

Effectiveness of a Structured Teaching Programme on Knowledge of Foodborne Diseases and Food Hygiene among Mothers

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Abstract:

Foodborne diseases encompass a wide spectrum of illnesses and remain a significant growing public health problem globally, posing a severe social and economic burden in both developing and developed nations. Children under five years of age are disproportionately affected, accounting for nearly half of the reported foodborne disease burden. At the household level, women constitute the primary food handlers and caregivers.

This study evaluated the effectiveness of a Structured Teaching Programme (STP) using flashcards to enhance knowledge regarding foodborne illnesses and food hygiene principles among 60 mothers of under-five children in a selected rural area of Indore. A pre-experimental one-group pre-test post-test design was used.

Results indicated a significant knowledge gain of 34.50% following the intervention. Post-test scores revealed that 73.3% of the mothers achieved an adequate knowledge level, with none remaining in the inadequate tier. Furthermore, statistically significant associations were identified between post-test knowledge levels and demographic variables, including maternal age, education, and household income ($p < 0.05$).

Keywords: Effectiveness ; Structured Teaching Programme; Knowledge ; Foodborne Diseases ; Food Hygiene

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INTRODUCTION

Safe, nutritional food is essential for human growth, health, and well-being. However, food also rich in nutrients serves as an optimal vehicle for pathogen transmission if exposed to environmental contamination through water, air, vectors, or unhygienic handling practices. Globally, foodborne diarrhoeal diseases remain a leading cause of mortality and morbidity in young children, contributing to approximately 125,000 deaths annually among children under five years.

In developing countries like India, diverse socioeconomic conditions, varied storage practices, and local eating habits warrant intense attention toward household-level hygiene. Since mothers are traditionally the primary handlers of kitchens and caregivers for toddlers, their comprehension of contamination mitigation is paramount. This study aimed to systematically assess and elevate this critical knowledge framework through a targeted nursing intervention.

Methodology

The study employed a quantitative research approach utilizing a pre-experimental one-group pre-test post-test research design. A sample size of 60 mothers of children under five years old was selected using a convenient sampling technique in a designated rural area of Indore. Ethical approval was formally procured

from the Institutional Ethics Committee, and informed consent was actively secured from each participant prior to data collection.

A structured questionnaire covering baseline demographics and food hygiene principles was prepared, validated by medical and nursing experts, and structured around the World Health Organization's (WHO) Five Keys to Safer Food. A pre-test was conducted to establish baseline scores, immediately followed by the administration of a Structured Teaching Programme (STP) focused on clean handling, hand hygiene, and cross-contamination prevention using visual aids (flashcards). A post-test utilizing the same instrument was executed 7 days post-intervention. Collected data were managed in MS Excel and statistically analyzed using SPSS Version 17.0.

Results and Statistical Analysis

The empirical findings demonstrated a highly significant shift in maternal awareness indicators before and after the instruction:

- **Knowledge Tier Redistribution:** In the pre-test, substantial gaps were observed. Post-intervention analysis showed that 0% of the participants remained at an inadequate knowledge level, 26.7% scored within the moderate range, and 73.3% achieved an adequate level of comprehension.
- **Average Knowledge Gain:** Mothers demonstrated an average knowledge gain of 34.50% when comparing post-test scores directly back to their baseline measurements.
- **Demographic Correlations:** The analysis revealed a statistically significant association ($p < 0.05$) between post-test knowledge scores and several key socio-demographic variables, specifically the mother's age, maternal educational status, total monthly family income, and the number of under-five children within the household family structure.

Discussion & Conceptual Framework

The study's conceptual alignment was systematically grounded in Rosenstock's, Becker's, and Maiman's Health Belief Model (Revised), interleaving specific maternal perceptions (perceived susceptibility and severity of childhood diarrhea) with external cues to action (educational teaching). The baseline data mirrors global warnings from organizations such as the WHO Foodborne Disease Epidemiology Reference Group (FERG) and the National Institute of Nutrition (NIN) in India, highlighting that up to 70% of early-childhood diarrhoeal episodes stem directly from contaminated weaning foods and suboptimal home-kitchen preparation.

The significant metrics gained here reinforce that structured, visual community nursing interventions are highly effective at overcoming educational barriers, effectively translating health risks into recognizable preventative behaviors.

Conclusion & Recommendations

Food hygiene serves as an indispensable prerequisite to reducing the global burden of childhood morbidity and mortality. This study confirms that a Structured Teaching Programme significantly bridges baseline knowledge gaps among rural caregivers. To create a lasting public health impact, it is recommended that healthcare systems design and expand decentralized general awareness campaigns. These should focus not only on theoretical knowledge but also look to strictly reinforce actual household practices of personal hygiene, systematic handwashing, and cross-contamination prevention to build disease-free communities.

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