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COVID-19 vaccine hesitancy - A challenge to vaccine uptake among youth in Saudi Arabia

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EDITORIAL

The coronavirus disease (COVID-19 emerged in Wuhan, China, in late 2019 and by February 12th, 2020, it had spread across all countries, becoming a Public Health Emergency of International Concern (PHEIC) [1]. The World Health Organization (WHO) declared it a global pandemic on March 11th, 2020 [2].

The causative virus is a novel type of coronavirus known as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and the disease was named COVID-19 [3], severely affecting elderly people and people with comorbidities the most [4,5].

Preventive measures (e.g., physical social distancing, lockdown, and mask-wearing) were implemented by all countries, including Kingdom of Saudi Arabia (KSA), to control the spread of the disease [2,6,7]. Although these measures limit COVID-19 transmission, vaccination is one of the mainstays to prevent the spread of and eradicate the SARS-CoV-2 infection and the COVID-19 pandemic [8].

Extensive research has been conducted to develop COVID-19 vaccines rapidly and by late 2020, the first vaccines were ready to be rolled out, starting with the most vulnerable groups [6,9,10]. The Saudi Ministry of Health launched a vaccine campaign on December 17th, 2020, to provide free vaccination to all citizens and residents through about 600 vaccination centers around the country [11]. However, vaccination hesitancy, the reluctance or refusal to vaccinate, despite the availability of vaccines, is one of the barriers to COVID-19 vaccination acceptance [12].

Even if COVID-19 vaccine success depends on high uptake levels, vaccine hesitancy poses significant risks for the hesitant individual and the community [13]. Vaccine hesitancy has been observed even before the COVID-19 pandemic, regardless of education level, socioeconomic status, and nationality. It has also been reported for healthcare workers. This is because vaccine acceptance depends on an interest in personal protection against the disease balanced with concerns about safety [12].

Studies showed the safety and efficacy of the vaccine as the top reasons for hesitancy together with religious reasons [14]. Despite many reports highlighting that the SARS- CoV-2 vaccine is safe, for some people, the rapid development of the vaccine raises safety concerns and it is not regarded as a safe scientific breakthrough. This is a unique characteristic attitude compared to hesitancy toward other vaccines [13]. Apart from that, new mutations of the virus, the need for continued engagement in preventive measures after people

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have been vaccinated and the diversity in response policy changes worldwide contribute to people's reluctance to be vaccinated [15]. Continuously changing new information about new mutations, the symptoms, severity, and mortality coupled with misinformation, rumors and false conspiracy theories circulated in the media resulted in confusion and uncertainty about the effectiveness of the developed vaccines [16].

Before the availability of COVID-19 vaccines, studies that assessed attitudes of the general public towards vaccines revealed that higher-income regions were the least certain regarding vaccine safety and that most people in lower-income areas agreed that vaccines are safe. The studies showed similar findings regarding vaccine effectiveness [9], but when more information was available about the vaccine development process, a lot of misinformation was circulated, especially on social media and resulted in lowering the public trust in the vaccine safety and effectiveness. The Middle East was among the regions with the lowest COVID-19 vaccine acceptance rates globally. Such low rates were most probably related to the region's widespread beliefs in conspiracy theories [15]. Misinformation and conspiracy theories widely circulated included that vaccines are used to track personal data and impact fertility. The misinformation about severe adverse effects like anaphylaxis and blood clots have also increased skepticism further lowered public trust [17].

In the KSA, a study showed that only 67% of respondents intended to receive the vaccine, and 7% were hesitant and most hesitant respondents (64.3%) were young adults (aged 18–29 years). A study in South Africa also found younger adults to be more concerned and less accepting of COVID-19 vaccination than older people [16]. Another study by Fadhel et al. found the prevalence of vaccine hesitancy to be 20.6% in Saudi Arabia with dominancy among females and young people [17], with 70% of the participants concerned about the safety and efficacy. Hesitancy and mistrust in COVID-19 vaccines could undermine the KSA efforts in combatting the pandemic because other studies have reported similar concerns about the safety and effectiveness of the vaccines in Saudi Arabia and the findings of the age and gender groups concerned remained consistent [8,18–20].

Therefore, education programs to raise awareness should be tailored depending on the level of health, scientific, general literacy and socio-demographics of the targeted audiences focusing on young Saudis and strategies to tackle vaccination reluctance should be designed to eradicate community-specific anti-vaccination misconceptions [21,22,23]. The involvement of trusted non-government organizations and community-based groups is crucial to building trust in COVID-19 vaccination to facilitate communication with people at community levels and help them make fully informed decisions about the vaccine. The evidence-based and behaviorally informed strategies to implement the vaccination program is also necessary to achieve high vaccine acceptance [15].

Trust-building measures based on dialogue and transparency, educating the young population about the social benefits of vaccination and engaging youth leaders have been shown to be effective.

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