



Original Research

Burns from Worship Place (Rituals); Lagos State University Teaching Hospital (LASUTH); Ikeja, Nigeria experience

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Abstract:

Background: Religious use of incense has its origins in antiquity. Egyptians used it during the Fifth Dynasty and has become a symbolic rite in different religious and cultural practices. The burned incense may be used as a sacrificial offering to various deities or serve as an aid in prayer. Fire has been used by humans for over 500,000 years. The mystical significance is for purification. The incenses are combustible, when used in the presence of naked fire, and can be ignited. The aim of this study is to present our experience with burn injuries occurring in worship places while performing purification rites.

Method: A retrospective review of all cases of burns resulting from places of worship during sanctification services between June 2019 and May 2021 seen at LASUTH was carried out. The case notes of all the identified patients were retrieved and necessary information obtained.

Results: Six cases; five females and one male were seen during the period the injuries occurred in churches during services. All the cases were sprayed with perfume while the worshippers held lighted candles. The age ranged between 43 to 60 years \pm 6.18 injuries, mostly mixed skin thickness ranged between 22% and 60%, mean value for total body surface area (TBSA) was 19.4%. All had associated inhalation injury. Mortality from this study was 33%.

Conclusion: Knowing that worship places have congregate in their numbers, knowledge of burns prevention tips should be an emphasis in teachings in congregations. Government approval for worship places should include designs to prevent and enable rescue operations in their construction, furnishings of worship places with fire sensors, detectors, fire alarms and routine fire drills should be part of education for worship places.

Keyword: LASUTH, TBSA, ICU, LOS

Introduction:

Burn injuries from chemical and physical agents have historically been associated with home fires and job accidents⁷. Nonetheless, there has been an increase in attention recently in one specific subset of burn injuries: those that happen during worship rituals⁴. These customs are varied and tailored to specific religions. Common instances include the burning of incense and candles, as well as the occasional act of self-immolation in protest of a political or religious belief. Tan⁵ and colleagues claim that in order to better comprehend the accounts of traumatic occurrences, researchers investigating the responses to cases of burns received during political and religious protest may be able to shed light on burn injuries. Consequently, this knowledge could be utilized to customize psychotherapy plans for burn victims in the future. One issue with the literature currently available on burn care is that while recent studies have tried to categorize burn injuries based on the way they occur, the victim's age, and the way society responds to burns in general, there hasn't been much research done on burns that are religious or political⁸. This is intriguing because physicians might be able to gain insight from the care and experiences of a very particular group of burn sufferers. This could contribute to a deeper knowledge of burn injuries and the most effective

ways to treat a wide spectrum of burn sufferers holistically and patient oriented.

The victims usually affected in worship places is usually in large numbers which on presentation may overwhelmed the human resources and infrastructure of the hospital so the center should be prepared for mass casualties.

The aim of this study is to present our experience with burn injuries occurring in worship places while performing purification rites.

Methods:

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Table 1: Summary of Patient Characteristics

Age	Sex	TBSA (%)	Time to presentation (Hours.)	Depth of Burn	ICU	LOS (day)	Surgical intervention	Outcome
43	Female	22	4	Superficial Partial	No	21	No	Alive
44	Female	21	20	Superficial Partial	No	28	No	Alive
45	Male	60	10	Deep dermal, Full thickness	Yes	10	Escharectomy	Dead
49	Male	30	17	Superficial partial	No	35	Escharectomy	Alive
52	Female	28	18	Superficial partial	No	28	No	Alive
60	Female	60	15	Deep dermal, Full thickness	Yes	21	No	Dead

LOS: Length of Hospital Stay. ICU: Intensive care unit

Discussion:

It is believed that in the burning of incenses during purification rites, worshippers can offer sacrificial offering to their gods, and they also entrust their hopes and yearning for a good life. However, tragedies do occur due to flammable property of these incenses coupled with the linen clothing worshippers wear during such purification rites. The preponderance of females in this study may be attributed to the religiosity of females in the study environment. The mortality in this study was among those with extensive deep dermal burns. There is paucity of study on ritual burns in Nigeria. Ritual burns from church activities in Nigeria has never been reported, Olaitan and Ogbonnaya¹ report their experiences with burn injuries occurring during masquerade festivities in the eastern region of Nigeria. Ijeoma Akunnes and Cosmos Anajeku² reported firecrackers used in festive season causing ocular injury in Onitsha, Nigeria. Similar studies by Tendon et al³ who had reported firecracker injuries occurring during Diwali festival in India. Jiwang and colleagues⁴ also reported incense burn occurring in pediatric age group during spring festival in Fuyang city in China. To the best of our knowledge, this is the first report of burns occurring in churches during the services in Nigeria. Religious leaders need to be informed and modify the service protocols as necessary. The findings from our study in table one(1) revealed that age, sex and percentage total body surface area(TBSA) is not a predictor of the cause of death or existence of the burn patient, nor the determinat of the depth of burns, either superficial partial and mixed or full thickness among male and female under burn from burns from worship place rituals; Lagos State University Teaching Hospital (LASUTH); Ikeja, Nigeria experience. It was also found out from this study that the length of stay in the hospital (LOS) and the nature of surgical intervention given to the burn patient determines the morbidity and mortality of burn patients. This study agree with the findings of Qin and colleagues⁸ which states that all skin injuries partial thickness and full thickness burns sustained during the rituals and practices were measured using the Wallace Rule Nines for adults

andand Browder's Chart for children to ascertain individual's TBSA affected and mortality rate of the burn patient. Infections can be categorized by the types of microbes that cause the infection and the pattern of spread of the infection on the skin of burn patient from the rituals burns.

Jian and colleagues⁴ stated that actions that carry the highest risk of causing a burn are frequently carried out during religious ceremonies accounts for the high frequency of burns that occur during these rites. For instance, it's usual for these practices to involve the use of fire, candles, or incense, as well as contact with hot, sacred objects. Furthermore, there's a good chance that a burn injury sustained in a religious context may result in serious illness and possible death. Studies have indicated that there is a significant likelihood that these burns will cause both temporary and permanent impairments, particularly if the initial damage is not identified and treated properly. Immediate presentation and prompt intervention is key in the prevention of infection. Infections increase the longitudinal and vertical tissue death, increasing the Jacksonian zone of burns. Adequate rehydration and wound management contracts the Jacksonian zone while poor hydration, late use of antibacterial and anti-inflammatory agents will increase the Jacksonian zone. Infections, whether obvious or occult may convert a partial thickness burn to a full thickness burn, thereby increasing the depth of burn wound, this implies that infection will worsen the outcome in terms of the complications and probability of mortality from the burn injury.

Tandon and colleagues³ state that sufferers may experience severe psychological trauma in the majority of these conditions, if it involves highly visible bodily parts. These results strengthened the need for medical professionals to concentrate on the etiology, depth, TBSA and the immediate resuscitation of the burns patients.

Research, by Koo and colleagues⁹ has demonstrated that most burn patients do not seek emergency medical assistance if the TBSA associated with the burns is minimal. This necessitates raising awareness concerning the potential risk of these injuries during worship

activities. This can only be accomplished by providing comprehensive information about the various types of burns and their consequences from a medical standpoint. For instance, people should be conscious of the high probability of electrical burns resulting from malfunctioning electronic equipment, which are slow to develop and are characterised by smouldering clothing and fumes, giving rise to the unique late appearance phenomenon associated with electrical burns. This knowledge is important because it lowers the threshold for victims to seek medical treatment, thereby increasing the possibility of early injury identification.

Tan and colleagues⁶ stated that people who burn themselves during religious rites frequently experience excruciating agony and discomfort. Sensitive nerve endings are abundant in the human body and aid in protecting us from harm. These nerve endings protect us from major injuries by warning us of possible danger. These nerve endings may be completely lost or seriously injured after a burn injury, which can cause excruciating agony². Many burns alter the appearance on the skin, which can add to the agony and worsen the quality of life caused by burn injuries. Burn victims may experience psychosocial issues as a result of cosmetic skin changes, which can exacerbate their emotional and mental suffering in addition to their physical suffering and discomfort. For instance, it has been shown that one important contributing element to the development of post-traumatic stress disorder in burn damage sufferers is the inability to accept the changes in their physical appearance. Acute and chronic mental distress can result from these burn incidents, and also from the physical and psychological suffering they cause. Effective burn rehabilitation frequently depends on psychological care since the pain and mental suffering associated with burns can cause limited movement, post-traumatic stress disorder, and a lower quality of life⁶.

Jilla and colleagues⁷ stated that burns are breaches in the skin's barrier that allow external microbes access and can result in fatal morbidity and mortality. Scorches vary suitably based on the agent causing the damage. It is believed that

infections are the root cause of a higher death rate in burns. The Centers for Disease Control and Prevention (CDC) have noted that there is a contentious disagreement on the cause of death. In a survey carried out in 1983 and 1987, it was shown that death attributable to burns occurred during the first seven and 21 days. After particularity was taken, infection-related deaths started to occur between the fifth and the twelfth day. From the first to the eighteenth day following the blaze, it was predicted that there would be a little over 33 percent risk of disease being identified in almost every cause of death. However, pulmonary failures account for the bulk of burn-related deaths, which happen between the third and fifth day.

Qin and colleagues⁸ stated that based on the most recent CDC statistics, sepsis, when combined with all additional kinds of infections is the most common cause of burn death. Indeed, treating burn infections presents numerous challenges. To name but a few, these include microbiological infections, possible environmental contamination, and mistreatment of microbial agents or other agents connected to burns. These days, medical professionals have a variety of alternatives for diagnosing burn infections because of technological advancements. The two methods that are most frequently utilized are cultures and biopsies. Tissue biopsy is considered the gold standard, it is an invasive procedure that involves taking a sample of skin tissue and sending it to a lab for microscopic histological examination⁸.

The quantity and kind of bacteria present in the tissue will be the primary focus of the research. The first step in the procedure is cleaning the wound using a microscopic or macroscopic laboratory, which spreads a swab of the wound onto an agar plate. In order to lower the risk of territorial infections, the majority of burn risk units today use the closed technique¹⁰. In certain areas, computer tomographic (CT) and super-elevated wavelength scans that are accustomed to high-energy laser light (laser Doppler flowmetry) are performed. In addition to producing three-dimensional images, the CT scan can identify disorders including sweat duct blockages and abscesses. Laser Doppler flowmetry is a technique that gauges the blood flow

on the burn's surface, which indicates the depth of the burn. By analyzing the quality and frequency of burn injuries, patients and visitors can help reduce burn infections associated with healthcare, like cleaning of hands and using better hand hygiene practices. Particularly in multicultural settings where clients receive multiracial burn care. Understanding the significance of hand hygiene and minimizing the transfer of microorganisms from one body to another through hand touch may help prevent burn infections.

Conclusion:

In conclusion, significant medical research findings and guidelines for preventing burns during religious rites are consistently included into educational and awareness campaigns. The most recent knowledge on burn types and causes, emergency first aid protocols, managing ignition sources safely, and fire safety techniques are a few examples of such educational programs. It is thought that ongoing study in this field will further improve awareness programs' efficacy by employing creative approaches to presentation, content, and dissemination.

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