

EVALUATING THE EFFECTIVENESS OF A CHILDHOOD FEVER AWARENESS PROGRAM FOR CAREGIVERS ON KNOWLEDGE, ATTITUDE, PRACTICES, AND HEALTH LITERACY IN PRIMARY HEALTH CARE CENTERS IN HA’IL, SAUDI ARABIA

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ABSTRACT

Childhood fever was one of the most common symptoms prompting healthcare consultations worldwide. Although fever was recognized as a normal physiological response to infection, the literature consistently showed that caregivers frequently misinterpreted it as a dangerous condition. This study aimed to evaluate the effectiveness of a structured Childhood Fever Awareness Program (CFAP) in improving caregivers’ knowledge, attitudes, practices, and health literacy related to childhood fever management, and in promoting appropriate healthcare-seeking behavior among caregivers attending Primary Health Care Centers (PHCCs) in Ha’il, Saudi Arabia. A quasi-experimental, non-randomized, two-group pretest/post-test/follow-up design with cluster allocation will be implemented. The intervention group (n = 50) will be recruited from Al-Naqrah PHCC and will participate in the CFAP, while the control group (n = 50) will be recruited from Qufar and North Airport PHCCs and will receive treatment as usual (TAU). Data will be collected at baseline (T1), immediately post-intervention (T2), and at an 8–12-week follow-up (T3). A total sample of 100 caregivers will be determined based on power analysis ($\alpha = 0.05$, power = 0.80, moderate effect size), with allowance for potential attrition. Validated instruments will be used to assess knowledge, attitudes, practices, and health literacy outcomes. It is anticipated that caregivers in the intervention group will demonstrate significant improvements in knowledge, attitudes, practices, and health literacy compared to the control group, with sustained effects at follow-up. The Childhood Fever Awareness Program is expected to provide evidence supporting structured, health literacy–focused educational interventions in primary healthcare settings to improve fever management and optimize healthcare utilization.

Keywords: Childhood Fever; Caregivers; Knowledge, Attitudes and Practices (KAP); Health Literacy; Saudi Arabia

INTRODUCTION

Childhood fever is a common clinical symptom that frequently leads caregivers to seek medical attention. Although fever is a natural physiological response to infection, it is widely perceived by parents as a harmful condition requiring immediate medical intervention. This misinterpretation, often referred to as “fever phobia,” contributes to anxiety, inappropriate medication use, and unnecessary emergency department visits.

Previous studies have shown that caregivers often lack adequate knowledge regarding fever definition, safe temperature thresholds, and appropriate home management strategies. This knowledge gap is strongly associated with negative attitudes and unsafe practices, including overuse of antipyretics and reliance on emergency services for mild cases. In

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addition, low health literacy further exacerbates poor decision-making, limiting caregivers' ability to interpret health information and apply evidence-based practices.

International and regional literature indicates that structured educational interventions can significantly improve caregivers' knowledge, attitudes, practices, and health literacy. However, such programs are not routinely implemented or evaluated in primary healthcare settings in Saudi Arabia, particularly in Ha'il region.

Therefore, this study aims to evaluate the effectiveness of a structured Childhood Fever Awareness Program (CFAP) in improving caregivers' KAP and health literacy, and in promoting appropriate healthcare-seeking behavior. The study hypothesizes that caregivers who receive the intervention will demonstrate significantly better outcomes compared to those receiving standard care.

METHOD

Study Design

This study will employ a quasi-experimental, non-randomized, two-group pretest-posttest-follow-up design.

Setting

The study will be conducted in three Primary Health Care Centers (PHCCs) in Ha'il, Saudi Arabia:

- * Al-Naqrah PHCC
- * Qufar PHCC
- * North Airport PHCC

Participants

The target population includes primary caregivers of children aged 1 month to 12 years. A total sample of 100 caregivers will be recruited.

- * Intervention group: n = 50
- * Control group: n = 50

Inclusion criteria include caregivers responsible for child health decisions. Exclusion criteria include healthcare professionals and caregivers of children with chronic illnesses.

Sampling Procedure

Cluster allocation will be used to assign PHCCs into intervention and control groups. Participants will be selected using purposive sampling.

Intervention

The Childhood Fever Awareness Program (CFAP) is a structured educational program consisting of interactive sessions, demonstrations, and educational materials focused on:

- * Fever definition and physiology
- * Safe antipyretic use
- * Warning signs
- * Appropriate healthcare-seeking behavior

Data Collection

Data will be collected at three time points:

- * T1: Baseline (pre-intervention)
- * T2: Immediately post-intervention
- * T3: Follow-up (8–12 weeks)

Instruments

Validated questionnaires will measure:

- * Knowledge of childhood fever
- * Attitudes toward fever
- * Fever management practices
- * Health literacy level

Data Analysis

Data will be analyzed using statistical software (e.g., SPSS). Descriptive statistics, t-tests, and repeated measures analysis will be used to assess differences between groups across time points. Significance level will be set at $p < 0.05$.

RESULTS AND DISCUSSION

Expected Results

It is expected that the intervention group will show statistically significant improvements in knowledge, attitudes, practices, and health literacy compared to the control group at post-intervention and follow-up measurements.

Discussion

The expected findings align with previous research indicating that structured educational interventions significantly improve caregiver outcomes. Improved knowledge is likely to reduce fever phobia and inappropriate use of antipyretics. Enhanced attitudes may increase caregiver confidence in managing fever at home, while improved practices are expected to reduce unnecessary healthcare visits.

Health literacy plays a critical role in enabling caregivers to understand and apply health information effectively. Consistent with prior studies, increased health literacy is expected to mediate improvements in decision-making and healthcare utilization.

Overall, the CFAP is expected to demonstrate effectiveness in improving caregiver competence and supporting evidence-based pediatric care in primary healthcare settings.

LIMITATION OF THE STUDY

This study is limited to selected PHCCs in Ha'il, which may affect generalizability. The quasi-experimental design without randomization may introduce selection bias. Self-reported data may also be subject to response bias.

CONCLUSIONS AND SUGGESTIONS

The Childhood Fever Awareness Program is expected to significantly improve caregivers' knowledge, attitudes, practices, and health literacy regarding childhood fever management. The findings support integrating structured health education programs into primary healthcare services.

Future research should consider randomized controlled designs and long-term follow-up to assess sustainability of outcomes.

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ETHICAL CONSIDERATIONS

The study will be conducted following ethical standards for human research. Participation will be voluntary, and confidentiality will be maintained.

Conflict of Interest Statement

The authors declare no conflict of interest.

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