses of COVID-19

vaccines had been administered worldwide as of November 2021.² Usually, viral vector vaccines (e.g., AstraZeneca) or genetic vaccines (e.g., Pfizer/BioNTech, Moderna)³ are used. While uptake has been high, with 67.6% of the United Kingdom

(UK) population and 66.5% of the population of the European Union fully vaccinated for COVID-19 by November 2021,⁴ skepticism is prevalent in segments of the population. In the UK, many are either hesitant to be vaccinated or refuse it altogether.⁵⁻⁷ Vaccine hesitancy is a “delay in acceptance or refusal of vaccination despite the availability of vaccination services.”⁸ Several demographic factors are associated with COVID-19 vaccine acceptance, including age (young people typically being more hesitant than older people), gender (women being more hesitant than men),^{9,10} education (lower levels of education associated with higher hesitancy),^{9,10} and religiosity (higher religiosity associated with lower vaccination intention).¹¹ As most people hospitalized with COVID-19 in the UK have not been fully vaccinated,¹² it is important to understand why so that interventions can be developed to increase vaccination rates. Current research into COVID-19 vaccine hesitancy has explored attitudes and beliefs related to COVID-19 vaccine hesitancy.¹³⁻¹⁵ Conspiracy beliefs also occur in a significant minority and are linked to lower adherence to coronavirus government guidelines and a lower willingness to take coronavirus tests or get vaccinated.^{5,7} While it is important to uncover psychological factors underpinning COVID-19 vaccine hesitancy,¹⁶ most studies are quantitative. In-depth, qualitative exploration would be useful in aiding understanding of how these beliefs and attitudes are developed and sustained. While there have been some qualitative UK studies on people’s attitudes and beliefs about COVID-19 vaccination, these have been small-scale and focused on certain populations (healthcare staff)¹⁷ or locations (a city in the North of England).¹⁸ Furthermore, much of the research reviewed here was conducted either prior to or in the early stages of the COVID-19 vaccination program.

1.2. Objectives of the Study

As the rollout progresses, reasons for vaccine hesitancy may change. Research conducted in the later stages of the vaccine rollout will offer further insight into this earlier work. Therefore, this study aimed to qualitatively explore perceptions of the COVID-19 vaccine in a large sample of UK residents

in the later stages of the vaccine rollout (i.e., when all the adult population had become eligible for vaccination), to improve understanding of the factors driving hesitancy or refusal.

2. Methods

The present study was conducted as part of a larger project examining COVID-19 vaccine acceptance in the UK population, published elsewhere.¹⁵ A survey was used to collect data on demographic and psychological factors (specifically, protection motivation theory constructs and coronavirus conspiracy beliefs) associated with COVID-19 vaccine acceptance. The vaccination program was being rolled out in the UK by age groups at the time the data were collected, with older people offered the vaccine before younger ones; by the end of data collection, the vaccine had been offered to everyone over the age of 18. Accordingly, the mean age of vaccinated individuals was higher ($M = 44.23$, $SD = 13.18$), than for unvaccinated individuals ($M = 36.04$, $SD = 11.28$) (Table 1). An independent t -test performed using Version 26 of the Statistical Package for the Social Sciences (SPSS)¹⁹ established that this age difference was significant, $t(471.25) = 8.99$, $p < .0001$.

2.1. Participants

Individuals eligible to participate were aged 18 or older and UK residents. There were no exclusion criteria. Participants were recruited via social media (LinkedIn and Twitter), emails, flyers, and interviews about the research on public radio stations in which the study details were shared. Individuals received no monetary or material rewards for their participation.

2.2. Measures

As part of the wider project,¹⁵ scales and closed-response items were used to collect data on demographic and psychological factors associated with COVID-19 vaccine acceptance. However, we were particularly interested in understanding the factors affecting respondents’ intention to get vaccinated against COVID-19. We asked two questions: ‘*Is there anything else you can tell us about your reasons for intending or not intending to take the vaccine when it is offered to you?*’ and ‘*Are there*

Table 1: Demographic Characteristics of Respondents

		Overall
N		861
Vaccinated		631
Unvaccinated		230
Age in years <i>M</i> (<i>SD</i>)		42.04 (13.18)
Age category		N (%)
	18-29	172 (19.98)
	30-39	210 (24.39)
	40-49	231 (26.83)
	50-59	155 (18.00)
	60-69	75 (8.71)
	70-79	16 (1.86)
	80+	1 (0.12)
Mean age of vaccinated (<i>SD</i>)		44.23 (13.18)
Mean age of unvaccinated (<i>SD</i>)		36.04 (11.28)
Ethnicity (%)	White	810 (94.1)
	Non-White	51 (5.9)
Level of education (%)	No qualifications	14 (1.6)
	General Certificate of Secondary Education (equivalent to school leavers' certificate)	94 (10.9)
	Advanced level qualifications (equivalent to high school diploma)	142 (16.5)
	Higher education (e.g., BA, BSc, or equivalent)	334 (38.8)
	Postgraduate qualifications (e.g., MA, MSc, PhD, DPhil)	277 (32.2)
Religiosity <i>M</i> (<i>SD</i>)	Single item: 'How important is religion in your life?' (Five-point Likert scale; 1=not important at all, 5=extremely important)	1.81 (1.16)

any practical issues that might affect you getting the COVID-19 vaccine?' This study reports our analysis of these responses.

2.3. Procedure

A study website was set up to provide information on the study and the link to the survey on the online survey platform, Qualtrics.²⁰ Data were collected from April to August 2021, when the COVID-19 vaccination rollout was well underway. Respondents were invited to complete the anonymous online survey by accessing the survey link after providing informed consent on an electronic consent form. Apart from two open-ended questions, the survey contained items assessing protection motivation constructs, coronavirus conspiracy beliefs, and

demographic variables and took around five minutes to complete. After completion, a screen thanked participants for their time and listed websites containing more information on COVID-19 and vaccination. They were advised to check the National Health Service's 'NHS Direct' website or contact their general practitioner for COVID-19-related concerns.

2.4. Analysis

Data were analyzed manually using Braun and Clarke's²¹ six-step approach, which, due to its data-driven nature, minimizes the influence of the researcher's analytic preconceptions on the findings²¹ and therefore was deemed suitable for gaining an understanding of this previously unexplored area. Firstly, we familiarized

ourselves with the data by reading and re-reading the responses. Secondly, codes were identified, and in the third step, themes were created. The fourth step entailed reviewing these themes, and in the fifth step, they were named. The final step involved writing up the themes. Although coding is subjective and interpretative, and further individuals are not necessary to enhance rigor,²² we felt it important, due to the volume of data, around 10,000 words, that both researchers be involved in the analysis. The study was reported according to the Standards for Reporting Qualitative Research (SRQR).²³

2.5. Ethical Approval

Ethics approval was granted by the University of Sunderland.

3. Results

3.1. Descriptive Analysis

Of the 861 respondents, 217 provided free-text answers to the open-ended questions. Most individuals (94.1%) were White, had either higher education (38.8%) or postgraduate qualifications (32.2%), and were low in religiosity ($M = 1.81$, $SD = 1.16$ on a scale ranging from 1 = not important at all, to 5 = extremely important).

The inductive thematic analysis yielded five themes: Fear as a vaccination barrier; COVID-19 vaccine as ineffective, unnecessary, unnatural, and experimental; Perceived pressure to get vaccinated; Practical barriers to getting vaccinated; and Getting vaccinated to protect others and 'get back to normal' (Table 2). These are described in detail below.

3.2. Qualitative Analysis Results

3.2.1. Fear as a vaccination barrier

Fear was a barrier to getting vaccinated for COVID-19 for respondents. One source of fear was potential side-effects with both short-term and long-term effects cited. The most concerning short-term side effect was the potential formation of blood clots. Long-term concerns included as yet unknown effects, and potential negative impacts on fertility. Respondents clarified that, rather than refusing vaccination for COVID-19 outright, they

were delaying it due to currently being pregnant, breastfeeding, or receiving fertility treatment. A lack of choice of the vaccine was also a barrier to getting vaccinated, as respondents wanted vaccines with fewer known side effects.

Another barrier was the fear of injections or needles. Some, however, were willing to overcome this fear of getting vaccinated. Anxiety was also a factor in respondents' decisions not to get vaccinated.

"I want to know more about it after clinical trials. The risk of blood clots in my age group frightens me." (no. 815, 47 years)

3.2.2. COVID-19 vaccine as ineffective, unnecessary, unnatural, and experimental

Respondents referred to the perceived ineffectiveness of the COVID-19 vaccine, as one could still catch COVID-19 even after being vaccinated. Furthermore, they highlighted that the long-term effectiveness was currently unknown. The vaccine was also seen to be unnatural and insufficiently tested to make it safe to administer.

Such perceptions disincentivized respondents from getting vaccinated. They trusted their immune system to protect them rather than a vaccine. Within this context, participants weighed up the costs and benefits of getting vaccinated. Sometimes, the risks of receiving the vaccine outweighed its benefits; contracting COVID-19 was perceived to be less risky than getting vaccinated and their immune systems would cope with COVID-19 infection. For others, however, the benefits of vaccination outweighed the risks.

Particularly concerning to participants was the notion that the vaccine rollout was little more than a clinical trial or experiment. Not wanting to be part of this trial was a strong motivator for refusing the COVID-19 vaccine. This was exacerbated by a lack of trust in the government, which was seen to be dishonest and to have benefited from the pandemic, as well as reporting COVID-19-related mortality inaccurately. Such views were further strengthened by a low perceived susceptibility to contracting COVID-19 and/or becoming seriously ill as a result of this infection.

Table 2: Themes Yielded by Inductive Thematic Analysis, with Supporting Quotes

Theme	Supporting Quotes
Fear as a vaccination barrier	<i>"I want to know more about it after clinical trials. The risk of blood clots in my age group frightens me."</i> (no. 815, 47 years)
	<i>"I do not feel comfortable without long term studies to show any long-term implications/complications etc of the vaccine."</i> (no. 176, 28 years)
	<i>"I haven't been told anything reassuring about any long-term effects (such as fertility) and as a young woman this is something I would like to be sure of and think carefully about without feeling pressured"</i> (no. 497, 24 years)
	<i>"Don't trust that it wouldn't affect fertility, which is an important life factor for us in the coming few years."</i> (no. 533, 28 years)
	<i>"I am a young woman who had fertility issues, the vaccine's effect on fertility has not yet been clinically proven to have no complete effect long term for women, nor has any evidence yet proved it does affect fertility so I am waiting"</i> (no. 859, 26 years)
	<i>"I have only been offered the [vaccine manufacturer's name] vaccine. I'm not confident in that vaccine, I would have the [other vaccine manufacturer's name]"</i> (no. 823, 49 years)
	<i>"I have not taken my 2nd vaccine due to risk of blood clots/death. I believe a different vaccine should be used instead of [vaccine manufacturer's name] vaccine for 2nd dose"</i> (no. 780, 56 years)
	<i>"I have anxiety and panic disorder triggered by needles so having two vaccinations and a top-up is not an option for me"</i> (no. 531, 30 years)
	<i>"I intend to get the vaccine even though I have a major phobia of needles. I'd rather go through a few minutes of panic than contract COVID-19."</i> (no. 331, 31 years)
	<i>"I am worried about negative side effects. I have health anxiety and don't need an extra concern when my mental health is poor"</i> (no. 479, 31 years)
<i>"I have an anxiety disorder and will be concerned about potential side effects but will still most likely get the vaccine"</i> (no. 148, 22 years)	
COVID-19 vaccine as ineffective, unnecessary, unnatural, and experimental	<i>"The COVID vaccine doesn't reduce transmission. The COVID virus will mutate and there will be a continuous round of boosters in order to keep up with the virus. This is unsustainable."</i> (no. 59, 34 years)
	<i>"It has also not stopped transmission of the virus even if people have had both injections. People who [have had] both injections are still being hospitalized and even dying after being fully vaccinated. Major confusion over why if you are healthy and more than likely not even exhibit symptoms you are being coerced into getting [the] vaccine under the guise that it protects other/vulnerable when it has shown that it is not stopping transmission/infections."</i> (no. 586, 32 years)
	<i>"I do not believe it is necessary for a fit and healthy person - I do not get the flu vaccine and more people die from flu"</i> (no. 273, 48 years)
	<i>"I [...] do not intend to add synthetic protein spikes to my blood cells, this is unnecessary and a health risk in itself!"</i> (no. 749, 43 years)
	<i>"I dislike vaccines and believe in increasing immunity naturally"</i> (no. 169, 45 years)
	<i>"I would prefer having COVID to build up antibodies than take the vaccine every year."</i> (no. 542, 25 years)
	<i>"Given the concerns over the vaccine and blood clots, as well as numerous other side effects, on balance I do not feel the benefit outweighs the risks. [...] I have had 7 family members and many more friends contract COVID with either no symptoms or incredibly mild, like a cold. I do, however, know numerous people who have [been] much more unwell after their vaccine."</i> (no. 679, 33 years)
	<i>"In my personal opinion, the risks outweigh the benefits. I have not died during the so-called pandemic and know many people who had the virus and had barely any symptoms."</i> (no. 749, 43 years)
	<i>"Even if there are side effects to the vaccine the alternative is a worse scenario if I were to get COVID-19. So, I am happy to have some vaccine side effects to reduce the risk of getting COVID-19"</i> (no. 28, 35 years)
	<i>"I would much rather have the vaccination and the side effects I had from it than get COVID-19."</i> (no. 263, 37 years)
<i>"Concerns over the safety of the vaccine - this is experimental gene therapy. Vaccinating healthy, young adults at low risk of developing severe COVID symptoms or death from COVID doesn't make sense."</i> (no. 59, 34 years)	
<i>"I am not a laboratory rat and refuse to take part in experimental trials of an untested gene therapy (not a vaccine!!)"</i> (no. 802, 49 years)	

(Contd...)

Table 2: (Continued)

Theme	Supporting Quotes
	<p>"I DO NOT trust our corrupt government who have benefited personally from the pandemic." (no. 312, 51 years)</p> <p>"I don't trust it, there are unclear accounts of deaths by COVID-19 related illness, when you take into account, how many people each year die from flu-related illness... I don't think the statistics show a true representation." (no. 225, 36 years)</p> <p>"Feel risk of dying from COVID-19 is very small for generally healthy people" (no. 115, 54 years)</p> <p>"I am fit & healthy. No underlying issues. I have an extremely high survival rate if I DO catch COVID which I have not yet in the whole time the pandemic started even before anyone had vaccines." (no. 672, 30 years)</p>
Perceived pressure to get vaccinated	<p>"To be able to travel abroad in future - feel forced to have it" (no. 661, 27 years)</p> <p>"I felt pressured to by work, I work in the NHS and wish I hadn't had mine." (no. 794, 32 years)</p> <p>"The social pressure and feeling than one is unable to ask questions nor raise legitimate safety concerns about COVID-19 vaccines is very off-putting." (no. 573, 24 years)</p> <p>"I am too fearful to speak out freely against the status quo, so I do not share my opinions with anyone other than immediate family." (no. 456, 32 years)</p> <p>"I don't want the pressure to do it now just because everyone else is getting it." (no. 654, 28 years)</p> <p>"It is my personal choice that is being compromised by Government pushing and pushing however they can to get people vaccinated" (no. 312, 51 years)</p> <p>"The coercion surrounding the vaccine is concerning." (no. 690, 25 years)</p>
Practical barriers to getting vaccinated	<p>"Difficult to get an appointment. Cost of getting to the venue. Taking time off work." (no. 341, 62 years)</p> <p>"I'm extremely busy and most people I know I've been quite ill so I'm putting it off until I have more time in case I get poorly." (no. 344, 38 years)</p> <p>"I've had the first vaccine as I felt pressured and felt quite unwell for days. Don't know whether I will get the second yet." (no. 567, 24 years)</p> <p>"I am self-employed and should I experience side effects, it would financially impact on me by loss of work." (no. 679, 33 years)</p> <p>"I am not prepared to accept the vaccine as the single parent to 2 children with no wider family support, there is too much risk." (no. 312, 51 years)</p> <p>"I've heard that recipients of the vaccine feel pain and/or out of sorts the following day. I would not want to receive these effects during exam time." (no. 136, 25 years)</p> <p>"Work, upcoming holidays, limited time, no childcare if poorly from it." (no. 344, 38 years)</p>
Getting vaccinated to protect others and 'get back to normal'	<p>"Even though I am not at high risk of becoming seriously ill from the effects of COVID-19, I intend on getting the vaccination as it will reduce the risk for others around me" (no. 360, 22 years)</p> <p>"If I can help keep others and myself safe, to get the vaccine is my moral responsibility" (no. 377, 44 years)</p> <p>"Those who are at serious risk will be protected due to being vaccinated themselves reducing my guilt or worry around putting anyone else at risk" (no. 712, 27 years)</p> <p>"Hoping that taking the vaccine will be a step closer to the world getting back to normal" (no. 332, 20 years)</p> <p>"I took the vaccine because I felt there was no choice because if you don't you have to live a restricted life" (no. 143, 21 years)</p>

"I dislike vaccines and believe in increasing immunity naturally." (no. 169, 45 years)

3.2.3. Perceived pressure to get vaccinated

Respondents who had not yet, or been only partially, vaccinated felt pressured to get vaccinated. In some cases, this pressure had led to vaccination of oneself or others, but for one respondent, this led to regret. Others felt unable to voice concerns over the vaccine.

Pressure also had the potential to act as a barrier to vaccination, with participants feeling it interfered with personal autonomy. Thus, this may be a counterproductive strategy.

"The social pressure and feeling than one is unable to ask questions nor raise legitimate safety concerns about COVID-19 vaccines is very off-putting." (no. 573, 24 years)

3.2.4. Practical barriers to getting vaccinated

Practical issues prevented respondents from getting the COVID-19 vaccine. They mentioned difficulties making an appointment for a vaccination, the cost of getting to the appointment location, and time constraints. Participants anticipated side effects from the vaccine, which were expected to interfere with day-to-day functioning and led to them delaying or refusing the vaccine.

Being a single parent or self-employed were barriers towards vaccination, as side-effects would make it difficult to work or look after children. Others explained that upcoming events (e.g., having to sit exams) also influenced their decision. Perceived practical barriers to receiving the COVID-19 vaccine thus played a role in vaccination intention, with anticipated side-effects prominent.

“I am not prepared to accept the vaccine as the single parent to 2 children with no wider family support, there is too much risk.” (no. 312, 51 years)

3.2.5. Getting vaccinated to protect others and ‘get back to normal’

Not all respondents harbored negative attitudes towards the COVID-19 vaccine. Participants with positive views on the vaccine felt a duty to get vaccinated to protect the vulnerable and the public’s health. The benefit to others of getting vaccinated was felt more important than the benefit to oneself. Not all, however, agreed with this, feeling instead that the most vulnerable should get vaccinated themselves to protect their health.

Apart from protecting others, ‘getting back to normal’ was cited as an additional motivation to get vaccinated. Respondents felt that this would allow restrictions to be eased and for life to return to normal.

“If I can help keep others and myself safe, to get the vaccine is my moral responsibility.” (no. 377, 44 years)

4. Discussion

This study explored perceptions of the COVID-19 vaccine in a large sample of UK residents. Several

findings emerged on the factors driving hesitancy towards, or refusal of, the vaccine. These concerned fears over side-effects and of injections or needles, practical barriers such as difficulties in getting to appointments and taking time off work, and perceived pressure from others to get vaccinated. Additionally, respondents felt that the vaccine was ineffective, unnecessary, unnatural, and not ready to be administered to the public. Those motivated to get vaccinated once eligible described how their desire to protect others and for things to go back to ‘normal,’ were positive influences on their vaccination intention.

Fears over side effects and the safety of the vaccine have been previously reported as a deterrent to COVID-19 vaccine uptake.^{14,18} Our findings, however, show that being given a choice of vaccine would help alleviate some of these fears. This provides an important consideration for increasing vaccine uptake – if feasible, it may be useful to consider providing this choice. Needle phobia as a factor in COVID-19 vaccination hesitancy has been previously reported.²⁴ The current study adds to the evidence base for this potential deterrent. Individuals reluctant to be vaccinated due to needle phobia may benefit from therapeutic intervention, such as one-session treatments.²⁵ As fear of injections may explain around 10% of COVID-19 vaccine hesitancy,²⁴ addressing this could make a significant difference to vaccine uptake.

Respondents felt that the COVID-19 vaccine was ineffective and unnecessary; this conclusion appeared to be the result of weighing up its risks and benefits, a process that has previously been found to be an important factor in attitudes toward COVID-19 vaccination.¹⁷ Some may form negative attitudes towards the vaccine and underestimate the dangers of COVID-19 due to misinformation¹⁸ propagated by social media.²⁶ Therefore, providing people with accurate information is critical, particularly if delivered through social media. Some respondents in the present study stated that they did not trust the government to provide accurate information on the vaccine. Clear, unambiguous messaging and avoiding conflicting information may therefore help gain public trust, increasing the effectiveness of information campaigns.

Perceived pressure to get vaccinated as a deterrent to COVID-19 vaccine uptake is a novel finding emerging from this study. In some cases, respondents reported regret over having been vaccinated, which may lead to individuals not taking up the second dose of the vaccine or future boosters; some respondents mentioned choosing not to be fully vaccinated. As both doses of the vaccine are necessary to provide maximum protection from COVID-19 infection,²⁷ strong efforts to convince individuals to get vaccinated may backfire and deter some. In advocating for vaccination, a gentler approach, listening to and acknowledging individuals' concerns over-vaccination, may be more useful. Motivational interviewing, which uses an empathic and directive counseling style to encourage change,²⁸ has been used in the context of HPV vaccine hesitancy,²⁹ and may encourage COVID-19 vaccine uptake. This should be explored in future research.

Finally, the practical barriers to COVID-19 vaccination identified in the present study warrant further attention. Many felt anticipated side-effects would interfere with work, childcare, or social events. Logistical issues in getting to the appointments, getting childcare, or time off work, are solvable by, for example, deploying mobile vaccination units, out-of-hours appointments, or short-term childcare facilities at vaccination venues.

The two main factors cited by respondents as encouraging them to take the vaccine – protecting others and getting back to 'normal' – are worth considering when devising campaigns to increase vaccine uptake. Campaigns appealing to individuals' duty to protect others by following COVID-19 guidelines and getting vaccinated have been run in the UK, encouraging people to 'save lives' by adhering to the guidelines.³⁰ However, some respondents in the current study voiced doubts over the protective value of the COVID-19 vaccine. Thus, the emphasis on protecting others is likely to be less effective in convincing them to get vaccinated. Using social media to tackle COVID-19 vaccine hesitancy,²⁶ dispelling myths around the vaccine, and targeting misinformation, may help address this.

4.1. Strengths and Limitations of the Study

This study offers insights into COVID-19 vaccine hesitancy from a substantial set of qualitative data collected from respondents across the UK. Most respondents were from England, with a small minority from Scotland, Wales, and Northern Ireland. To our knowledge, this is the first large-scale qualitative study in the UK to explore individuals' perceptions of COVID-19 vaccination and offers important insights into addressing hesitancy.

Some limitations of the current study should be acknowledged. As responses were written, there was no opportunity to ask participants to further elaborate on their answers, hence, further research using interviews or focus groups would be beneficial in clarifying responses. That said, qualitative data from 217 participants was obtained, and many of the responses were lengthy, with participants sharing their thoughts in considerable depth.

At the time of data collection (April to August 2021), the vaccine was still being rolled out, and some respondents were not yet eligible to receive it due to their age. However, most adults had received at least one dose of the vaccine, and towards the end of data collection, all adults over 18 were eligible for vaccination. Still, further insights into COVID-19 vaccine hesitancy could be gained by conducting further qualitative research once the vaccine rollout is complete, as any unvaccinated individuals are likely to be so due to being hesitant or refusing the vaccine outright.

Interventions and campaigns designed to increase COVID-19 vaccine uptake should consider the fear of side effects and injections. Furthermore, campaigns should avoid messaging that has the potential to be perceived as pressuring or coercive. Moreover, practical barriers to uptake must be considered, including difficulties in access, time constraints, and childcare. Those who have decided not to get vaccinated may be best served by reflection-based interventions such as motivational interviewing. Further research, ideally in consultation with those who work with or who are vaccine-hesitant, is needed to design and implement effective interventions.

5. Conclusion and Implications for Translation

This study provides insight into COVID-19 vaccine hesitancy from qualitative data collected from 217 respondents across the UK. We offer insights into how COVID-19 vaccine hesitancy could be addressed, paying attention to potential fears and worries surrounding the vaccine, practical barriers, and perceived pressure or coercion to get vaccinated. There is a need for interventions designed to support individuals reflecting on their decision to reject COVID-19 vaccination using techniques such as motivational interviewing. Further research is necessary to inform the design and effective implementation of such interventions. Acknowledging and addressing the barriers uncovered by this study could contribute to increasing COVID-19 vaccine uptake in the UK and potentially beyond.

Compliance with Ethical Standards

Conflicts of Interest: The authors declare no competing interests.

Financial Disclosure: Nothing to declare. **Funding/Support:** This work was supported by a grant from the National Institute for Health Research Clinical Research Network North East and North Cumbria however, all aspects of the work, including the interpretation of the data, the discussion of it, and conclusions drawn were all carried out independently of CRN by the authors. **Ethics Approval:** Ethics approval was granted by the University of Sunderland. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008. **Acknowledgments:** None. **Disclaimer:** None.

Key Messages

- ▶ Negative perceptions, fear, and practical barriers underlie COVID-19 vaccine hesitancy and refusal in the UK.
- ▶ Interventions are needed to support individuals to reflect on their decision to reject COVID-19 vaccination.
- ▶ Measures to increase uptake should target misinformation, fear, and address practical barriers towards COVID-19 vaccination.

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