

## DOCTORAL THESIS

# Extending the Health Belief Model to Assess Information Seeking in the Uptake and Completion of the 3-dose Viral Hepatitis B Vaccination

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**Extending the Health Belief Model to Assess Information Seeking in the Uptake and  
Completion of the Three-dose Viral Hepatitis B Vaccination**

**MUGUNGA, Ann**

**A thesis submitted in partial fulfillment of the requirements**

**for the degree of**

**Doctor of Philosophy**

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## ABSTRACT

The Health Belief Model (HBM) elements of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy and cues to action are instructive in predicting information seeking in health pursuing behavior. However, research is lacking in extending the HBM to incorporate perceived vaccine safety, trust in information sources, and communication efficacy. This longitudinal study proposes a theoretical model that extends the HBM to include perceived vaccine safety, trust in information sources and communication efficacy and assess how these predict and mediate information seeking in the uptake and completion of the three-dose Hepatitis B vaccine.

The 34 hypotheses predict significant relations between the HBM elements, mediators, and information seeking. Attention is paid to the performance of each variable, and the strength of predictor elements over time. The study has 569 participants from Uganda, who completed questionnaires on a voluntary basis. Correlation, regression, ANOVA and mediation analysis (PROCESS) were employed to interrogate the collected data.

Results show that there were more male than female respondents, most of whom received the vaccine from Health Centre IIIs and hospitals. The vaccination turn up was highest among students, farmers, and businessmen / women. Over the three-phase longitudinal study, the total drop-out rate was 24%; and the median period for completion of the dose was 7.1 months. Age and gender were significantly positively correlated with perceived vaccine safety at phases one and two of the study, while negatively associated with self-efficacy. Further, age was only significantly positively associated with perceived vaccine safety at phase two.

Repeated ANOVA analysis revealed that time had a significant effect on the majority of variables: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy, perceived vaccine safety, community efficacy and information seeking. Time, however had no effect on cues to action and trust in information sources.

Regression analysis shows that at the first phase of vaccination, perceived barriers had a significant positive effect on information seeking, and so did self-efficacy. At the second phase of vaccination, perceived barriers and self-efficacy had a significant positive effect on information seeking. And at the third phase, only age had a significant positive effect on information seeking.

Mediation analysis revealed that in phases one and two, trust in information sources was the strongest, while perceived vaccine safety was the weakest, mediator of HBM and

information seeking. In phase three none of the extension variables mediated the relationship between HBM and information seeking.

The theoretical contributions of this study include extending the HBM to evaluate perceived vaccine safety, communication efficacy, trust in information sources in information seeking in a vaccination uptake and completion context in Uganda. Further, it enriches the HBM by testing its predictive validity in a longitudinal study. The implications for health service providers is the need to appreciate the nuances of the communities they serve, highlighting clinician prompts, individual responses, institutional support, and underlying causes of turn-up for and completion of vaccination regimen. Finally, individuals trust healthcare workers, family and friends more while looking for health care related information and such relationship dynamics should be leveraged in health communication campaigns, to increase uptake and completion of multi-dose vaccinations.

**Keywords:** Health Belief Model, information seeking, vaccination uptake, vaccination completion, Hepatitis B, perceived vaccine safety, trust in information sources, communication efficacy