Fitting the pieces together B U R N S

Characteristics and Outcomes of Paediatric Burns in Rural and Remote QLD

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Background/Objectives:

Children residing in rural areas may be at higher risk of burn injury incidence and adverse outcomes as they are routinely exposed to environmental hazards, travel long distances to receive medical care in emergencies and are reported as more likely to receive adequate supervision This study aims to describe the relationship remoteness has with patterns of burn injury and clinical outcomes in Queensland children aged 0- 16 years.

Table 1.

Characteristics Demographics	Metropolitan N (%)	Inner Regional N (%)	Outer Regional/ Remote/ Very Remote N (%)	Sig
Gender				
Male	1377 (59.5)	77 (73.3)	62 (55.4)	P= 0.011
Female	936 (40.5)	28 (26.7)	50 (44.6)	
Age				
0 – 4 years	1552 (66.5)	73 (69.5)	67 (59.8)	
5 – 9 years	437 (18.7)	16 (15.2)	28 (25)	P >0.5
10 – 16 years	364 (14.8)	16 (15.2)	17 (15.2)	
Indigenous Status				
Indigenous	148 (7.5)	22 (24.4)	23 (23.5)	P= 0.000
Non-Indigenous	1813 (92.5)	68 (75.6)	75 (76.5)	
Mechanism				
Scald	1082 (46.3)	39 (37.1)	40 (35.7)	P = 0.029
Contact	972 (41.6)	50 (47.6)	51 (45.5)	
Flame	99 (4.2)	9 (8.6)	9 (8)	
Other	183 (7.8)	7 (6.7)	12 (10.7)	
SEIFA				
Disadvantaged	610 (26.2)	75 (72.8)	77 (69.4)	
Advantaged	1121 (48.2)	25 (24.3)	28 (25.2)	P= 0.000
Highly Advantaged	596 (25.6)	3 (2.9)	6 (5.4)	
Injury Characteristics				
First aid adequacy				
Adequate (20mins CRW)	1605 (68.9)	57 (55.3)	65 (58)	P= 0.001
Inadequate	726 (31.1)	46 (44.7)	47 (42)	
Admitted				
Yes	269 (13.9)	31 (34.8)	37 (40.7)	P= 0.000
No	1661 (86.1)	58 (65.2)	54 (59.3)	
Depth (exc Sup)				
Full Thickness	98 (4.4)	14 (13.9)	16 (14.5)	
Deep Partial	613 (27.8)	44 (43.6)	36 (32.7)	P = 0.000
Superficial Partial	1494 (67.8)	43 (42.6)	58 (52.7)	
Requiring Theatre				
Yes	217 (9.3)	28 (26.7)	30 (26.8)	P=0.000
No	2120 (90.7)	77 (73.3)	82 (73.2)	
TBSA%				
N= Mean (SD)	3.04 (34.12)	3.64 (10.97)	3.3 (9.7)	P= >0.5
Length of Stay in Hospital				
N= Mean (SD)	1 (7.24)	4.2 (12.9)*	5.1 (16.98)*	P = 0.000

Methods:

A cross-sectional study of patients treated by the Pegg Leditschke Children's Burns Centre. Geographic remoteness was determined by postcode as per Area Remoteness Index of Australia between June 2013 to December 2016. Descriptive analyses examined differences between the groups in age, mechanism of injury, injury severity and socioeconomic status, among others and to investigate whether these characteristics varied between areas of remoteness.

Results:

From 2013 to 2016, 2,540 parents of burns patients were interviewed. Overall, 91.6% were residents of the metropolitan areas of Queensland. Remoteness did not significantly differ, between age or Total Body Surface Area % burned. However, several factors were associated with Non-metropolitan (NM) burns including, longer admissions, deeper burns, grafting, flame burns, socioeconomic disadvantage as well as burns occurring in Aboriginal and Torres Strait Islander children (See Table 1).

Conclusions:

Our results confirm that children from Rural areas sustained burns with complex clinical needs, were more likely to be affected by socioeconomic challenges or cultural pressures. This information is vital for clinicians and social services in both the rural and metropolitan regions to consider whilst treating the burns in rural families who are more likely to be undergoing external stressors that could impact care capacity and clinical outcomes.

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