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LETTER TO THE EDITOR

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Factors associated with COVID-19 vaccine hesitancy amongst refugees in Australia

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ABSTRACT

Background: Refugees may be especially vulnerable to the adverse effects of COVID-19. Therefore it is critical that refugee communities are supported to access COVID-19 vaccines and for public health responses to address vaccine hesitancy.
Objective: To investigate the key demographic factors, barriers and attitudes associated with vaccine hesitancy in a community sample of refugees.
Method: Participants in the Refugee Adjustment Study, a cohort of refugees living in Australia, were invited to complete a survey about their COVID-19 vaccine intentions, barriers to access and attitudes relating to the vaccine.
Results: Of the 516 participants, 88% were unvaccinated and 28.1% were classed as vaccine hesitant. Key predictors of vaccine hesitancy were younger age, information and trust barriers, lower logistical barriers, and attitudes relating to low control and risk posed by COVID-19.
Conclusions: Findings suggest that public health strategies need to address trust, control and risk perception attitudes to increase COVID-19 vaccine uptake in resettled refugee communities.

HIGHLIGHTS
- Low trust in health authorities, concerns about a lack of control, and the perception of COVID-19 as low-risk emerged as the salient barriers and attitudes associated with COVID-19 vaccine hesitancy in a trauma-exposed refugee sample.

Factores asociados con la indecisión ante la vacuna COVID-19 entre los refugiados en Australia

Antecedentes: Los refugiados pueden ser especialmente vulnerables a los efectos adversos del COVID-19. Por lo tanto, es fundamental que las comunidades de refugiados reciban apoyo para acceder a las vacunas COVID-19 y para que las respuestas de salud pública aborden la indecisión ante las vacunas.
Objetivo: Investigar los factores demográficos clave, las barreras y las actitudes asociadas con la indecisión ante las vacunas en una muestra comunitaria de refugiados.
Método: Se invitó a los participantes en el Estudio de Adaptación de Refugiados, una cohorte de refugiados que viven en Australia, a completar una encuesta sobre sus intenciones de vacunarse contra el COVID-19, barreras de acceso y actitudes relacionadas con la vacuna.
Resultados: De los 516 participantes, el 88% no estaban vacunados y el 28,1% se clasificaron como reacios a vacunarse. Los predictores clave de la vacilación a la vacuna fueron menor edad, las barreras en información y confianza, menores barreras logísticas y las actitudes relacionadas con bajo control y el riesgo que plantea el COVID-19.
Conclusiones: Los hallazgos sugieren que las estrategias de salud pública deben abordar las actitudes de confianza, control y percepción del riesgo para aumentar la aceptación de la vacuna COVID-19 en las comunidades de refugiados reasentados.

澳大利亚难民中对 Covid-19 疫苗犹豫的相关因素

背景: 难民可能特别容易受到 COVID-19 的不良影响。因此, 支持难民社区获得 COVID-19 疫苗, 并支持公共卫生应对疫苗犹豫问题至关重要。
目的: 在难民社区样本中考查疫苗犹豫相关的关键人口因素, 障碍和态度。
方法: 难民适应研究的参与者, 一群居住在澳大利亚的难民, 被邀请完成一项关于其 COVID-19 疫苗意图, 疫苗相关获取障碍和态度的调查。
结果: 在 516 名参与者中, 88% 未接种疫苗, 28.1% 被归类为对疫苗犹豫。疫苗犹豫的关键预测因素是年龄较小, 信息和信任障碍, 较低的逻辑障碍以及对COVID-19 低控制和风险的相关态度。
结论: 研究结果表明, 公共卫生战略需要解决信任, 控制和风险认知态度, 以增加重新定居的难民社区对 COVID-19 疫苗的接种。

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1. Introduction

Refugees are at elevated risk of poor physical and mental health during the COVID-19 pandemic (Júnior et al., 2020), in part due to prior exposure to war and persecution trauma (Liddell et al., 2021) and significant daily stressors in the post-displacement or migration environment. Despite the effectiveness of vaccines to reduce the contagion and severity of SARS-CoV-2 infections (Khoury et al., 2021), many people including refugees and migrants (Australian Red Cross, 2021) are hesitant to be vaccinated (Robinson, Jones, Lesser, & Daly, 2021). For at-risk population groups like refugees, low vaccine uptake is a significant health issue. Understanding the factors influencing vaccine hesitancy in refugees is essential to shape public health strategies. We sought to map perceived barrier and attitude predictors of vaccine hesitancy in a convenience sample of refugees settled in Australia.

2. Methods

2.1. Participants

Participants in the Refugee Adjustment Study (Nickerson et al., 2019) (N = 919) were invited to complete an online survey during June 2021, with 516 participants completing the survey (response rate 56.1%). Inclusion criteria included being aged ≥18 years, had arrived in Australia as a refugee or asylum-seeker after January 2011, and could complete the survey in Arabic (77.9%), Farsi (11.8%), Tamil (2.9%) or English (7.4%). Participants provided written informed consent (Human Research Ethics Committee, University of New South Wales, HC180627).

2.2. Context

At the time of the study, COVID-19 case numbers, in Australia were relatively low (ranged from 16 daily cases [2 June 2021] to 82 cases [2 July 2021] (Australian Government, Department of Health, 2021). At this time, the COVID-19 vaccine programme in Australia was proceeding in phases, with frontline workers, those with underlying medical conditions and the elderly being prioritized. By the end of June 2021, less than 8% of Australian adults were fully vaccinated (Knaus, 2021).

2.3. Measures

Alongside demographic factors, COVID-19 vaccine uptake was assessed. Unvaccinated participants were dichotomized into vaccine intending (probably or definitely will get the vaccine) and vaccine hesitant (probably or definitely will not get the vaccine) groups.

A measure indexing perceived barriers to accessing the COVID-19 vaccine was developed in consultation with leading refugee service providers in Australia and refugee community members. Participants were asked to indicate the level of problem relating to each barrier on a 5-point Likert scale (1 = not a problem, 2 = small problem, 3 = moderately serious problem; 4 = a serious problem, 5 = a very serious problem). Individual barriers were categorized into information barriers (internal consistency was satisfactory; Cronbach α = .69) and logistical barriers (Cronbach α = .88). Trust in healthcare providers was measured in a single item. The individual items comprising these barrier categories are presented in Table 1, with means computed within categories to reflect greater levels of perceived barriers.

Attitudes relating to the COVID-19 vaccine were measured using an adapted version of the VAX scale (Martin & Petrie, 2017), which assesses anti-vaccination attitudes. The original subscales relating to concern about vaccine benefits and safety (Cronbach α = .92) and worry about unforeseen effects of vaccines (Cronbach α = .93) were adapted to specifically assess these attitudes in relation to the COVID-19 vaccine (Table 1). Two additional sub-scales were added for the purposes of this study, based on consultation with community and refugee service providers. These related to concerns about a lack of control over getting the COVID-19 vaccine (Cronbach α = .89), and the perception that COVID-19 posed a low-risk (Cronbach α = .91). Participants were asked to indicate the degree to which they agreed or disagreed with each attitude on a 6-point scale ranging from 1 = Strongly Disagree to 6 = Strongly Agree. Means were computed for the items within each attitude category, with higher scores reflecting greater agreement with the attitude (as presented in Table 1).

2.4. Data analysis

A multivariate logistic regression analysis investigated predictors of vaccine hesitancy. Demographic factors (sex, age, language group, time in Australia) were entered into the model at level 1, perceived barriers (i.e. categories were information, logistical, trust barriers) were entered into the model at level 2, and attitudes (i.e. categories were concerns about vaccine safety, unforeseen events, loss of control and risk posed by COVID-19) were entered into the model at level 3 (Table 1). Predictors were deemed significant at $p < .05$.

3. Results

Of the 516 participants that completed the survey, 439 people (88%) were unvaccinated (17 did not answer). Of those unvaccinated, 314 (71.9%) were vaccine intending and 123 (28.1%) were vaccine hesitant (2 did not answer). The most common barrier to getting

Table 1. Frequencies of example barriers to obtaining the COVID-19 vaccine and attitudes about the COVID-19 vaccine in key categories as tested in the multivariate logistic regression model.

		Number (%)	
		Vaccine-intending group (n = 314)	Vaccine-hesitant group (n = 123)
Barriers perceived as a problem in 3 key categories			
Information barriers	Lack of clear information about COVID-19 vaccine and its safety	161 (51.6%)	76 (61.8%)
	COVID-19 vaccine information not being available in my language	38 (12.2%)	19 (15.6%)
	Difficulty following advice on how to access the COVID-19 vaccine	55 (17.6%)	22 (18.0%)
Logistical barriers	Possibility of long waiting times to access the COVID-19 vaccine	71 (22.7%)	19 (15.6%)
	Worry that the COVID-19 vaccine will cost me money	62 (19.9%)	21 (17.2%)
	Taking time off work to get the COVID-19 vaccine	53 (17.0%)	24 (20.0%)
	Having to travel a long distance to access the COVID-19 vaccine	45 (14.5%)	17 (13.9%)
	Not being able to find somewhere to get the COVID-19 vaccine	44 (14.1%)	15 (12.3%)
Trust barriers	Difficulty trusting healthcare providers administering the COVID-19 vaccine	43 (13.8%)	29 (24.0%)
Attitudes agreed with in 4 key categories		Vaccine intending group (n = 314)	Vaccine hesitant group (n = 123)
COVID-19 vaccine is not safe or beneficial	The COVID-19 vaccine might not be safe	208 (66.9%)	96 (78.7%)
	The vaccine may not protect me from COVID-19	170 (54.5%)	86 (70.5%)
	I cannot rely on the COVID-19 vaccine to reduce the impact of COVID-19 on myself or others	159 (51.3%)	88 (72.1%)
	Getting the COVID-19 vaccine is not worth the risk	121 (38.9%)	82 (67.8%)
COVID-19 vaccine is associated with unforeseen effects	There may be unknown effects of COVID-19 in the future	239 (77.1%)	101 (82.8%)
	The COVID-19 vaccine may cause immediate problems (e.g. side effects)	235 (75.8%)	99 (81.1%)
	There may be long-term problems associated with the COVID-19 vaccine that we have not yet discovered	227 (73.0%)	89 (73.0%)
Lack of control associated with getting the COVID-19 vaccine	I worry about being forced to get the COVID-19 vaccine	130 (41.8%)	88 (72.7%)
	I worry about Government having control over me getting the COVID-19 vaccine	112 (36.0%)	76 (62.3%)
Perceptions of risk related to COVID-19	I do not need the COVID-19 vaccine because Australia is safe from COVID-19	98 (31.7%)	75 (62.5%)
	I do not need the COVID-19 vaccine because I do not plan to travel internationally	75 (24.3%)	62 (50.8%)
	I do not need the COVID-19 vaccine because I do not interact with many people	65 (21.2%)	72 (59.0%)
	I do not need the COVID-19 vaccine because I do not have an underlying health condition	61 (19.7%)	61 (50.0%)

vaccinated was lack of clear information about the vaccine (n = 237, 54.5%), and the most common attitude was concern about the unknown effects of the COVID-19 vaccine (n = 377, 76.6%). Table 1 displays the frequency of barriers and attitudes in the vaccine intending and vaccine hesitant groups.

Younger age, particularly the 20–29 (OR, 7.91; 95% CI 2.24–27.93) and 30–39-year age groups (OR, 3.93; 95% CI 1.25–12.32), was associated with greater vaccine hesitancy (relative to the reference group 60+ years). Information (OR, 1.89; CI 1.25–2.88) and trust barriers (OR, 2.00; 95% CI 1.39–2.90) were associated with greater vaccine hesitancy at the second level of the logistic regression model, but only trust barriers remained significant when considering attitudes at the third level (OR, 1.70; CI 95% 1.11–2.60). Greater perceived logistical barriers were associated with greater intent to be vaccinated at the third level (OR, 0.29; 95% CI 0.15–0.55). Attitudes relating to lack of control, i.e. being forced to get the vaccine (OR, 1.65; CI 95% 1.21–2.24) and that COVID-19 presents as personal low risk (OR, 2.02; CI 95% 1.58–2.59) were associated with greater vaccine hesitancy. Mistrust of the COVID-19 vaccine (OR, 0.87; CI 95% 0.57–1.33) and worry about future events related to the COVID-19 vaccine (OR, 0.87; CI 95% 0.61–1.26) attitudes did not differentiate between vaccine hesitant or intending groups in this model.

4. Discussion

Trust in health authorities delivering vaccines and control concerns emerged as key factors associated with COVID-19 vaccine hesitancy among refugees in this sample, which may reflect prior experiences of persecution, conflict and a lack of adequate protection offered by authorities in the home countries of refugee participants. Direct, consistent and targeted communications about the benefit COVID-19 vaccines with refugee communities, involving trusted community leaders, could be critical in addressing these hurdles to vaccine uptake (Edwards, Biddle, Gray, & Sollis, 2021). Younger age and perceiving COVID-19 as low risk were independently linked to vaccine hesitancy, suggesting strategies that promote a realistic perception of the risks posed by COVID-19 to refugees could be important, especially amongst those aged under 40 years. It is worth noting that, at the time this survey was conducted, COVID-19 case numbers in the Australian community were low (Australian Government, Department of Health, 2021);

however enhanced understanding of factors influencing vaccine hesitancy is critical to increase vaccine uptake irrespective of case numbers. These findings indicate that when refugees intend to be vaccinated, it is important to assist them to overcome practical barriers to accessing the vaccine.

Limitations of the study include that it is cross-sectional and the sample was not representative. Nonetheless, the urgent need to increase vaccination rates in refugees during the pandemic warrants governments basing public health strategies on available evidence. Use of evidence-based strategies may lead to reduced COVID-19 transmission, hospitalizations, and deaths.

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Data availability statement

The data that support the findings of this study are available on request from the corresponding author, BL. The data are not publicly available due to the de-identified data possibly containing information that could compromise the privacy and safety of the research participants.

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