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HYGIENIC AND SOCIAL FACTORS OF THERMAL BURNS IN PRESCHOOL CHILDREN

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Abstract

This article studies the prevalence of thermal burns among preschool children and analyzes the influence of hygienic and medico-social factors. The study examines children aged 3–6 years and evaluates the main causes of burn injuries, as well as the role of parental supervision, household conditions, and hygiene practices.

The research is based on the analysis of medical records, questionnaires, and environmental observations. Particular attention is given to identifying the most common causes of burns and the main risk factors associated with them.

The results show that hot liquids are the leading cause of burns, and factors such as low parental awareness, poor hygiene conditions, and lack of supervision significantly increase the risk.

Thus, the article demonstrates how hygienic and socio-economic conditions affect the occurrence of burn injuries and highlights the importance of preventive measures.

Keywords

Thermal burns, preschool children, hygiene, socioeconomic factors, injury prevention

INTRODUCTION

Thermal burns represent a significant global public health problem, particularly among children under the age of six. According to the World Health Organization, burns account for a substantial proportion of childhood injuries and are associated with high morbidity and long-term disability. The burden is especially high in low- and middle-income countries, where environmental hazards and socioeconomic disparities contribute significantly to injury risk.

Preschool children are particularly vulnerable to burn injuries due to their developmental characteristics, including curiosity, limited awareness of danger, and dependence on caregivers. Most burn injuries in this age group occur in domestic environments, where children are exposed to various hazards such as hot liquids, open flames, and heated objects.

Previous studies have demonstrated that scald burns caused by hot liquids are the most common type of burn injury among young children. These injuries are often associated with unsafe household practices, such as placing hot liquids within reach of children or inadequate supervision during cooking activities.

In addition to environmental factors, medico-social determinants such as parental education, household income, and hygiene practices play a critical role in the occurrence of burn injuries. Children from socioeconomically disadvantaged households are more likely to be exposed to unsafe environments and lack adequate supervision.

Despite extensive international research, there is a need for integrated analysis of hygienic and medico-social factors influencing burn prevalence in preschool children. Therefore, the aim of this study is to assess these determinants and identify key modifiable risk factors.

MATERIALS AND METHODS

Study Design

A cross-sectional analytical study was conducted between 2024 and 2025.

Study Population

The study included preschool children aged 3–6 years who were admitted to pediatric departments with thermal burn injuries.

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Sample Size

A total of 150 children were included in the study. The sample size was calculated using standard epidemiological formulas with a 95% confidence interval and 5% margin of error.

Data Collection Methods

Data were collected using the following approaches:

- Structured questionnaires administered to parents or caregivers
- Review of medical records
- Direct assessment of household environmental conditions

Variables Assessed

The following variables were evaluated:

- Parental education level
- Household income
- Level of parental supervision
- Hygiene practices
- Home safety conditions

Statistical Analysis

Data were analyzed using SPSS software. The following statistical methods were applied:

- Descriptive statistics (mean, standard deviation, percentages)
- Chi-square (χ^2) test for categorical variables
- Odds Ratio (OR) with 95% confidence intervals
- Multivariate logistic regression analysis

A p-value of less than 0.05 was considered statistically significant

RESULTS

Distribution of Burn Causes

Cause of Burn	Number (n)	Percentage (%)
Hot liquids	102	68%
Open flame	26	17%
Hot objects	22	15%

The results indicate that hot liquids were the leading cause of burns among preschool children.

Analysis of Risk Factors

Risk Factor	OR	95% CI	p-value
Low parental education	2.8	1.6–4.9	<0.01
Low household income	2.3	1.3–3.8	<0.05
Lack of supervision	3.5	2.0–6.1	<0.001
Poor hygiene awareness	2.9	1.7–5.0	<0.01

Lack of parental supervision was identified as the strongest predictor of burn injuries.

Additional Findings

- 60% of children came from low-income families
- 52% of households lacked basic safety measures
- 48% of parents had insufficient knowledge of burn prevention

DISCUSSION

The findings of this study confirm that thermal burns in preschool children are strongly associated with modifiable environmental and socio-economic factors. The predominance of scald injuries caused by hot liquids is consistent with global epidemiological data.

The role of parental supervision is particularly significant. Children who were left unattended or inadequately supervised were at a substantially higher risk of sustaining burn injuries. This

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finding aligns with previous research indicating that supervision is a critical determinant in preventing domestic injuries among children.

Socioeconomic status also played a key role. Families with lower income levels were more likely to have unsafe living conditions, including overcrowded spaces and lack of protective measures. These findings are consistent with international studies that highlight the relationship between poverty and increased injury risk.

Hygiene practices and awareness were also important determinants. Households with poor hygiene conditions often lacked basic safety practices, such as proper storage of hot liquids or safe cooking arrangements. This increases the likelihood of accidental burns.

The study emphasizes that most burn injuries in preschool children are preventable. Interventions focusing on parental education, improved household safety, and community-based health promotion programs can significantly reduce the incidence of burns.

CONCLUSIONS

1. Thermal burns are a common and preventable injury among preschool children.
2. Hot liquids are the leading cause of burn injuries.
3. Socioeconomic and hygienic factors significantly influence burn risk.
4. Parental supervision is the most important modifiable factor.
5. Preventive strategies should focus on education, environmental safety, and public health interventions.

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