Practical considerations for COVID-19 vaccination in the Middle East

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Agenda

What are the benefits and risks of COVID-19 vaccination?

What prevents people from getting vaccinated?

How can healthcare workers help to improve COVID-19 vaccine uptake?

What are the benefits and risks of COVID-19 vaccination?

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COVID-19 vaccines have been studied in the Middle East

Efficacy has been demonstrated across the Middle East		
Country: vaccine	Study type	Outcomes
Saudi Arabia:[1] ChAdOx1	Cross-sectional (N=385)	Low infection rates (3%) after 16 weeks
Saudi Arabia:[2] BNT162b2, ChAdOx1-S, mRNA-1273 + boosters	Prospective, longitudinal (N=3,000)	Reduced severe disease and hospitalization
Qatar:[3] BNT162b2, mRNA-1273	Retrospective cohort (N=384,246)	Reduced death and hospitalization
UAE:[4] BBIBP-CorV	Retrospective cohort (N=176,640)	Reduced death and hospitalization
UAE:[5] BBIBP-CorV	Retrospective cohort (N=3,147,869)	
UAE:[6] BBIBP-CorV, BNT162b2	Case-control (N=4,618)	Reduced hospitalization

Data from the Middle East suggest serious AEs are uncommon following vaccination

- AEs are mostly non-serious[7–9]
- Higher incidence in females[7,8] and younger people[8,9]
- Most commonly reported AEs:[7–11]
  - Dizziness, headache, nausea
  - Musculoskeletal
  - Injection-site pain
  - Fatigue
  - Fever

AE, adverse event; UAE, United Arab Emirates.

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Efficacy is comparable across vaccine types

Most commonly acquired vaccines in the Middle East[1]	Proportion acquired[1]*	Efficacy against BA.5/Omicron[2]	
		Infection	Severe disease
BBIBP-CorV (Sinopharm)	23%	35%	53%
AZD1222/ChAdOx1 (AstraZeneca)	11%	36%	71%
BNT162b2 (Pfizer BioNTech)	10%	44%	72%
CoronaVac (Sinovac)	8%	24%	37%
Ad26.CoV2.S (Johnson & Johnson)	5%	33%	57%
mRNA-1273 (Moderna)	2%	48%	73%

*Data inclusive of Middle East/North Africa region.

1. UNICEF. Available at: www.unicef.org/supply/covid-19-market-dashboard (accessed 13 March 2023);
2. Healthdata. Available at: www.healthdata.org/covid/covid-19-vaccine-efficacy-summary (accessed 13 March 2023).

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COVID-19 vaccination is vital in vulnerable populations

Children

- Only around one-third of children vaccinated against COVID-19[1]
- Hesitancy mostly due to safety concerns[1]
- AEs comparable to clinical trials[2,3]
- Vaccination may help reduce transmission[4]

Pregnant women

- COVID-19 infection can increase risk of adverse outcomes (e.g. stillbirth, caesarean delivery, preterm birth)[5,6]
- Vaccination does not increase risk of adverse outcomes[5,7]
- Maternal vaccination offers newborn protection[8]

Immunocompromised patients

- Require special attention as infections are a common cause of mortality[9]
- Vaccine efficacy generally lower[10,11]
- May require further protection[10]

Elderly

- High risk of mortality following COVID-19 infection[12]
- May present differently, e.g. neurological symptoms[13]
- Waning immune responses[14]

AE, adverse event.

1. Khatatbeh M, et al. *BMC Public Health*. 2022;22:1375; 2. Alwafi H, et al. *BMC Infect Dis*. 2022;22:911; 3. Tavakoli N, et al. *J Med Virol*. 2022;94:4890–900;
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What prevents people from getting vaccinated?

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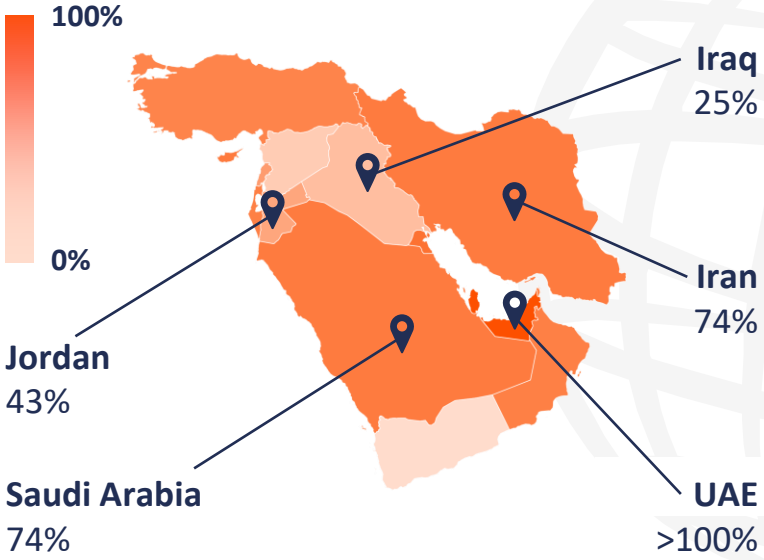
COVID-19 vaccination uptake varies across countries

Several surveys reported COVID-19 vaccine acceptance rates across the Middle East[1]

	Acceptance	
Iraq	13%	January 2021 (N=586)
Iran	62%	February–March 2021 (N=3,536 HCW)
Jordan	28%	December 2020 (N=2,173)
Saudi Arabia	69%	February–April 2021 (N=1,935)
UAE	60%	September 2020 (N=2,705)

Uptake across the Middle East is growing but there remains wide variation across the region[2]



Data updated 20 June 2022

HCW, healthcare worker; UAE, United Arab Emirates.

1. Sallam M, et al. *J Multidiscip Healthc*. 2022;15:21–45;
2. Our World in Data. Available at: https://ourworldindata.org/covid-vaccinations (accessed 13 March 2023).

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Barriers and drivers affect vaccine uptake in the Middle East

Factors increasing likelihood of being vaccinated:

- Male sex[1,2]
- People involved with healthcare[1]
- People with higher education[3–5]
- Previously received influenza vaccine[3]
- No previous COVID-19 infection[3]

Reasons for hesitancy:

- Safety concerns[5,6]
- Belief of non-necessity[6]
- Side effects of previous COVID-19 vaccine[6]
- Lack of perceived risk of COVID-19[5]

Socioeconomic inequality remains an important barrier to vaccination in the Middle East[7–9]

- Middle East has some of the richest and poorest countries globally[7]
- Countries may have to rely on external funding for vaccine procurement[8]
- Lower-income countries harder hit by pandemic and have lower vaccination rates[9]

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How can healthcare workers help to improve COVID-19 vaccine uptake?

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Challenges from influenza vaccination offer lessons for COVID-19

Influenza vaccination in the Middle East is also suboptimal, including in HCWs[1,2]

Reasons for low uptake include:[1]
- Lack of available time
- Unawareness of the vaccine
- Vaccine unavailability
- Efficacy doubts

Influenza vaccination goals are similar as for COVID-19:[3]
- Target high-risk groups, e.g. pregnant women, those with underlying disease

COVID-19 represents an additional challenge to influenza vaccination:[4]
- Increased burden on healthcare
- Co-infections may lead to severe conditions

Target misinformation
- Address conspiracy theories and misinformation[5,6]
- Targeted education, e.g. to those with limited literacy[6]
- Social media campaigns[6]

Ensure consistent messaging
- Religious leaders to clarify theological aspects[5]
- Encourage leaders to challenge misinformation[5]
- Empower HCWs to advocate for vaccination[7]

Ensure roll-out supports access
- Promote integration into other healthcare interventions,[8] e.g. alongside other vaccinations[9]
- Target marginalized or vulnerable populations[8]

HCW, healthcare worker.

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