

Abstract

Background

Childhood unintentional injuries are a major cause of mortality, morbidity and disability among children in developed and developing countries. The natural curiosity of the growing child and the desire to experiment lead to the child engaging in behaviours that expose him/her to the risk of unintentional injuries. The prevention of unintentional injuries among children requires a balance between education and supervision by the principal caregivers of the child, behaviour of the child and environmental hazards. Identification of children who engage in risky behaviour and factors that promote such behaviour is vital if unintentional injuries are to be prevented.

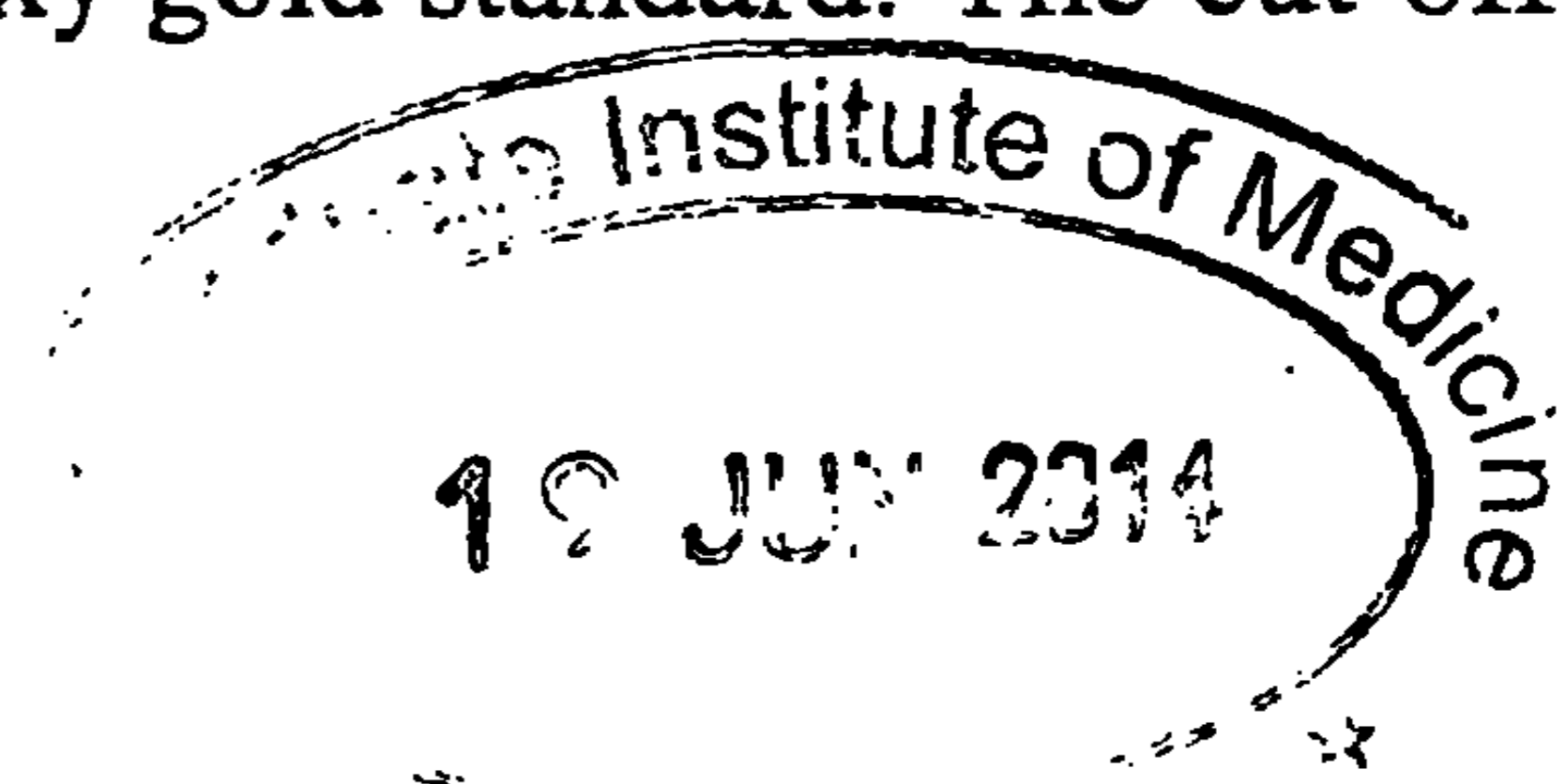
Objectives

1. To develop and validate a screening instrument to identify injury risk behaviour of children aged 4 to 5 years and to use the developed instrument to estimate the prevalence of injury risk behaviour among children aged 4 to 5 years in the Gampaha district.
2. To describe the correlates of injury risk behaviour and to describe the association of injury risk behaviour with unintentional injuries.

Methods

Phase I - A screening instrument was developed to describe injury risk behaviour of children aged 4 to 5 years associated with unintentional injuries based on literature review and consensus of experts. The screening instrument developed was named the Childhood Injury Risk Behaviour Assessment Tool (CIRBAT). Judgemental validity was examined and agreed upon by a panel of experts. Criterion validity was assessed by means of a hospital based descriptive cross sectional study. Information was obtained from principal caregivers of children aged 4 to 5 years who were brought to hospital following unintentional injuries and of children who were brought for treatment of minor illnesses or routine vaccination. Having experienced an unintentional injury (current and/or a past history within the previous six months) which required care from a health care service provider was considered the proxy gold standard. The cut-off score

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on the CIRBAT that distinguished between high and low injury risk behaviour groups was determined using a Receiver Operator Characteristics (ROC) curve.

Phase II – A community based descriptive cross sectional study was carried out to determine the prevalence of injury risk behaviour and its correlates. A stratified two stage cluster sampling technique was used to identify a sample of 1240 children aged 4 to 5 years and caregiver pairs from the Gampaha district. Information on selected socioeconomic factors, caregiver related factors, child related factors, environmental factors and unintentional injuries suffered by the index child needing care at a health care facility during the previous six months was obtained. A checklist was used to observe home hazards for unintentional injuries among a subsample of households. Bivariate analysis followed by multiple logistic regression analysis was performed to determine independent effects of correlates of high injury risk behaviour.

Results

Phase I

A cut off score of 64.5 was decided upon based on the ROC curve to differentiate High Injury Risk Behaviour (HIRB) from Low Injury Risk Behaviour (LIRB). The sensitivity and specificity of the CIRBAT were 84.2% (95% CI 78.7 – 88.5) and 84.5% (95% CI 78.1 – 89.3) respectively. Two weeks test retest reliability and internal consistency were 0.86 and 0.88 respectively. The median CIRBAT score of children who suffered unintentional injuries was significantly higher than that of children who did not suffer any unintentional injury ($p < 0.001$).

Phase II

The prevalence of HIRB determined using the CIRBAT was 861 per 1000 children (95% CI 841 - 879) aged 4 to 5 years over a period of six months.

Principal caregiver being educated only up to Grade ten (OR= 3.4, 95% CI 1.6-6.2), presence of a household member on long term drugs and medication (OR= 2.1, 95% CI 1.2-3.8), low proximity of the caregiver to the child during playtime (OR= 1.9, 95% CI 1.3-2.6) and the child suffering an unintentional injury needing care at a health care facility at least once during the previous six months (OR= 1.6, 95% CI 0.8-2.7) were found to be significant predictors of HIRB.

Four/more children in the family of the index child (OR= 0.4, 95% CI 0.2-0.8), father currently unemployed (OR= 0.2, 95% CI 0.06-0.4) and poor and moderate levels of safety advice given by principal caregivers to the child in their care on prevention of poisoning/overdose (OR= 0.1, 95% CI 0.04-0.3) were found to be protective correlates significantly associated with HIRB.

Conclusions

The CIRBAT is a valid and reliable tool to identify HIRB. Eighty six percent of the children between 4 to 5 years were seen to have high injury risk behaviour.

Recommendations

Adequate supervision of children aged 4 to 5 years during their daily activities in a safe environment is important to prevent unintentional injuries among children.

Key words: injury risk behaviour, correlates of injury risk behaviour, children aged 4 to 5 years, caregiver supervision, environmental hazards.