

Factors associated with receiving the fourth dose of the COVID-19 vaccine in Jewish and Arab adults in Israel: a cross-sectional study

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1. Background & Objective

- ❖ Limited evidence exists of the correlates of vaccine hesitancy related to the COVID-19 booster dose vaccination.
- ❖ We examined associations of demographics, attitudes, and perceptions regarding the COVID-19 pandemic and vaccine with reported intention to receive the fourth dose of the COVID-19 vaccine in adults in Israel.

2. Methods

- ❖ A cross-sectional study was conducted among adults aged 18 years or older during May to August 2022, when the fourth dose was offered to all adults in Israel.
- ❖ The study utilized a telephone interview and a validated questionnaire.
- ❖ Attitudes were assessed as composite variables on summative Likert scales.
- ❖ Negative binomial multivariable models were performed.

3. Results

- ❖ Overall, 447 participants (60.5% females) were enrolled, 224 (50.8%) were Jewish, and 217 (49.2%) were Arab participants.
- ❖ Of those, 135 (30.2%) reported intention to receive the fourth COVID-19 vaccine dose.

Table 1: Scales for evaluating attitudes and perceptions towards COVID-19 vaccination and the COVID-19 epidemic

Variable	Items included in the scale	Cronbach's Alpha
The COVID-19 vaccines are important	- The COVID-19 vaccine is important for maintaining my health. - The COVID-19 vaccine is effective. - It is important for me to get vaccinated against COVID-19 to protect others around me.	0.952
Concerned regarding the side effects of the vaccine	- I am concerned about serious side effects from the COVID-19 vaccine. - I am concerned that COVID-19 vaccines will not prevent the disease. - I am concerned that COVID-19 vaccines may be unsafe. - COVID-19 vaccines include components that might be harmful to human health.	0.831
The risk of COVID-19 Epidemic is low	- I don't need to get vaccinated against COVID-19 because it's not a global epidemic anymore. - Regarding the COVID-19 epidemic, the worst is behind us. - Natural immunity provides more protection against infection than vaccination.	0.642
Concerned regarding the spread of the epidemic and new variants	- I am concerned regarding the spread of the COVID-19 epidemic. - I am concerned regarding the spread of new variants.	0.917

3. Results

Table 2: Correlates of intention to receive an additional booster COVID-19 vaccination

Variable	Intention to receive an additional booster COVID-19 vaccination		P value
	Yes, N=135, n (%)	No, N=312, n (%)	
Population group			0.004
Jews	81 (61.4)	143 (46.3)	
Arab	51 (38.6)	166 (53.7)	
Sex			<0.001
Male	73 (54.1%)	102 (32.7%)	
Female	62 (45.9%)	210 (67.3%)	
Age			0.003
18-24	17 (12.6%)	43 (13.8%)	
25-34	30 (22.2%)	114 (36.7%)	
35-49	39 (28.9%)	87 (28.0%)	
≥50	49 (36.3%)	76 (21.5%)	
Religiosity level			<0.001
Secular	77 (57.0%)	110 (35.3%)	
Traditional	33 (24.4%)	132 (42.3%)	
Religious/Ultraorthodox	25 (18.5%)	70 (22.4%)	
History of SARS-CoV-2 infection			0.007
Yes	64 (47.4%)	191 (61.2%)	
No	71 (52.6%)	121 (38.8%)	
The COVID-19 vaccines are important			<0.001
Agree	116 (85.9%)	84 (26.9%)	
Disagree	19 (14.1%)	228 (73.1%)	
Concerned about the side effects of the vaccine			<0.001
Agree	24 (17.8%)	165 (52.9%)	
Disagree	111 (82.2%)	147 (47.1%)	
The risk of the COVID-19 Epidemic is low			<0.001
Agree	28 (20.7%)	177 (56.7%)	
Disagree	107 (79.3%)	135 (43.3%)	
Concerned about the spread of the epidemic and new variants			<0.001
Agree	94 (69.6%)	129 (41.3%)	
Disagree	41 (30.4%)	183 (58.7%)	
I trust the health authorities in the management of the COVID-19 epidemic			<0.001
Agree	117 (86.7%)	133 (42.6%)	
Disagree	18 (13.3%)	179 (57.4%)	

Table 3: A multivariable binomial regression model of factors associated with Intention to receive an additional booster COVID-19 vaccination

	Adjusted PR (95% CI)	P value
The COVID-19 vaccines are important		
Disagree	Reference	
Agree	1.37 (1.03-1.83)	0.03
I trust the health authorities in the management of the COVID-19 epidemic		
Disagree	Reference	
Agree	1.21 (0.84-1.75)	0.3
Age, years		
18-24	Reference	
25-34	1.02 (0.66-1.57)	0.9
35-49	0.99 (0.64-1.53)	0.9
≥50	1.06 (0.68-1.64)	0.8
Education level		
High school or below	Reference	
Bachelor's degree	1.04 (0.79-1.35)	0.8
Master's or third academic degree	1.08 (0.55-2.12)	0.8
Religiosity Level		
Secular	Reference	
Traditional	0.96 (0.71-1.29)	0.8
Religious/Ultraorthodox	0.95 (0.68-1.34)	0.8
Population group		
Arabs	Reference	
Jews	1.01 (0.77-1.32)	0.9

CI: confidence interval; PR: prevalence ratio

4. Conclusions

- ❖ Our study provides significant insights into the factors associated with receiving the fourth dose of the COVID-19 vaccine and emphasizes the importance of the dissemination of accurate and reliable information among adults in Israel.

