

Do Children Receive Appropriate Treatment for Childhood Burns in the New Juaben Municipality of Ghana? Implications for Reducing Complications with the Use of Home-Based Care

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Abstract

The thrust of this paper is to determine whether children receive appropriate treatment for burns at home and to explore the treatment seeking behaviour for this injury in the New Juaben Municipality of Ghana. Cross-sectional descriptive design using both the quantitative and qualitative techniques of collecting data was used. The research sample consisted of 600 respondents and 24 key informants drawn from 12 out of the 52 communities in the Municipality. Sample was collected using simple random sample technique. The data was collected from October 2010 to July 2011. The results indicate that children receive inappropriate first aid and treatment for burns at home. This calls for alternative treatment practices which include clinical care by health professionals.

Keywords: treatment for burns, home-base treatment, complications in treatments at home, childhood burns, burns care.

Introduction

The aims of managing childhood injuries are to decrease mortality and morbidity associated with the injuries and to achieve the best possible quality of life after treatment (WHO, 2009). This can best be achieved through clinical management from health professionals (Vyrostek et al 2004). However, many low-income countries have not achieved much with respect to the aims of managing childhood injuries because of the increased use of non-professionals in the home-treatment of such injuries. The reasons for the increased use of non-professionals especially those from the traditional health regimen are the easy access and affordability of traditional health services as against the high cost and in some places, non-availability of hospitals / clinics for treatment (WRCIP 2008). Studies have shown that many patients receive inappropriate treatment for childhood burns at home which often leads to inadequate pain control, wound infections and deformities with their associated complications or even death (Ghosh and Bharat 2000, Nguyen et al 2002, Budu 2005, Yuru et al 2007, Gupta and Srivartava 2008 WHO 2008). To receive optimal care for burns requires not only specialized equipment, but also, more importantly, a team of dedicated health professionals including surgeons, nurses, therapists, nutritionists, pharmacists, social workers, psychologists and operating room staff who will be coordinating the pre-hospital patient management, resuscitation methods, surgical and critical care of patients (Mosier, Nicole and Gibran 2010).

In Ghana, the use of traditional health practices in the treatment of childhood burns is a preferred choice for many parents as against seeking health care at the hospital (Forjough, Guyer and Smith 1995 and Budu 2005). The use of the traditional methods of treating childhood burns is known to be associated with inappropriate treatment practices which often lead to complications and death. For instance, Forjough, Guyer and Smith (1995) identified in the Ashanti Region of Ghana that as many as 75% of burned children receive inappropriate treatment at home and that the home-based treatment often used in rural communities includes traditional preparations such as mud, burnt snail shells and eggs, while gentian violet solution is a preferred choice in most urban communities. The use of the traditional preparations for treating burns have not been certified by the Ghana Food and Drugs Board as appropriate drugs for treating childhood burns hence its acceptability and use is questioned. In the case of the use of gentian violet solution as inappropriate drug for treating burns, the Ghana Ministry of Health has withdrawn such a drug for the treatment of wounds due to reports of adverse reaction, toxicity and the fact that more effective drugs are now available for use. Notwithstanding the withdrawal, the use of gentian violet solution is still among the common over-the-counter drugs for treating wounds including burns. This situation in addition to the use of traditional preparations has contributed to frequent treatment failures and sub-optimal treatment of burns at home. They have also contributed to delays in seeking appropriate treatment for childhood burns from western bio-medical care facility (Mbagaya et al, 2005, and Forjough, Guyer and Smith 1995).

In the New Juaben Municipality, the number of treatment failures and sub-optimal injury management cases for childhood burns and falls at home is high. According to the Eastern Regional Hospital 2011 Annual Report, there is a general problem of patients delaying in seeking appropriate treatment at the hospital. This situation leads to many patients being admitted for emergency care in the hospital. In the case of childhood burns, the report among other things indicated that on the average four children are hospitalized every week with acute

septic wounds which require aseptic and aggressive wound treatment which is expensive. The likely reasons for the delays in seeking appropriate treatment are the inability of some parents/ caretakers to determine the severity of injury and whether they have the capacity to treat such injuries at home. But the complications associated with such treatments are often overlooked or are even not known. It is as a result of these complications that this study is necessary to examine the management practices associated with childhood burns.

Methods

The cross – sectional descriptive design employing both quantitative and qualitative methods of data collection was used for the study. The research sample consisted of 600 respondent and 24 key informants drawn from 12 out of 52 communities in the Municipality. The informants included nursing officers, parent whose children are on admission for burns, herbalists, queen mothers, paediatricians, drug store keepers and pharmacists.

Sample for the quantitative study was selected using simple random sample techniques while purposive sampling techniques was used for the section of the key informant. Data collected was based on the modes of treatments and whether children receive appropriate treatments for burns at home. The association between the socio – demographic background of parent and their choices of treatments modes were analysed using cross tabulation and chi square test. Informed consent was sought from respondents before the beginning of the study. In the case where quotations and categorical statement were made by the interviewees, pseudo names were given to conceal the identity in order to ensure the anonymity of the interviewees.

Results

An interview with key informants (elderly women, herbalist, drug store keeper and nursing officer) revealed that the use of traditional practices in the treatment of childhood burns is a common practice in the study area. A common first-aid measure for childhood burns includes either the application of shea butter, palm kernel oil, cola nut juice or raw eggs to the affected area. The rationale for applying these substances is to soothe the pain, reduce further burns and prevent large blisters from forming.

Eno, one of the elderly women remarked in an interview:

Whenever there is a case of burn, whether it involves a child or an adult, the first thing I normally do is to cool the affected area with water after which shea butter or palm kernel oil is applied to the affected area. Once this is done, the pains will subside and the main concern will be how to treat the wound.

A young mother interviewed also said:

I know that in certain households some parents chew cola nut and use the juice to soothe burn pains. Even though I have never practiced it before, I think it works because I have seen it being administered to a lot of injured people.

Agya Kofi, a herbalist, confirmed the use of cool water, shea butter, palm kernel, raw egg, cola nut juice and the use of red clay as first-aid measures for burns in general. Agya Kofi indicated that these substances used have sedative properties that help calm the burning sensation.

Nursing officer, Elizabeth, however explained why the application of cool clean water, alone must be used as first-aid for burns. She indicated that the use of substances other than clean cool water can introduce infections to the fresh wound and later complicate the treatment processes. She commented:

The truth of the matter is that apart from the use of clean cool water to prevent further burn as well as to sooth the burn area, we as health workers object to the use of traditional concoctions as first aid since it has the potential of introducing infections. We health workers advocate that proper treatment including first aid should be sought immediately from a professional health worker.

Agya Kofi, Elizabeth and others' submissions suggest that there are various practices used as first-aid measures for childhood burns of which most of such practices such as the use of shea butter, palm kernel oil, raw egg, cola nut juice and red clay are not supported by professional health workers.

Beyond the first-aid measure, the types of home based treatment for childhood burns were ascertained through the interviews, and three main modes of treatment were identified: the use of purely western drugs, purely traditional herbal drugs and the combination of western and traditional drugs. The use of western drugs in the form of gentian violet solution is the most dominant drug used to treat childhood burns at home, because it is readily accessible in all pharmacy and drug dispensing shops. It is also affordable, easy to use and does not require prescription before purchasing. The use of the mixture of ampicillin capsules with palm kernel oil is another major type of treatment for childhood burns. In addition to this, the use of a mixture of burnt snail shells with palm kernel oil was also identified. This is what one grandmother said in an interview:

As for me, whenever I buy snails, I do not throw the shells away. I wash them, dry, burn and grind it into a powder. I just have to mix it with palm kernel oil and a drug for treating wounds for children is ready. It is used

for all types of wounds including burns. I do not know what will let me stop using this type of drug because it is very efficacious.

One mother also had this to say:

The use of ampicillin is good in curing wounds. When I mix this with palm kernel oil, it becomes very potent to heal all wounds within less than a week.

Another mother mentioned an instance where she used gentian violet solution to treat a minor burn case at home because it was the only available drug at home at the time of the injury. Again, she felt it was more effective than other drugs prepared at home.

However, there were instances in which home-based treatment for childhood burns failed to heal and as a result, the affected child was sent to a hospital for emergency treatment. This normally happens when the extent of injury is great as in the case of second and third degree burns or when appropriate drugs are not used for treatment.

Auntie Elizabeth (Nursing officer at the Regional Hospital) Stated:

I do not know why some parents would delay in sending their children to the hospital for professional care immediately the children suffer from burns. Most often, parents come with the excuse that they thought it was a minor injury they can handle at home or they did not know that the case is serious. When you probe further you find out that the underlying cause of the delay is either financial constraints or the availability of some home-based drugs they think can heal the wound. I think mothers should be given education on type of burns so that they can tell minor burns from acute one that may require immediate attention.

The findings from the interviews on the use of home-based treatment for childhood burns are in line with the findings of the survey which indicated that the use of traditional modes of treating childhood burns is high (59.5%) than the use of other modes (orthodox 25.5%) and a blend of both traditional and orthodox (15.2%). [Table 1.1]

The relationship between the key socio-demographic characteristics of parents and the choice of treatment for childhood burns were explored and found that apart from marital status which is not significantly related to the choice of mode of treatment (chi square 1.969, p – value = 0.923), the remaining variables such as educational background, income per month, age of parents and parity were found to be significant. [Table 1.1a-e]

With reference to the socio-demographic variables that are significant, it was found that there is an increasing trend between the educational levels and the use of orthodox mode of treatment. This indicates the existence of direct relationship which implies that the frequencies increase across the educational level from 4.3% for ‘No Education’ to 22% for ‘Tertiary Education’. The implication is that the higher the educational level of parents, the more they use orthodox mode of treatment. However, there is a decreasing trend between educational levels and the choice of traditional mode of treatment. This indicates the existence of an inverse relationship implying that the frequencies decrease across the educational levels from 75.3% for ‘No Education’ to 61.1% for ‘Tertiary Education’. This trend suggests that parents with lower levels of education use more of traditional mode of treatment. Similar relationships were found when the choice of treatment mode was compared with income, age and parity. This indicates that the mode of treatment for childhood burns is influenced by educational background of parents, income per month, age of parents and parity. [Table 1.1a-e]

Table 1.1a: Distribution of Educational background of parents and mode of treatment for childhood burns

Mode of treatment	Educational Background of Parents						Total n(%)	χ^2 test
	No Education n(%)	Primary n(%)	JHS n(%)	SHS n(%)	Vocational n(%)	Tertiary n(%)		
Orthodox	8(4.3)	12(9.0)	16(28.0)	18(28.6)	32(48.5)	66(22.2)	152(25.3)	P - value = 0.00
Traditional	140(75.3)	95(70.9)	38(66.7)	35(55.6)	27(40.9)	22(61.1)	357(59.5)	
A Blend	38(20.4)	27(20.1)	3(5.3)	10(15.9)	7(10.6)	6(16.7)	91(15.2)	
Total	244(100)	134(100)	57(100)	63(100)	66(100)	94(100)	600(100)	

Source: Field Data

Table 1.1b: Distribution of Income level of parents and mode of treatment for childhood burns

Mode of treatment	Income of Parents						Total n(%)	χ^2 test
	Less than 100.00 n(%)	100.00- 200.00 n(%)	200.01- 300.00 n(%)	300.01- 400.00 n(%)	400.01- 500.00 n(%)	500.01+ n(%)		
Orthodox	3(2.4)	7(6.0)	23(17.7)	24(32.4)	31(44.9)	64(72.7)	152(25.3)	P - value = .010
Traditional	111(90.2)	105(90.5)	71(54.6)	29(39.2)	26(37.7)	15(17.0)	357(59.5)	
A Blend	9(7.4)	4(3.5)	36(27.7)	21(28.4)	12(17.4)	9(10.2)	91(15.2)	
Total	123(100)	116(100)	130(100)	74(100)	69(100)	68(100)	600(100)	

Source: Field Data

Table 1.1c: Distribution of the Age of parents and mode of treatment for childhood burns

Mode of treatment	Age of parents				Total n(%)	χ^2 test
	Less than 20 n(%)	20-29 n(%)	30-39 n(%)	40-49 n(%)		
Orthodox	56(47.9)	39(25.0)	37(20.8)	20(13.4)	152(25.3)	P - value = .000
Traditional	35(29.9)	90(57.7)	114(64.0)	118(79.2)	357(59.5)	
A Blend	26(22.2)	27(17.3)	27(15.2)	11(7.4)	91(15.2)	
Total	136(100)	182(100)	197(100)	85(100)	600(100)	

Source: Field Data

Table 1.1d: Distribution of Marital status of parents and mode of treatment for childhood burns

Mode of treatment	Marital Status				Total n(%)	χ^2 test
	Single n(%)	Married n(%)	Divorced n(%)	Widowed n(%)		
Orthodox	21(21.0)	113(26.9)	10(19.6)	8(27.6)	152(25.3)	P - value = .923
Traditional	64(64.0)	240(57.1)	35(68.6)	18(62.1)	357(59.5)	
A Blend	15(15.0)	67(16.0)	6(11.8)	3(10.3)	91(15.2)	
Total	100(100)	420(100)	51(100)	29(100)	600(100)	

Source: Field Data

Table 1.1e: Distribution of Parity and mode of treatment for childhood burns

Mode of treatment	Parity				Total n(%)	χ^2 test
	1 Child n(%)	2 Children n(%)	3 Children n(%)	4 Children n(%)		
Orthodox	53(52.5)	53(35.3)	44(22.4)	2(1.3)	152(25.3)	P - value = .000
Traditional	33(32.6)	69(46.0)	112(57.2)	143(93.5)	357(59.5)	
A Blend	15(14.9)	28(18.7)	40(20.4)	8(5.2)	91(15.2)	
Total	101(100)	150(100)	196(100)	153(100)	600(100)	

Source: Field Data

Discussions

Results from this study show that the most preferred treatment regimen for childhood burns is by the traditional modes (59.5%), followed by the use of orthodox treatment (25.5%) and then the blend of the two treatment regimen (15.5%). Many studies conducted in low-income countries and from rural communities have revealed similar outcomes. A survey in India found that only 22.8% of patients had received appropriate treatment for burns from a health professional (Ghosh and Bharat 2000). In Viet Nam, the number of patients who had received appropriate treatment was slightly higher (32%) than in the case of India (Nguyen et al 2002). Albertyn, Bickler and Rode (2006) explain that the high utilization of traditional modes of treatment for childhood burns is primarily as a result of the high cost involved in treating pediatric burn injuries at hospitals, and the low cost, and availability of traditional drugs. The situation is not different in the study area.

The process of treatment was examined in this current study and it was found that most parents / caretakers adopt first aid measures as a first step in the treatment of childhood burns. The rationale for administering the first aid is to soothe the pain, reduce further burns and prevent large blisters from forming. Majority of the study population knew of the rationale for giving first aid to a burn patient. It is thus not surprising that the use of cold water or the use of oil with soothing properties such as Shea butter or palm kernel oil is often used. In this respect, the oldest method of treating burns as explained by Davis in 1987 is helpful to explain why people apply cool water in burn situations. According to Davis (1987), arguably, one of the oldest-recorded methods of treating burns is prompt cooling therapy, which is still used today. However, studies indicate that the use of this intervention in low-income countries has declined. A survey in India, for instance, found that only 22.8% of patients use appropriate first aid for their burns (cold water). The remaining 77.2% use inappropriate treatment such as raw eggs, toothpaste, mashed potato or oil being rubbed into the burn (Gupta and Srivartava 2008). In the New Juaben Municipality, most parents after using cold water to the burnt area, continue to apply such substances as cola nut juice, palm kernel oil or raw egg to the affected area with the view to further soothe the pain or reduce large blisters. It is based on the increased use of such inappropriate first aid measures that Yuru et al (2007), WHO (2008) and WRCIP (2008) stressed the need to use only cold clean water as first aid for burns after which the victim should be rushed to a hospital for appropriate treatment. The lack of education on appropriate first aid measures for childhood burns may be responsible for the increased use of inappropriate first aid measures in the study area.

Beyond the first aid treatment practices for childhood burns, this study found that many parents / caretakers prefer the use of gentian violet solution to treat childhood burns. It is a preferred choice because it is readily accessible in all pharmacies and drug stores in the study area; it is affordable, easy to use and does not require prescription before purchase. Even though it is a preferred drug in most homes, the Ministry of Health of Ghana has banned its use in hospitals due to reports of adverse reactions, toxicity and the fact that more effective drugs for treating burns are available. In Malaysia and the United States of America, similar concerns about the safety of gentian violet solution have been raised and because of the risks associated with its use far exceed its benefits, the Drug Control Authority decided in 1998 to withdraw the drug and all products containing it (WHO 1999). The continuous use of such a drug in most homes despite its associated risks suggests an avenue for public health intervention.

The study found other treatment practices for burns at home to include the use of mixture of ampicillin capsules with palm kernel oil, and the mixture of burnt snail shells with palm kernel oil. Studies by Forjough, Guyer and Smith (1995) on home-based treatment for childhood burns in Ashanti Region of Ghana revealed similar findings. They further found that home-based treatment was a dominant treatment practice for childhood burns and as many as 75% of burned children are treated using other home –base practices. Traditional preparations such as mud, burned snail shell, and eggs were used in rural areas, while Gentian Violet solution was the treatment of choice in urban areas. An important finding is that the use of traditional preparations for the treatment of childhood burns is seen in most cases as inappropriate by health professionals as a result of the unhygienic process involved and the fact that it can lead to infections. It is based on this that several studies are suggesting alternative treatment rather than traditional practices (AAFP 2000, Ghosh and Bharat, 2000, Forjough, Guyer and Smith 1995).

According to Salisu and Prinz (2009), the Government of Ghana embarked on a health sector reform in 1999 to improve access and quality of health services. However, the health situation in Ghana is still far from satisfactory. Medical facilities are not evenly distributed across the country, with most rural communities encountering problems like inadequate basic facilities and high doctor-patient ratio. Salisu and Prinz (2009) found that Ghanaians on the average live about 16km from a health care facility. As a result, many people in the country still rely on self-medication and the use of traditional medicine for treating their ailments. As far back as 1995, Forjough, Guyer and Simth has asserted that in many of the orthodox health facilities, the cost of treatment is high and only the well-off can afford to take their children to such facilities. The situation has not changed much and, it is therefore not surprising that socio-demographic variables of parents such as age, income, and educational levels are significantly related to the choice of treatment for childhood burns and that the lower the socio-economic background of parents, the higher their tendency to use traditional regimen for the treatment of childhood burns.

Conclusion

In response to the dominance of traditional modes of treating childhood burns and the fact that most of such practices are inappropriate, ineffective and often associated with complications call for alternative practices to traditional practices. The documented best treatment practices are clinical care as espoused by the WHO report on childhood injury in 2008. In line with this, health professionals in the municipality could educate parents on the need to desist from the use of inappropriate first aid procedure and the need to seek appropriate treatment promptly from a health professional. The Regional Health Administration (RHA) could organize educational

programmes to train traditional healers on the types of injury cases they can work on and those that they may need to refer to the hospital/clinic. To be able to achieve this, the RHA could forge a strong collaboration with the Traditional Healers Association in the region and their counterparts in the orthodox regimen in order to foster mutual trust and co-operation for favourable training of the traditional healers.

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