ORIGINAL ARTICLE

WOUND CARE IN BURNS AND ITS OUTCOME

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ABSTRACT: AIM: Burn injury is a serious public health Problem in developing countries like India. Study was conducted to know the male female ratio, percentage of born injury according to age and sex distribution, treatment and outcome in a Taluk hospital. **MATERIALS AND METHODS:** A one year cross sectional study of all born injury patients admitted in Crawford General Hospital, Sakaleshpur was conducted between August 2013 to July 2014. Age group considered was from 1 year to 90 years. Data was obtained from a pre designed proforma from the hospital records and analyzed by Chi square test and percentages. **RESULTS:** Females were more prove for burn injuries and females had more percentages of total burn surface area. And as a result females had more mortality rate due to burns. Health education, early treatment, prompt effect in preventing the complications resulted in good recovery rate and reduced disability. **CONCLUSIONS:** As females had morbidity and mortality, safety measures, health education will reduce the causality prompt and early treatment will have better outcome and decrease disability.
KEYWORDS: Burn injuries, Accidental, Flame injuries.

INTRODUCTION: Throughout the world, burns remain a huge health issue, at least in terms of morbidity, especially in the developing countries. Burns cause aesthetic problems as well as acute physical problems, and if not taken proper care, they can cause serious complications in the form of secondary bacterial infections, various degrees of contractures which restrict the daily activities, septicemia.

Burns is the third leading cause of accidental death in the US, with the mortality ranging from 7,000 to 10,000 annually.[1] Burns constitute a major health problem in India with a projected figures suggest an annual mortality rate of 1,00, 000 to 1,40,000.[2]

High population density, literacy and poverty are the main demographic factors associated with a high risk of burn injury. One should know about the first aid management of burns to prevent the occurrence of complications. Despite many medical advances, burns continue to remains a challenging problem due to the lack of infrastructures and trained professionals as well as the increased cest of treatment. Having a thorough understanding of the pathophysiological changes that occur after a burn. Knowing about the management and becoming familiar with the standards of care will promote positive outcomes.

MATERIAL AND METHODS: A one year cross sectional study of all burn injury patients admitted in Crawford general hospital, Sakaleshpur, Hassan (Dist) was conducted between August 2013 to July 2014 period. Ethical clearance was obtained from institutional review board. Data was obtained from a predesigned proforma from the hospital records, and analyzed by chi

square test and percentage, A total of 76 burn injury patients were treated during the study period. Male to female ratio was 0.9: 1. Mean age was 28.31 years ranging from 1 year to 90 years. Maximum number of females sustained burn injuries at home (86.21%) compared to 38.11% males sustained injuries outdoors.

Majority were (81.49%) were allegedly accidental injuries followed by 15.89% suicidal and 2.63% homicidal. Flame injuries contributed to 92.5%. Electrical injuries contributed to 6.82%. 67.74% was superficial partial thickness burns, 21.87% was deep partial thickness burn, 10.39% was full thickness burns.

In 56 patients total surface area involved was <40%. In 14 patient's total surface area involved was between 40 to 60%. In 6 patient's total surface area involved was more than 60%.

Out of 76 burn patients 61 patients treated with application agents, dressing, antibiotics, 9 patients needed extensive escharotomy in addition to above mentioned treatment. 6 patients referred to tertiary care hospital as they needed blood transfusion, ventilator support and due to extensive secondary bacterial infection.

Out of 76 burns patients 12 needed surgery later on for contracture release and skin graft for wound healing.

Care fatality rate was 31.58%. Majority of the males (68.33%) recovered where as 47.50% female succumbed due to their burn injury.

DISCUSSION: Health education and first aid for burns seems to be one of the important thing in treating burns patients and its outcome. Of the total patients only 12% had received appropriate first aid and 27% treatment delayed for over 24 hour before seeking medical help. Stopping the burning process and keeping the patient away from the burning area, cooling the area with tap water by continuous irrigation for about 20 minutes would help the prognosis and to reduce the percentage of burns.

History is important (temperature, time and burning material) in arriving the depth of a burn whether it is superficial burns (have capillary filling), deep partial thickness burns (do not blanks but have some sensation) and full thickness burns (feel leathery and have no sensation). Percentage of burns calculated by Wallaci's rule nine or by better methods like using the Lend and Browder chart.

Maintaining Airway, breathing, circulation should be given first priority.[3] Fluid resuscitation with intra veins fluid is important in children with burns over 10% Total Body Surface Area (TBSA) and in adults with burns over 15% TBSA. Fluids needed can be calculated from a standard formula. Oral fluids are to be cured, salt must be added. Monitor using output crystalloid fluid (Ringer's lactate), hypertonic saline (Human albumin solution) and whole blood transfusion or choice of fluid resuscitation.

Circumferential full-thickness burns to the limbs require emergency surgery. In our hospital commonly used agent for topical treatment of burns wound is 1% silver sulphadiazine cream.[4] Other agent used are 0.5% silver nitrate solution and Mafenide acetate cream. Simplest method of treating a superficial would is by exposure. This is often used in hot climates and for small burns on the fall. A variation on this theme is to cover the wound with a permeable wound dressing or Vaseline impregnated gauze. An alternative method is a fenestrated silicon sheet.

These need to be changed after the first 48 hours. After that they can be left for longer.[5] More interactive dressings include hydrocolloids and biological dressings which needs to change every 3–5 days. Biological, synthetic and natural (eg: amniotic membrane) are ideal for one-stop management of superficial burns.

Any deep partial – thickness and full thickness burns except those that are less than about 41 m^2 need surgery. Surgical treatment may include tangential sharing and split skin grafting. Full thickness burns require full thickness excision of the skin down to viable fat Post-operative management requires evaluation of fluid balances and levels of hemoglobin.[6] Dressing needed to be changed on a regular basis to reduce bacterial load, physiotherapy and splints are important in maintaining range of monuments and reducing joint contracture.

Delayed reconstruction of burn injuries is common for large full thickness burns.[7] Transposition flaps and Z-plasties with or without tissue expansion may be needed, Hypertrophy treated with pressure garments.

Hydration, analgesia, antibiotic cover should be given attention.

Secondary Bacterial infections, contractures, hypertrophied scars should be expected and prevented or treated effectively.[8]

CONCLUSION: Health education and first aid is for most important in developing countries in effective management of burns injury. Early treatment by medical person is help to prevent complications like secondary bacterial infection. Regular reviewing the patient, health education and follow up prevents complications like contractions. This reduces morbidity and dispensary in a developing country like India.

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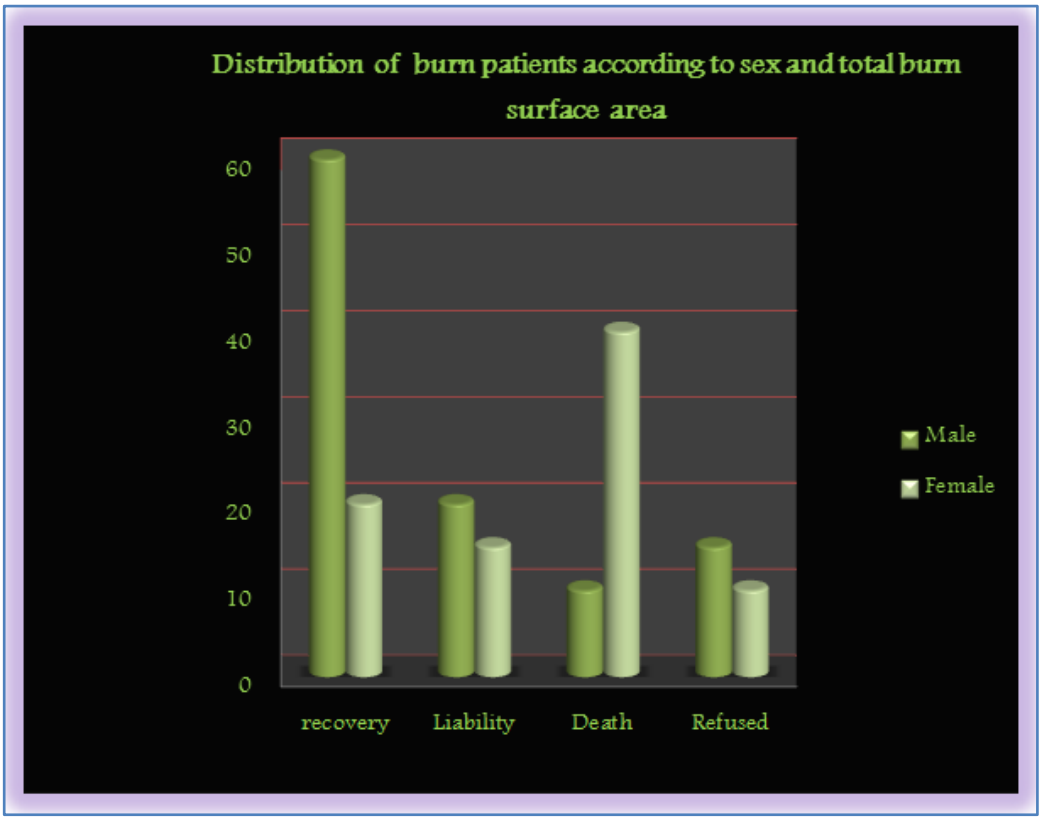
Tables and Charts:

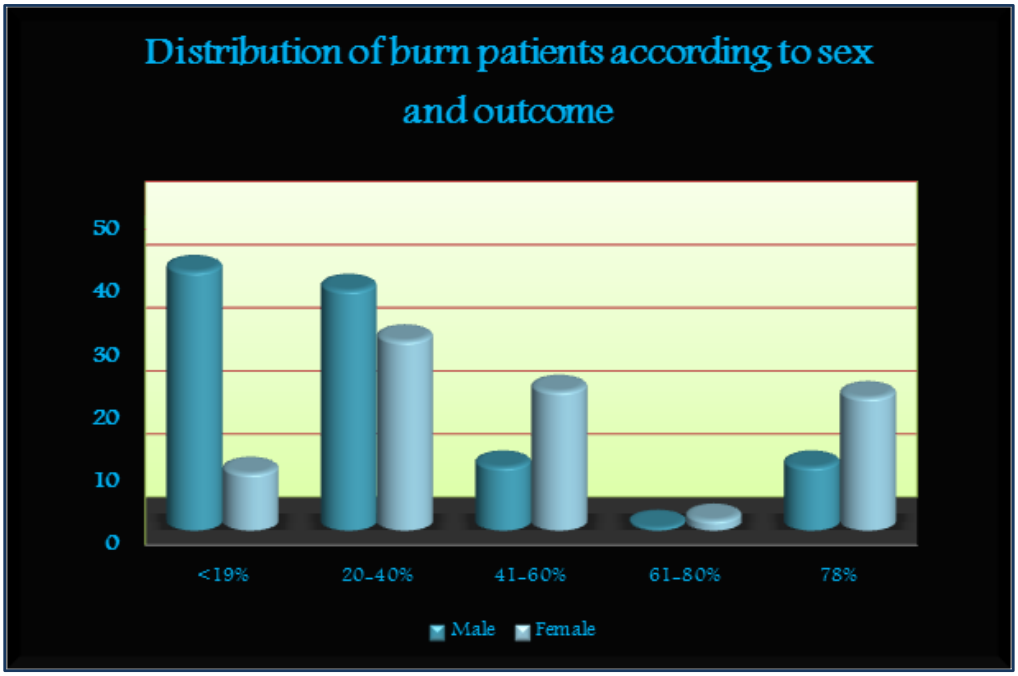
Age	Male		Female		Total	
	No	%	No	%	No	%
< 20 year	11	30.6	9	22.5	20	26.32
21 – 40 year	22	61.1	23	57.5	45	59.21
41 – 60 year	1	2.78	3	7.5	4	5.26
61 – 80 year	2	5.55	4	10	6	7.89
> 81 year	0	0	1	2.5	1	1.32
Total	36	100	40	100	76	100

Table 1: Age and sex distribution of burn patients

X2 = 2.291 DF = 2 P = 0.318



Graph (1): Distribution of burn patients according to Sex and total Burn Surface Area



Graph (2)

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