



Short Communication

COVID-19 vaccine hesitancy among people in Syria: An incipient crisis

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Covid-19 is a global health threat as it spreads widely and rapidly. This pandemic was first detected at the end of December in Wuhan city of China [1]. The first case in Syria was reported on 22 March 2020 [2].

Syria's Healthcare Capacity to respond to a COVID-19 Outbreak was rapid but not sufficient as the Syrian war made a bad impact on Syria's Healthcare to face another crisis.

The Syrian Ministry of Health Committed the World Health Organization (WHO) Covid-19 management guidelines but a necessity to reduce prevalence and death rate suppose the need of a safe and effective vaccine [3]. Multiple available vaccines had been developed, but the big challenge was when vaccine hesitancy appeared [3].

Syria's Healthcare faces vaccines hesitancy challenges in the different sites from Syria, especially rural areas [3].

Many causes influenced the acceptance of the vaccines including fear

of side effects, doubts about vaccine efficiency, the vaccine is not important, and not the right time to be vaccinated, ongoing conflict, huge displacement, inflated economy and the fragile, fragmented health system, also lack of actual learning of threats of COVID-19 and the proven benefits of COVID-19 vaccine [3].

Vaccine hesitancy is the term used to define refusal or reluctance in the acceptance of vaccination despite the availability of vaccination services. The modern endorsement of vaccine hesitancy is a well-known phenomenon, with older roots that have accompanied vaccination since its scientific inception [3].

Regarding Syria with COVID-19 vaccine, many obstacles arise toward vaccination, which include Vaccine hesitancy, but also the shortage of vaccine doses offered to population in need and distribution of vaccine which limited in some governments and affected by the poor economic situation is Syria [3].

According to the WHO Syria Situation Report for June 2021, Syria

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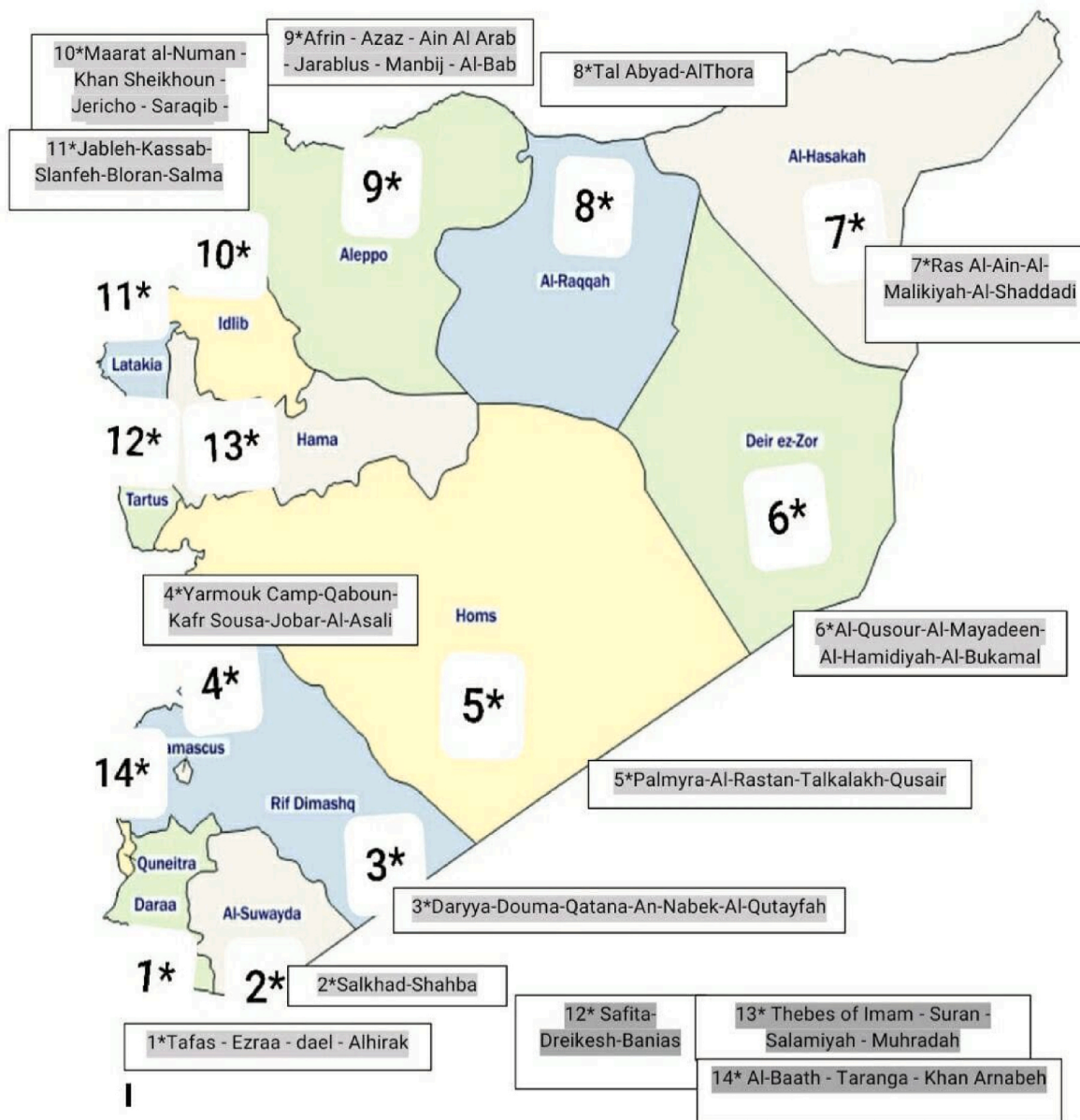


Figure (1). showing the distribution of ruler areas in Syria by each governorate.

has received first batch of COVID-19 vaccines (256 800 doses of AstraZeneca SII COVIDSHILD) on 21 April 2021. 203 000 doses were allocated for Syrian governorates, including northeast Syria and 53 800 were allocated through Gaziantep to target populations in northwest Syria. In the first phase, the vaccines were allocated for frontline health workers as a priority group [3].

The Ministry of Health started vaccination with AstraZeneca on 17 May 2021. The first governorate to start the vaccination was Aleppo followed by other governorates.

The roll-out of the vaccination campaign began on 20 April (covering 13 governorates). The vaccine distributed in Taiz, Marib, Aden, Shabwa and Hadramawt [5].

According to the Syria Covid-19 National Vaccination Plan, the priority groups during the first phase are healthcare workers, people age 55 and over, people with comorbidities, and internally displaced people and refugees. However, According to WHO only 46 397 individuals in Government-controlled areas received their first dose of vaccination by the date of 2 June. While many people in Syria began to report vaccine hesitancy [2].

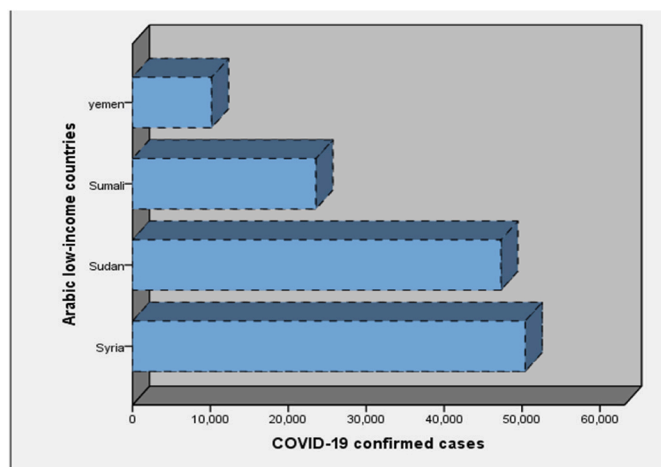
Hesitancy was mainly reported in the rural areas considering these areas as communities suffering from food shortages, low immunity, and lack of proper education, and underprivileged healthcare settings that will make such communities a suitable milieu for misleading information and conspiracy beliefs [4].

Thus, reducing the willingness to be vaccinated and increasing the rates of infection spread, which puts additional burdens on the already-weakened healthcare systems [4].

On the other hand, the overwhelmed healthcare units will be less able to manage patients and monitor new cases, which in turn, will negatively affect the economy and population's trust in their healthcare systems and by that, activating the cycle again [3]. However, logistical problems to vaccination also has an important effect of general population of ruler areas, Where purchasing power, electricity, internet access, and fuel are scarce, logistics can prohibit vaccines from reaching individuals willing to get vaccinated [3].

According to WHO the northeast of Syria and its ruler were mainly affected by such refusal and difficulty of vaccination due to several challenges including [4].

Table 1
COVID-19 confirmed cases in Arabic low income countries [7–10].



Reaching northeast Syria (especially areas not under Government control), Insufficient funds to maintain operational costs as Syria is not supported by the World Bank (COVAX does not fund operational cost), Misinformation, vaccine hesitancy and refusal of vaccination (reach beyond traditional age groups) and Clarity on the future vaccine allocations and types of vaccine that would be shipped to Syria [2].

This area is considered the most affected area as it has the lowest rate of vaccinated population. also the special considerations that must be taken for such area and it's ruler with more than 13 ruler area (Fig. 1) in both AL Hassakeh governorate And Deir- Ezzor Governorate, where ruler areas is considered High risk conflict area that has low security profile which is more difficult to be reached by vaccination campaigns.

While In North West Syria, Some hesitancy among the health staff were shown due to the negative effect of rumors in the social media, there is gradual increase in the numbers of vaccinated beneficiaries [2].

Some difficulties were faced in coordination with non-health NGOs.

United Nations resolution renewal, Unclear future of vaccine shipments (dates and quantities), Funding availability [2].

As more than 46 ruler area in north west Syria [Fig. 1] would be considered the highest rate of ruler areas in Syria leading to more and higher rate of hesitancy in these areas which are affected by other factors: (i.e. higher poverty rate, lack of resources, underprivileged healthcare settings, misleading information, transportation difficulty) [6].

Depending on the last WHO reports the rate of Covid-19 confirmed cases in Syria is higher than rates in other Arabic low-income countries such as Sudan, Somali, Yemen etc. [7–10][Table 1].

Other factors, which play role in hesitancy among ruler community, would be reconstructed areas, which are still under the effect of recently ended war, which is mostly observed in Aleppo and Damascus ruler areas that may show difficulty in reporting any need of health care and vaccination.

Based on the previously mentioned obstacles, multiple measurements should be applied to reduce the refusal and hesitancy of COVID-19 vaccination.

More detailed information should be provided about the benefits of the vaccine to raise the awareness of the importance of vaccine to fight the pandemic and reduce the multiple factor effect of living on ruler areas in COVID-19 vaccine hesitancy, wider approaching of vaccine campaigns, more funding aid to support such campaigns.

In this country, WHO and global organizations leaders should utilize a variety of "standard policy" models and leadership strategies, with the

intention of getting accelerated situation monitoring, viral avoidance and control, and appropriate and adequate assignment of funds to areas of greatest need, as well as providing quite enough vaccination as possible to avoid further health issues [11–13].

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All authors declare no conflict of interest.

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