“And a huge factor is …, the people around them”: Sources of information about COVID-19 vaccines among migrants in Australia.

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Abstract

Background

To empower all members of society to protect their health, they should have access to accurate and timely information about COVID-19 vaccines. This study aimed to explore the information sources migrants used to learn about COVID-19 vaccines.

Methods

Seventeen adults living in Australia and born in the World Health Organization’s Eastern Mediterranean Region participated in a semi-structured interview via telephone. All interviews were audio-recorded and transcribed verbatim. Data were analysed using inductive thematic analysis.

Results

Migrants used a variety of sources of information including official organisations and health professionals, social media and personal networks and experiential. They emphasised the importance of personal networks and the reliability of the information collected from experiencing or witnessing COVID-19 vaccine outcomes in shaping their understanding of the risks and benefits of COVID-19 vaccines.

Conclusion

Strategies need to be designed to provide accurate information about COVID-19 vaccines through personal networks including engagement of community leaders to share accurate experiential information in all stages of the vaccination program. Routine information needs assessment and understanding migrants’ information gathering capacity can be helpful in communicating information about COVID-19 vaccines or other pandemic strategies in the future.

Introduction

Access to reliable and accurate health information is a core component of the right to health. This is highlighted during health crises such as COVID-19 pandemic (1). All Australians aged 50 years and older have been recommended to receive a second booster (fourth) vaccine dose as a key part of the response to the COVID-19 pandemic (2). To make an informed decision about vaccines people need to have access to accurate and trustworthy information (3). There is no doubt that information provided by official organisations and health professionals should be the main sources of information about COVID-19 and its vaccines. However, these sources may not always be accessible or acceptable or meet people’s information needs (4, 5).
The process of collecting and analysing health information is more complex for migrants whose first language is different from the official language in the new country. In Australia, information about the COVID-19 vaccines is typically provided in English, in written form and is disseminated digitally. This approach excludes some members of society from health communications, including some migrant communities (6, 7). Unmet language needs, the government's reliance on digitally disseminated information, social alienation, and mistrust of authorities were among the barriers that migrants faced in accessing official information about COVID-19 and its vaccines (7). Difficulties in accessing official sources of information may lead people to rely on unofficial sources to guide their attitudes towards the COVID-19 vaccines.

Studies have reported mixed results about vaccine acceptance and hesitancy among migrants. Some studies reported higher rates of COVID-19 vaccine hesitancy among migrants (8) However, other research indicates that the picture is more complex and migrant status can increase or decrease intention to vaccinate depending on other sociodemographic variables (9). Therefore migration status per se does not define vaccine acceptance or hesitancy (10). As community engagement initiatives about COVID-19 vaccination are wound back, and proof of booster dose is no longer required for international travel these may affect people's decision about receiving COVID-19 vaccine booster doses, especially among people who experience difficulties accessing official information. A study in Australia has shown migrants and people who rely on unofficial sources of information such as social media and personal networks are less likely to have their booster vaccinations (11).

As vaccination against COVID-19 is a continuous public health measure to mitigate COVID-19 effects, all members of society should have access to accurate information about COVID-19 vaccines. To improve migrants’ access to accurate information it is necessary to understand their information seeking behaviours, including the information sources they use to obtain information about COVID-19 vaccines. This study aimed to explore the information sources migrants used to learn about COVID-19 vaccines.

**Methods**

This paper draws from a descriptive qualitative study. we collected data by interviewing 17 migrants who had relocated to Australia from the Eastern Mediterranean Region. Participants were recruited by advertising on social media platforms (primarily Facebook, Twitter, and Instagram).

Semi-structured interviews were carried out by the first author, [DP] who also originated from the Eastern Mediterranean Region. Interviews lasted between 20 and 30 minutes and were conducted over the telephone and in English. Audio recordings of the interview were transcribed verbatim and data were analysed using inductive thematic analysis.

**Ethics approval**

was obtained through the Australian National University Human Research Ethics Committee (2021/224). All participants were given an information sheet and gave their consent in writing and verbally. In
recognition of their contribution participants were given a $50 electronic grocery voucher.

## Results

Nine men and eight women, from 11 different countries participated in the study. Four participants identified as community leaders and four either were health professionals or were studying to become health professionals.

Participants and others in their communities were concerned that, as the vaccine was new, there was not enough scientific evidence to support its safety or efficacy. Specific issues they mentioned were the lack of long-term data about the vaccine's safety.

*It was mainly, you know, the unforeseen effects of the vaccine that could happen, that could be going on without you not knowing and then they will, they will research this later, like years later or so ... Like, we don't we don't know about these vaccines are sort of new. We don't know what might happen in years.* [M09]

This concern was an important factor in defining people's perceived information needs about COVID-19 vaccines.

*This is not something ..., like the normal cold and flu vaccine, people are scared these days ... to take a vaccine. So I think they should know each and everything so that they feel they’re secure.* [M06]

To meet their perceived information needs people in migrant communities collect, analyse and use information about COVID-19 vaccines from a combination of sources. We have categorised these into official, unofficial and experiential.

*These sessions with the organization I'm volunteering for, coincided with when I started to think about getting the vaccine. So I've got some of the information from these sessions. And also, I have some friends – doctors, who I sometimes contact them ask them their opinions. Part of my information were from researchers, but also from the media, the TV and the news. And parts are from, like, words of mouth, from my friends.* [W07]

### Official sources

Official sources were organisations or professionals associated with governments and were responsible for protecting population health. These sources include health departments and health professionals in Australia.

### Official organisations

Official organisations disseminated information through standard media outlets such as television, radio and the newspaper and through dedicated government websites and associated social media. Written
information in pamphlets or information sheets was available at COVID-19 vaccination clinics, community centres and medical centres.

Most of us every morning, we watch the news. And that’s where we kind of get our little update on the COVID. ... We also just kind of also look online, throughout the day. [W04]

If they’ve got the internet access, then they can access otherwise, they need to go to the vaccine centres to know about the details of why they need the booster and everything else. [M04]

Participants categorised the information that they need to make an informed decision about vaccines into two basic and additional information categories. While they were able to obtain the basic information about vaccines through official organisations, the additional information that they wanted was not available through the official organisations.

I think that the basic information is available ... like what COVID is, like the amount of doses you need ... like clinics ... But sometimes when people want more information that can be very difficult to access, ..., no one can give you a straight answer. [W04]

The unavailability of additional information through official sources was related to the newness of the vaccines and the belief that officials are not revealing all the information to the public.

We all know that this is new to everyone, even for the health system. So they don’t even know right now, what would be long term side effects of these vaccinations. So it’s not in hands of anyone. [W05]

I think there are things which the government feels that people should not know. That’s why they keep it. They keep it by themselves. They don’t disclose everything .... So there are things which we don’t know. Mostly the government or the people in the higher authority, they know it very well. [M06]

Health professionals

To obtain information about the vaccines that was absent from public health messages, such as information about risk, people consulted health professionals. People preferred to obtain information about the vaccine within the context of trusted relationships rather than from information campaigns through the media.

My mother ... came to Australia at the very end of her life ... she gets all her information from a GP, who she trusts. If she didn’t trust. ... I think it’s going to be a very difficult thing to convince her to take booster or even the actual vaccination. [M09]

Seeking information from health professionals was not only through one-by-one conversation. Participants also reported collecting information from social media managed by health professionals.

In my case, for example, I saw ... Dr. Norman Swan ... and I found out that they’ve got a podcast, .... I listened to his podcast. ..., that really gave me lots of information about the whole situation, including the
vaccination thing. [M09]

Some people also collected information from social media designed by health professionals from different migrant community backgrounds for migrant communities.

I have joined a very nice group. It's called Australian Islamic Medical Association. And yeah, so on that WhatsApp group, I've received a few videos made by the GPs, doctors themselves, and they belong to different languages, .... And it was really good to know that they are telling us in our own languages, so yeah, so I got this information from there. [W05]

However, in the early stages of the vaccine roll-out, participants perceived that health professionals did not have enough information about COVID-19 vaccines to address people's concerns and questions.

I am a volunteer to organization, ... [we were] conducting some sessions to educate migrants about COVID vaccinations. We had some meetings with some doctors, these doctors were uncertain from some of the questions that we have. [W07]

When I was pregnant, I didn't have enough information about whether I should get the vaccine or not. And even the people in the vaccine centre themselves didn't [know]... It was very new, the vaccine, so no one knew, even the nurses. [W06]

Obtaining additional information through health professionals could be expensive, and it was necessary to assess the benefits and costs of seeking information from this source. For some people in the study who had specific information needs, this was their only option.

So I had to book with my daughter's paediatrician and then I also booked with my endocrinologist to ask if it was safe to get the vaccine ... You know to go to the GP to get a referral back to the paediatrician. .... Like it cost me a lot of money just to get the information that I was looking for. [W02]

When official sources are not accessible, do not satisfy people's information needs, or as one of the participants put it “they don't want to consume more information from the people that are confusing them even more”, people may seek information from other sources including unofficial and experiential sources.

**Unofficial sources**

We have defined unofficial sources of information as sources that were not associated with official organisations or health professionals. The two main unofficial sources for participants were social media and personal networks.

So there's a few Facebook websites that always give an update in Arabic. And people like just following ... and they check if there's any update about the COVID. [W08]
They get it [information about COVID-19 vaccines] … through people who are active in the community. … there are multiple groups every almost every Middle Eastern … they have their WhatsApp groups. … they communicate to each other asking questions. [M03]

People who held informal or formal support roles in their communities used such channels to disseminate information to members of their communities.

At the beginning of the pandemic, there were a lot of delays, especially translating the materials. …. Like I know from my community have done it themselves, like, you know, they started writing posts on Facebook, in the languages. [W08]

I have had to help people who aren't as proficient in English. So I've had to kind of act as a translator to them … explain it in a … much more easier way. So they can understand. .. like, why is that like two doses? [W04]

However, as unofficial sources are not regulated by officials, they also may disseminate information that is incorrect or contradicts official information.

“I think they do have access to information, [it] is just that probably they’ve got equal access to counter information as well. I mean, I think most people get their sort of information from social media.” [M09]

Participants reported information collected through personal networks is more likely to encourage people to get vaccines than information provided through official sources as “it makes it real”.

And a huge factor is ..., the people around them, if they’re getting it and it’s like talking about their experience,... so if they see sort of people around them getting it. it's like Okay, someone has got it, .... I’m also gonna get. Just kind of following the lead. [W04]

**Experiential sources**

Navigating multiple information sources and conflicting information was confusing, some people regarded experiential information as the most reliable. Experiential information consists of personal experiences or witnessing others’ experiences with COVID-19 vaccines. Participants referred to these to evaluate the validity of negative information about COVID-19 vaccines distributed through unofficial sources.

People talk you know, different things negativity about the COVID vaccine. When I had my vaccine, people were “oh tell me six months later what happened.” Now and nothing happened. [M03]

People who had experienced or observed serious side effects that were not communicated by official sources used this information to construct their ideas about the risks and benefits of receiving the vaccines and to identify vaccine preference.
So when my dad got the vaccine, he had very severe side effects. ... we had to call an ambulance to send him to the hospital. ... when we did go to get him the vaccine, they said that it's a very small chance that he'll have side effects, but they didn't really list what the side effects would be. ... I feel like not all the information was disclosed to us. [W02]

When officials recommended a certain type of vaccine for specific age groups, some people relied on their experiential information rather than official information to make a decision about what type of vaccines they should be getting.

_I see like AstraZeneca vaccine is much better and safer than Pfizer, ... my housemate still receives treatment for myocarditis. But I haven't seen anyone who complains about blood clotting from AstraZeneca._ [M05]

At the start of the vaccination program, official communications emphasised that the vaccines can prevent people from contracting COVID-19 and prevent transmission. When people witnessed breakthrough infections in their local community they began to doubt the trustworthiness of official information.

_There was a confusion even myself I was confused. People are getting the vaccine and they still get sick. And we didn't know what was the point of getting vaccine as I get sick again._ [M03]

**Combining information**

People used information from these three sources to construct a personal assessment of the risks and benefits of getting the vaccine.

_I think that side effects are listed somewhere on the web. But ... in real ground you see very different side effects and stories from people than what you see on the web, like on the web, it's very mild side symptoms and stuff like that. And ... some people are having it really hard .... Or like on social media, some people just you know, they go on Tik Tok platforms, and they talk about things that's happened to them that are not mentioned [on the official websites]. [W06]

When the information collected through unofficial sources contradicts the official information, people's decision whether or not to have the vaccine was shaped by context, the sources of information they used, how concerned they were about the risk of contracting COVID-19 and the risks of taking the vaccine, and personal factors, such as preexisting conditions.

_Because there are lots of rumours about this vaccine ..., I wasn't really keen to have it but then because of the lots of calls to have the vaccine I start to believe that I need to take it because lots of people have already had it. ... Because I have a special heart condition. .... So if I get the virus, the virus could kill me. That's the only option I have is to get a vaccine._ [W07]

**Discussion**
Participants in this study reported the use of various sources of information to meet their perceived information needs for making a decision about COVID-19 vaccines. These sources were: official (official organisations and health professionals), unofficial (social media and personal networks) and experiential. Participants emphasised the importance of personal networks and the reliability of the information collected from experiencing or witnessing COVID-19 vaccine outcomes. People in migrant communities collected, analysed and interpreted information and considered their level of concern about COVID-19 and its vaccines, sources of information, and public health policies to make a personal decision.

Health information seeking is the way in which people seek information about their risks, illnesses and protective measures (12). In analysing risk, people try to understand how likely it is that they experience a negative outcome from a health issue or protective measures such as COVID-19 and its vaccines, how they can reduce that risk and if the protective measures are beneficial (13, 14). To develop this understanding, people define their information needs, seek information, evaluate information and transform information into information that is relevant to their own beliefs, values and circumstances (13, 15–17).

Previous studies also reported that people use multiple sources of information to collect health information in satisfying their perceived information needs. These include not only official organisations and health professionals, but also personal networks including family and friends, and experiential information (18). In a survey on the same population of this study, more than 80% reported they have used official organisations and health care providers in Australia as a source of information about COVID-19 vaccines. However, the same proportion of participants also reported that social media and family and friends were one of the three main sources of information they used to collect information about COVID-19 vaccines (19). A study that included people living in Australia, New Zealand, UK, USA, Italy, and South Korea reported that government and friends and family were the most trusted sources of information about COVID-19 followed by news and social media. (20) A study in the USA among people who were hesitant to receive the COVID-19 vaccine but have received it showed that health care/medical professionals were the most trusted source of information about COVID-19 vaccines, followed by personal networks that included family and friends, religious institutions and leaders, employers and co-workers. This study also reported the importance of testimonies from vaccinated individuals about their experiences as a source of information (21).

In the selection of information sources and processing risk information, people consider their information-gathering capacity and analyse costs and benefits to determine what information sources are more likely to provide them with sufficient and reliable information while at the same time requiring the least amount of effort (14, 22). This capacity is defined by a range of factors including literacy and digital literacy. Among migrants whose first language is different from the official language of the new country this capacity is also affected by language proficiency (23). In supporting all society members to have access to the right health information at the right time to protect their health, it is crucial that people's capacity to gather health information is considered and strategies are developed to improve this
capacity, especially in the time of health crises. In seeking health care and health information some migrants must navigate language barriers, unfamiliar health systems and unfamiliar modes of disseminating health information (24). Interventions are needed to support and improve migrants’ capacity to gather health information in their new environment.

Our findings also showed the importance of personal networks and experiential information in shaping people's understanding of COVID-19 vaccines. As reported in this study, this type of information can seem more compelling and people are more likely to accept this information. It is argued that, in making decisions about health, people organise and interpret health information through observation and discussion of cases of illness and death in personal networks and the public arena (25). In the context of migrants’ experiences, information may be collected through personal and social networks from their country of origin which may not be relevant to the situation in the new country and cause confusion. Presenting information through stories and referring to people’s experiences and observations need to be used in providing health information. Furthermore, since people evaluate risk using the information they find salient, and ignore information they see as irrelevant to their situation, the content of the information provided should be adapted to suit the characteristics of specific groups or individuals being targeted (26). In Australia, the engagement of community leaders was one of the strategies used to communicate official information with different migrant communities. As our findings showed using this strategy the community leaders used their understanding of communities and tailored the communication to make the information relevant to the community.

**Strength and limitation**

The qualitative approach provided opportunities to explore people's experience with information sources for COVID-19 vaccines. Participants of this study were born in 11 different countries and included health professionals and members of communities who actively supported their communities during the COVID-19 pandemic. This enabled us to collect the viewpoints of a diverse group. The fact that the interviews were conducted in English may have affected people's willingness or ability to participate or share their experiences. However, the inclusion of participants who self-identified as community leaders and could share the experiences of their community members might have reduced this limitation. The qualitative nature of the study may limit the applicability of findings in other contexts.

**Conclusion**

People define their information needs and seek information from a variety of sources including official organisations, health professionals, social media, personal networks and experiential information. The information collected through personal networks and experiential information was highlighted in shaping migrants’ understanding of COVID-19 vaccines. Strategies need to be designed to provide accurate information about COVID-19 vaccines through personal networks and share accurate experiential information in all stages of the vaccination program. Routine information needs assessment and understanding migrants’ information gathering capacity can be helpful in communicating health
information including information about COVID-19 vaccines. The findings of this study can help with the effective engagement of migrant communities in all stages of COVID-19 control and also for the management of other health issues and crises in Australia and other similar societies.

Declarations

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