**5C model:** We followed study 1, 2 for the construction of the 5C model. ﻿The correlation has been hypothesized based on the discussion reported in the study1.

Table 1. Construction of 5C model and Hypothesis

|  |  |  |
| --- | --- | --- |
| **Construct and Factors** | **Definition** | **Measure** |
| **CONFIDENCE** | refers to trust in public health science and the safety and effectiveness of the vaccine 2 |  |
| Attitude toward vaccine | is the degree of behavior that positively or negatively shift toward vaccine intention” 1 | (+) willingness to accept a vaccine  (-) refuse vaccine |
| Beliefs about medicine: benefits | describes the way people think about the benefits of the vaccine | (+) positively correlated with vaccination decision. |
| Beliefs about medicine: harms | describes the way people think about the harms of the vaccine | (-) negatively correlated with vaccination decision |
| Trust in the role of public authorities | refers to trust in health care systems that provide health care services. (including doctors, nurses, hospitals, and institutions in terms of their competence, honesty, and confidentiality) | (+) positive trust correlates to vaccination intention  (-) negative trust correlates to vaccine refusal or hesitancy |
| Conspiracy mentality | can be described as a susceptibility to vaccine explanations based on conspiracy theories | (-) negatively correlates to vaccine decision |
| **Complacency** | ﻿refers to perceptions of the disease as a threat and whether vaccination is necessary |  |
| Perceived threat due to infectious diseases | defines the chances and severity of getting infected | (+) positively correlates to vaccination because it intensify the need of vaccination |
| Consideration of future consequences | measures how much people think about long-term versus short-term outcomes of vaccines | (-) it negatively correlates to vaccine decision |
| Perceived risk of vaccination | measures the chances and severity of potential vaccine side effects | (-) it negatively correlates to vaccine decision |
| **Constraints** | ﻿refers to structural and psychological barriers related to vaccination intention and uptake |  |
| Affordability and willingness-to-pay (+) | refers to an individual willingness to pay for a vaccine. Relates to monthly income and bearing cost of health insurance | (+) positive when willing to pay for a vaccine  (-) negative when not willing to pay for vaccines |
| Geographical ﻿Accessibility | refers to the accessibility of vaccines by the people in their nearest health center. Policymakers including the health ministry are responsible for this | (+) positively correlates with vaccination |
| Perceived time pressure | feeling stressed due to not having enough time to meet daily demands. COVID-19 vaccines demands was too high than supply. People had to wait long time for vaccination. | (-) negatively correlates with vaccine decision |
| **Calculation** | ﻿risk calculation of infection versus vaccination |  |
| Influential factors in vaccine decision | relates to influential personalities or information source that populates vaccine decision | (+) positive when promotes vaccination  (-) negative for anti-vax |
| Risk calculation of vaccine | refers to risk perception of vaccine | (-) negatively correlates to vaccination |
| Collective responsibility | ﻿refers to willingness to protect others by self vaccintion by means of herd immunity |  |
| Collectivism | a sense of belonging the interdependence with group members | (+) positively correlates with vaccination |
| Communal Orientation | a sense of responsibility for other welfare | (+) positively correlates with vaccination |

*(+) hypothesized positive relation towards vaccination; (-) hypothesized negative relation towards vaccination*

**Health Belief Model:** We followed the study 3–6 for the construction of the HBM model.

Table 1. Construction of 5C model and Hypothesis

|  |  |  |
| --- | --- | --- |
| **Construct** | **Definition** | **Measure** |
| **Perceived ﻿susceptibility** | refers to a belief about the possibility of getting a condition |  |
| Perceived risk of infection | refers to the belief of getting infection by diseases | (+) positively relates to vaccination |
| ﻿﻿Perceived risk of vaccine | refers to the belief of potential side effects of vaccines | (-) negatively correlated with vaccination decision |
| **Perceived severity** | ﻿﻿feelings about the seriousness of a condition |  |
| Serious consequences of Coronavirus | feelings about the seriousness after getting infection by Coronavirus | (+) positively correlates to vaccination because it intensify the need of vaccination |
| Serious complications of vaccine | feelings about the serious complications after vaccination | (-) it negatively correlates to vaccine decision |
| Social and financial consequences | reduced income, loss of jobs, restricted family and social interactions | (+) positively correlates to vaccine decision because everyone wants to recover the losses |
| **Perceived benefits** | ﻿refers ﻿ to protection provided by vaccines |  |
| Perceived vaccine effectiveness | refers to effectiveness of vaccines | (+) positively correlates with vaccination |
| Decrease in infection rate | refers to effectiveness of vaccine by decreasing infection rate | (+) positively correlates with vaccination |
| Reduction of complications | refers to effectiveness of vaccine by reducing complications of diseases | (+) positively correlates with vaccination |
| **Cues to action** | ﻿﻿refers to a strategy or information source that promotes the adoption of a behavior |  |
| Media recommended vaccines | recommendation from the media about vaccines | (+) positively correlates with vaccination |
| ﻿Influential leader recommended vaccine | recommendation from the religious leader, celebrities about vaccines | (+) positively correlates to vaccination |
| Government Recommended vaccines | ﻿ recommendation from the government about vaccines | (+) positively correlates to vaccination |

*(+) hypothesized positive relation towards vaccination; (-) hypothesized negative relation towards vaccination*

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