RISK FACTORS FOR BURN INJURIES AMONG PATIENTS HOSPITALIZED AT KENYATTA NATIONAL AND REFERRAL HOSPITAL IN NAIROBI, KENYA: A CASE CONTROL STUDY

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NOVEMBER, 2015
DECLARATION

Student’s declaration

This research is my original work and has not been submitted to any other university for the purpose of obtaining a degree.

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I dedicate this work to my wife Beatrice, daughter Gertrude and son Neil.
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ABSTRACT

Burn injuries are some of the most physically and psychologically devastating forms of trauma and most common injuries affecting children especially in the home environment. They are a major cause of morbidity and mortality all over the world for both children and adults more so in developing countries like Kenya because of inadequate and high cost of medical treatment. Implementation of preventive measures is therefore extremely important in these countries where the risk for burn injuries is high due to poverty. Effective prevention programes must be informed by well-designed studies aimed at investigating risk factors for burns.

The main objective of this study was to establish the risk factors for burn injuries among patients hospitalized at the Kenyatta National Hospital (KNH). It was a case-control study with cases being 202 patients admitted with burns and the controls were 202 non-surgical patients admitted into the paediatric and medical wards of KNH. The data was collected using a structured questionnaire administered in English or Swahili by the principle researcher or the research assistants.

Data analysis was done using SPSS version 17. Descriptive statistics was used for demographic data whereas Pearson Chi Square test and Odds Ratio were used to analyze the relationship between the risk factors and burn injuries. Logistic regression was used to determine the strength of association for risk factors identified by Pearson Chi Square and Odds Ratios.

Burn injuries were found to be commonest in children within the 0-4 years age bracket (42.6%) with the second commonest age bracket being the active adults of 20-40 years (38.6%). The
male:female ratio was found to be 1:1 and the risk factors found to be significant for burn injuries were; low level of education (OR=2.32, 95% CI: 1.28-4.22, p=0.003), use of kerosene for cooking (OR=1.935; 95% CI:1.303–2.874, p=0.001) and lack of knowledge of burn injury prevention and fire safety (OR=1.885, 5% CI:1.559-2.279, p=0.000). The strength of association was confirmed by multivariate logistic regression analysis (p=0.000).

Low level of education, use of kerosene for cooking and lack of knowledge of burn injury prevention and fire safety were identified as risk factors for burn injury among patients admitted at the Kenyatta National Hospital. The recommendation from this research is that these risk factors be addressed through implementation of burn injury prevention programs and that they should be the basis for policy change or advocacy for fire and burn injury prevention programs.
**LIST OF ABBREVIATIONS AND ACRONYMS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ANOVA</td>
<td>Analysis Of Variance</td>
</tr>
<tr>
<td>CCU</td>
<td>Critical Care Unit</td>
</tr>
<tr>
<td>CDC</td>
<td>Centers for Disease Control</td>
</tr>
<tr>
<td>CHS</td>
<td>College of Health Sciences</td>
</tr>
<tr>
<td>CO</td>
<td>Carbon Monoxide</td>
</tr>
<tr>
<td>ISBI</td>
<td>International Society for Burn Injuries</td>
</tr>
<tr>
<td>KMTC</td>
<td>Kenya Medical Training College</td>
</tr>
<tr>
<td>KNH</td>
<td>Kenyatta National Hospital</td>
</tr>
<tr>
<td>KNH/UoN-ERC</td>
<td>Kenyatta National Hospital/University of Nairobi Ethics and Research Committee</td>
</tr>
<tr>
<td>LMIC</td>
<td>Low and Middle Income Countries</td>
</tr>
<tr>
<td>SES</td>
<td>Social Economic Status</td>
</tr>
<tr>
<td>SPH</td>
<td>School of Public Health</td>
</tr>
<tr>
<td>TBSA</td>
<td>Total Body Surface Area</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UoN</td>
<td>University of Nairobi</td>
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<td>WHO</td>
<td>World Health Organization</td>
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