In Hot Soup: An Asian perspective of paediatric burn epidemiology presenting in Singapore

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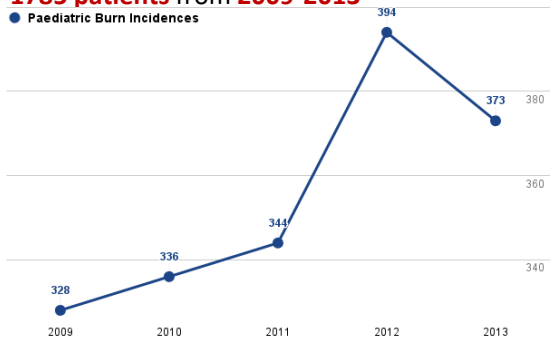
Introduction

A small country with a dense population of 5.6 million, KK Women's & Children's Hospital, the main centre for Paediatric Burn referrals saw **1785 patients** from **2009-2013**



Aims

- Demographic data surrounding burn injures
- Study the incidences of First aid application
- Circumstances of burn
- Formulate a Targeted National Campaign

Methods

- Retrospective Chart Review
- Inclusive of all burn patients presenting to **KKWCH Children's Emergency** from **2009-2013**
- SAS version 9.3
- Fisher's exact test

Data

- First presentation of acute burn injury to Children's Emergency
- Gender, Ethnicity, Mechanism of burn
- Burn surroundings, Circumstances of burn, TBSA, Time between injury and first presentation to hospital
- First Aid management, Need for hospital admission

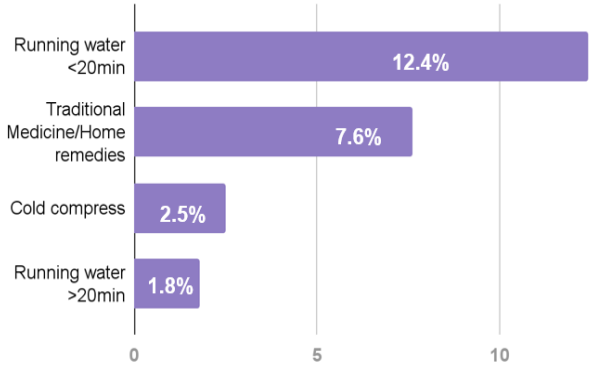
Results

Age	**0-2 Years** 47.5%	**2-6 Years** 30.5%	**6-12 Years** 18%	**>12 Years** 4%
Ethnic	**Chinese** 50.9%	**Malay** 20.2%	**Indian** 17.5%	**Others** 10.2%
TBSA	**0-5%** 77.4%	**5-10%** 16.6%	**10-15%** 4.4%	**>15%** 1.6%
Mechanism	**Scald** 79.4%	**Hot contact** 11.5%	**Flame** 3.7%	**Others** 5.5%
Burn Surroundings	**Home** 79.4%	**Restaurant** 6%	**Outdoors** 6.6%	**Others** 6%
Location of burns within home	**Kitchen** 47.8%	**Living room** 22.7%	**Bathroom** 7.2%	**Dining** 13.9%

Circumstances that led to burns: 1) Spillage from hot food/ soups amounted to 47% - For scald burns only; Child pulling on adult who was holding on to hot liquids made 40% of total scald cases
2) In direct contact with hot kettles/iron made up 38%.

There were a few groups which we found to be statistically significant:
1) Hot contact burn and children < 6 years old
2) Flash fire burn and children > 6 years old
3) Scalds and children < 12 years old

First Aid Administered



Discussion

Key factors attributing to the statistics gathered were analysed according to the key players; Children and caregivers. With Children-mainly owed to the innate curiosity of children and the lack of situational awareness. Parents/ Caregivers have to anticipate children's behavious and should not treat children like adults with a lack of supervision. There is very little allowance for carelessness in the care of children.

This study showed **a lack of home strategies to firstly PREVENT the burn**, and secondly, **appropriate first aid knowledge.**

The Singapore Factor

The Asian kitchen has a major feature of hot liquids as part of soup based food culture or steaming as a cooking method. Soup is a staple dish in the Asian culture

6-12 year old age group Often aid with meal preparation and receives Less supervision during meal times Traditional remedies(and inappropriate) being applied to wounds owing to 1) Ignorance which leads to Poor burn first aid knowledge and Poor knowledge of home safety
2) Lack of National Burn Prevention Campaigns

Conclusion

In conclusion, despite being a highly educated population,the startling increase in incidences are owed to Poor supervision of children and poor knowledge in paediatric first aid resulting in panicked practices. With these main deficiencies identified, we can now advocate for improvement in these areas, to improve our facilities and start targeted national campaigns to perpetuate correct practices. To get ourselves out of hot soup

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