

Willingness of COVID-19 Booster Vaccination Among High-Risk Groups in Hong Kong Residents: A Post-Pandemic Evaluation

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Background

Approximately 316.2 million confirmed COVID-19 cases worldwide(Oct 2024)

Ongoing new cases and long-term health complications



Over 13.72 billion COVID-19 vaccine doses administered globally(Aug 2024)

Booster vaccinations are essential to sustain protection against:
1. severe symptomatic infections 2. Hospitalizations 3. deaths

However, attitudes toward receiving them vary widely:
30.7% Global Hesitancy Rate

Concerns

ongoing safety concerns

uncertainty about the efficacy of vaccine

doubts about the necessity of additional doses

Aims: To evaluate the willingness of Hong Kong residents to receive COVID-19 booster vaccinations and to identify the associated factors

Results

Participants:

- 5,524 adults invited
- 2,099 completed the survey

Willingness to Receive Booster:

- Only 549 individuals (26.2%) expressed willingness to receive a COVID-19 vaccine booster within the next 6 months.

Factors Influencing Booster Intentions:

- Medication use
- Belonging to priority groups
- History of multiple infections
- Higher perceived susceptibility, severity, benefits, and cues to action

	effect size	Bootstrap 95% CI		t	p
Total effect	0.041	0.036	0.045	18.288	<0.001
Direct effect	0.025	0.020	0.031	9.114	<0.001
Total indirect effect	0.015	0.012	0.019	8.969	<0.001
Indirect effect through perceived susceptibility	0.004	0.002	0.005	4.965	<0.001
Indirect effect through perceived severity	0.003	0.002	0.005	3.627	<0.001
Indirect effect through perceived benefits	0.007	0.003	0.009	4.021	<0.001
Indirect effect through perceived barriers	0.000	-0.001	0.000	-1.035	0.301
Indirect effect through self-efficacy	0.002	0.001	0.004	2.511	0.012

Direct effect and indirect effects of cues to action on the willingness to take COVID-19 vaccine booster

Methods

Study design: Territory-wide cross-sectional survey

Sample size: 1,291 participants

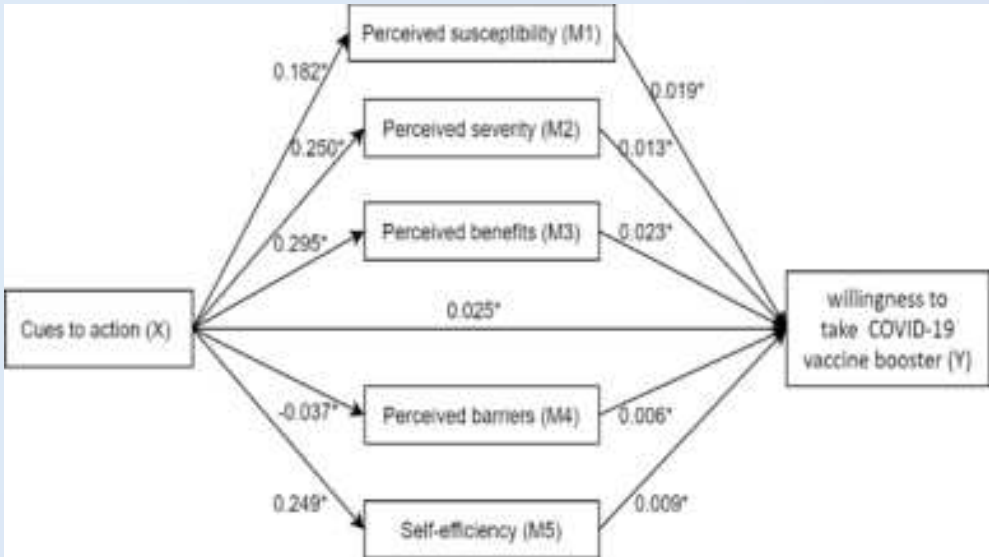
Population: aged 18 years and older, living in Hong Kong

Survey instrument: Utilizing Qualtrics, online platform

- Demographic information
- Willingness to receive the COVID-19 vaccine booster
- Domains related to HBM

Statistical analysis:

- Chi-square tests to explore differences in willingness to receive the COVID-19 booster
- Logistic regression analyses(univariate and multivariate) to identify factors associated with booster willingness
- Parallel multiple mediation model to examine potential mediation effects within the HBM framework



Mediation Analysis Results:

- ✓ Perceived susceptibility, severity, benefits, and self-efficacy are crucial in shaping willingness to receive the COVID-19 booster
- ✓ Perceived benefits clarify the advantages of vaccination, such as protection against severe illness and the ability to contribute to herd immunity.

Conclusion

- The willingness of taking COVID-19 vaccine boosters among the general population in Hong Kong remains suboptimal.
- Cues to action directly influenced willingness and had indirect effects through factors like perceived susceptibility, severity, benefits, and self-efficacy.
- Further research is necessary to explore causal relationships and validate these findings across diverse settings.

Ethics approval: Survey and Behavioural Research Ethics Committee, CUHK(SBRE-23-0844). All eligible participants provided digital informed consent at the survey's start.

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