

Research Paper

Effect of an Educational Intervention for Mothers Based on the Health Belief Model on Timely Vaccination of Their Children in Qom, Iran



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ABSTRACT

Background and Objectives One of the effective methods for preventing infectious diseases, especially in children, is vaccination; if children are not fully, correctly and timely immunized, infectious diseases will threaten their lives. The present study aims to evaluate the effect of an educational intervention based on the health belief model (HBM) on timely vaccination of children in Qom, Iran

Methods This is an interventional study that was conducted on 100 mothers referred to comprehensive health centers in Qom, Iran for the 2-month and 4-month vaccination of their children with a delay of more than 10 days. After dividing them into two groups of intervention and control by the block randomization method (4 blocks), questionnaires were completed by both groups. Then, the intervention group received the online educational materials for two months. Two months later, the questionnaires were completed by both groups again and the time of their visit was checked.

Results The mean score of practice in both groups increased after two months, which was higher in the intervention group and this difference was significant ($P < 0.001$).

Conclusion HBM-based educational programs can be used to increase immunization coverage of children in Qom, Iran.

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Extended Abstract

Introduction

One of the effective methods for preventing infectious diseases, especially in children, is vaccination; if children are not fully, correctly and timely immunized, infectious diseases will threaten their lives.

Vaccination only protects the individual but also the society. According to the [World Health Organization \(WHO\)](#), immunization prevents about 2-3 million deaths every year [6]. The present study aims to examine the effect of an educational intervention based on the health belief model (HBM) on the timely vaccination of children in mothers referred to comprehensive health centers in Qom, Iran.

Methods

This is an interventional study that was conducted on 100 mothers who referred to comprehensive health centers in Qom for the 2-month and 4-month vaccinations of their children with a delay of more than 10 days. They were selected using a convenience sampling method and divided into two groups of intervention and control group by the block randomization method, each with 50 people. The duration of the HBM-based intervention was two months and the education was provided by presenting pamphlets and online educational materials. Two months later, the time of their visit was checked. A researcher-made questionnaire was completed by both groups before and after the intervention. The obtained data were analyzed in SPSS software, version 20 using independent t-test, paired t-test, chi-square test, Pearson correlation test, and analysis of covariance.

Results

The mean practice score in the intervention group increased from 1.16 ± 0.37 to 1.95 ± 0.21 after the intervention and from 1.64 ± 0.48 to 1.98 ± 0.14 in the control group; these differences in two groups were significant ($P < 0.001$). In the intervention group, the mean score of perceived sensitivity ($P = 0.098$), perceived severity ($P < 0.001$), perceived benefits ($P = 0.001$) and self-efficacy ($P = 0.003$) increased after the intervention, compared to their pretest scores, and this difference was significant. In this group, the mean score of perceived barriers decreased after the intervention, but this difference was not significant ($P = 0.375$). In the control group, the mean score of knowledge increased significantly ($P = 0.060$), but no significant increase was reported in other areas of perceived

sensitivity ($P = 0.359$), perceived severity ($P = 0.385$), perceived benefits ($P = 0.378$) and self-efficacy ($P = 0.842$), and perceived barriers ($P = 0.796$)

Discussion

By conducting an educational intervention based on HBM, it is possible to increase the timely visit of mothers for vaccination of their children in Iran. Therefore, educational programs to emphasize the importance of vaccination and increase the knowledge of mothers can be used to increase vaccination coverage and the control of vaccine-preventable infectious diseases.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Committee of [Qom University of Medical Sciences](#) (Code: IR.MUQ.REC.1399.299).

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Authors contributions

The authors contributed equally to preparing this article.

Conflicts of interest

The authors declare no conflict of interest.

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