

Knowledge and perception of burn injury among rural community people : A cross sectional study

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Abstract

Burn injuries are one of the most underrated injuries with high morbidity and fatality rates. Burn injuries, particularly severe burns, cause an immune and inflammatory response, as well as metabolic anomalies and distributive shock. They can all be challenging to control and result in multiple organ failure. It is crucial to understand that burn injuries affect people's standard of living and mental health in addition to their general wellbeing. [1] A 100-person rural community study was done using a quantitative, descriptive research design. A non-probability convenient sampling strategy was used to select 100 persons from a remote community. Age, gender, educational status, employment status, income, marital status, domicile, family type, and other demographic characteristics were obtained using a Demographic variables sheet. After expert content validation, the data was collected using a knowledge questionnaire and a perception scale on burn injury management. The results of descriptive statistics were used to analyse and interpret the data. The majority of participants had bad knowledge, 30% had average knowledge, and only 7% had strong knowledge about burn injury management, while 89 percent of participants had average perception and only 11 percent had good perception about burn injury management, according to the results. The age of community members was found to have a statistically significant relationship at the 0.05 level with knowledge regarding management of burn injury (Jeschke MG, 2020).[2]

Subject Classification: 62, 65.

Keywords: Knowledge, Perception, Burn injury, Rural, Community people, Cross sectional study.

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Background

Burn injuries leave behind both physical and mental scars that are permanent [1]. Burn injuries are underappreciated and have significant rates of morbidity and mortality. Burn wounds, especially severe ones, trigger an inflammatory and immunological response, as well as metabolic abnormalities and distributive shock, all of which can be challenging to treat and result in multiple organ failure. The fact that the injury affects both the patient's mental health and quality of life is very important. Even though energy transfer causes tissue loss in all burn injuries, distinct causes are linked to various physiological and psychological reactions. Although scald injuries (from hot liquids or steam) are typically more superficial at initially because the source and energy are quickly diluted, a flame or hot grease, for example, can quickly cause a profound burn.[3] Around 6-7 million people in India are thought to have burns each year. The high rate is attributable to community safety awareness gaps, poverty, and illiteracy. Lack of structured burn care at the primary and secondary health care levels makes the issue worse. The good news is that 90 percent of burn injuries can be prevented. In order to minimise incidence, there is an urgent need for a national strategy to mobilise available resources for more effective and standardised treatment delivery (Jeschke MG, 2020).⁴

Introduction

Unappreciated conditions like burn injuries can happen to anyone, anywhere, at any time. The majority of burn injuries are brought on by heat from hot liquids, solids, or fire, but they can also be brought on by friction, cold, heat, radiation, chemical, or electric sources. Although energy transfer results in tissue death in all burn injuries, distinct causes are linked to various physiological and pathophysiological reactions (Jeschke MG v. B., 2020).[5] In contrast to scald injuries (from hot liquids or steam), which initially only result in superficial burns because the source and energy are soon diluted, a flame or hot grease, for example, may immediately inflict a severe burn. In contrast to acidic burns, which result in coagulation necrosis, Colliquative necrosis is caused by alkaline substances and results in the tissue becoming a liquid, viscous mass (whereby the architecture of the dead tissue can be preserved). In contrast to other forms of accidents, electrical injuries can cause both superficial skin damage and deep tissue harm. Despite the fact that damage to tissue in electrical injuries is related to the strength of the electric field, voltage is

frequently employed to describe the circumstances of an injury (amperes and resistance of the tissue) (Jeschke MG v. B., 2020).[6]

It is crucial to classify a burn injury according to its severity, depth, and size when determining its cause. Burns that just impact the top layer of the skin are referred described as superficial (first-degree) burns since they only cause temporary redness and pain (epidermis). Second-degree burns, sometimes referred to as 2A burns, hurt, weep, need dressing and wound care, and may scar, but they don't need to be operated on. Due to the partial absence of pain receptors, deep partial-thickness (second-degree) burns, formerly known as 2B burns, are less painful, dry, require surgery, and leave less scars. A full-thickness (third-degree) burn goes through the entire dermis and is usually not painful due to nerve loss, but it does require protection from infection and, unless the burn is very minor, surgical care. Finally, Injury to deeper tissues, such as muscle or bone, results in a fourth-degree burn that is commonly blackened and frequently results in the loss of the burned area. Although superficial and superficial partial-thickness burns heal without surgery, more serious burns require meticulous management, which may include antimicrobial topical dressings and/or surgery. 4th, and most importantly, burns are classified as mild or major. A minor burn is defined as one that covers less than 10% of the total body surface area (TBSA), the most prevalent of which are superficial burns. The magnitude of a large burn, on the other hand, isn't always clear; some guidelines for classifying serious burn injuries include: >10 percent TBSA in senior patients, >20 percent TBSA in adults, and >30 percent TBSA in youngsters. Burns can be accompanied by smoke inhalation or other physical trauma to other organs in addition to skin injury. [7]

The majority of burn injuries result in lengthy and costly hospital stays. Burn patients require attention to nutritional shortages, the implications of immune system suppression, and rehabilitation treatment in addition to pain management and wound care. Health-care workers, as well as those in the related services, are receiving burn prevention and management training (such as physiotherapists, nutritionists, occupational therapists, psychologists and social workers). Effective preventive programmes will have the same implementation challenges as those aimed at improving acute care, but prevention is far more cost-effective and will certainly reach a larger number of people. [8]

A precise estimation of burn depth on admission is crucial when deciding on dressings and surgery. The burn wound, on the other hand, is a living environment that changes in response to both internal and external

factors (such as inflammatory mediator release and bacterial proliferation) (such as dehydration, systemic hypotension, cooling). It's critical to keep a close eye on the wound until it heals.[9]

Methodology:

The study was carried out by using quantitative research approach with Descriptive Research Design. 100 community people were selected through non probability convenient sampling technique. Data were collected by using Demographic variables sheet such as age, gender, education status, employment status, income, marital status, residence, type of family etc. Knowledge Questionnaire and Perception scale on Management of burn injury was used after the expert content validation to collect the data. Analysis and interpretation of data were done by using descriptive statistics result.

Result:

Frequency and percentage distribution of the demographic variables among community people:

N = 100

Demographic variables		Frequency (f)	Percentage (%)
Age in years	< 20 years	6	6 %
	20-30 years	52	52 %
	31-40 years	16	16 %
	41-50 years	11	11 %
	Above 50 years	15	15 %
Gender	Male	55	55 %
	Female	45	45 %
Religion	Hindu	100	100 %
	Muslim	--	--
Educational status	Primary	52	52 %
	Secondary	22	22 %
	College	19	19 %
	None	7	7 %

Contd...

Employment status	Job	38	38 %
	Farmer	40	40 %
	Housewife	17	17 %
	Businessman	5	5 %
Monthly income	Less than 10,000	52	52 %
	10,000-20,000	26	26 %
	21,000-30,000	19	19 %
	More than 30,000	3	3 %
Type of residence	Kaccha House	53	53 %
	Pucca House	44	44 %
	Semi Kaccha	2	2 %
	Semi Pucca	1	1 %
Marital status	Married	79	79 %
	Unmarried	18	18 %
	Widow	3	3 %
Type of family	Joint Family	62	62 %
	Nuclear Family	38	38 %
	Single Parent Family	--	--
Number of family member	Two	2	2 %
	One	27	27 %
	Four	20	20 %
	More Than four	51	51 %

Data depicted in the above table shows the demographic variables of rural community people. According to their age majority 52% were in 20-30 years of age, 16% were in 31-40 years of age, 15% were in above 60 years of age 11% were in 41-50 years of age and 6% were in less than 20 years of age. Data on gender revealed that maximum 5% were male and 45% were female. As per religion, all the participants i.e., 100% belonged to Hindu religion. With regard to educational status, majority 52% had up to primary school, 22% had up to secondary school, 19% had completed graduation and 7% had no formal education. According to employment status, majority 40% were farmers, 38% were in job, 17% were housewife and 5% were businessman. Data on monthly income revealed that maximum 52% had income of less than Rs 10,000, 26% had income of Rs 10,000-20,000, 19% had income of Rs 21,000-30,000 and 3% had income of more than Rs 30,000. As per type of residence, majority 53% were residing

in kaccha house, 44% were residing in Pucca house, 2% were residing in semi kaccha house and 1% were residing in semi pacca house. With regard to marital status, majority 79% were married, 18% were unmarried and 3% were widow. According to type of family, majority 62% were living in joint family and 38% were living in nuclear family. As per number of family members, 51% had more than 4 members in family, 27% had 3 members in family, 20% had 4 members in family and 2% had 2 members in family.

Distribution of knowledge regarding care and management of minor burns injury among community people:

N=100

Level of knowledge	Frequency	percentage	Score range	Median	Mean	SD
Poor knowledge	63	63 %	2-12 10	5	5.48	2.537
Average knowledge	30	30 %				
Good knowledge	7	7 %				

Data depicted in the above table depicts the frequency and percentage distribution of knowledge regarding care and management of minor burns injury among community people. Results showed that majority 63% of participants had poor knowledge, 30% had average knowledge and only 7% had good knowledge regarding care and management of minor burns injury with obtained score range of 10(2-12) and median was 5, mean knowledge score was 5.48 and SD=2.537.

Distribution of perception regarding care and management of minor burns injury among community people:

N=100

Level of perception	Frequency	percentage	Score range	Median	Mean	SD
Poor perception	0	0	13-35 22	27	26.69	4.382
Average perception	89	89 %				
Good perception	11	11 %				

Data depicted in the above table is frequency and percentage distribution of perception regarding care and management of minor burns injury among community people. Results showed that majority 89% of participants had average perception and only 11% had good perception towards care and management of minor burns injury with obtained score range of 22(13-35) and median was 27 with mean knowledge score was 26.69 and SD=4.382.

Association between knowledge regarding management of burns injury among community people with their selected demographic variables.

Association between knowledge regarding management of burns injury among community people with their selected demographic variables which was tested by using chi-square test. Result showed that age of community people was statistically found to have significant association at $p < 0.05$ level with knowledge regarding management of burns injury. The other demographic variables such as gender, religion, educational status, employment status, monthly income, type of residence, marital status, type of family and number of family members were statistically non-significant with knowledge regarding management burns injury.

Discussion:

The present study depicted that majority of rural community people belongs to age group 20- 30 years. Similar findings were found in the study conducted by Fahad Ali Al Qahtani on community area people about burn injury, he also stated that, majority people belong to the same age group and most of them were females (71.8%). Regarding burn first aid knowledge.[10]

Other similar findings were also found in the study conducted by Santosh Bikram Bhandari; he also stated that females are at higher risk for burn injury which is associated mostly with wood fire cooking.[11]

Conclusion:

Knowledge regarding management of burns injury obtained score range of 10(2-12) and median was 5 with mean knowledge score 5.48. SD=2.537 Perception towards management of minor burns injury obtained score range of 22(13-35) and median was 27 with mean knowledge score 26.69 and SD=4.382.

The study conclude that knowledge regarding management of burn among the community people is found to be low and for perception towards the burn injury, majority people are having average knowledge (89% of participants).

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Received September, 2021

Revised March, 2022