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The Treatment of Burns Injuries in the Philippines

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Abstract

Burns are an under-researched global health issue, causing 180,000 deaths and 11 million hospital admissions every year. The majority of burns injuries occur in low and middle-income countries, including many in South-East Asia. Unlike other countries in the region, burns statistics are lacking in the Philippines, along with primary research regarding burn aetiology and treatment. This qualitative study sought to explore female patient experiences of burns treatment in the Philippines, from both state facilities and an NGO facility (Triple B Care Projects), and compare these to international standards. Ten semi-structured interviews uncovered inadequate first aid knowledge, time delays in health seeking behaviour, and poor perceptions of quality of care from the state facilities, especially when compared to services from the NGO. The findings suggest that international burns treatment standards are not easily applied to resource-poor settings, and steps must be taken to transform care including staff training. Alongside this, efforts must be made to prevent burns injuries and improve knowledge of first aid, using community health education campaigns.

Table of Contents

List of acronyms

DALY – Disability Adjusted Life Year

ISBI – International Society for Burns Injuries

LMIC – Low/Middle Income Country

LPG – Liquid Petroleum Gas

NGO – Non-Governmental Organisation

PHP – Philippine Peso

PRC – Philippine Red Cross

RAS – Resource Abundant Setting

RPS – Resource Poor Setting

SSD – Silver Sulfadiazine

WHO – World Health Organisation

List of Figures

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1. Introduction

The WHO estimates that burns cause approximately 180,000 deaths every year, with 11 million people needing medical attention (WHO, 2018). 95% of burns deaths occur in low and middle income countries (LMIC), being directly linked to poverty and low socioeconomic status (WHO, 2008). Individuals with non-fatal burns injuries often have prolonged hospital stays, suffer from disfigurements, disabilities, and psychological problems - with burns injuries being responsible for an estimated 10 million disability-adjusted life years (DALYs) (WHO, 2018; WHO, 2008). The highest incidence rates of fire-related deaths are seen in women in South-East Asia, with 16.9 deaths per 100,000 people per year – hence this study will focus on women with burns injuries (WHO, 2008). Women are at higher risk of burns injuries than men due to gendered risk factors such as open-fire cooking, unsafe cooking stoves and interpersonal violence (WHO, 2018).

Unlike other South-East Asian countries, there are no national statistics for burns injuries in the Philippines. In 2005-2009 it was determined that fires caused 263 deaths, 749 injuries and impacted 133,674 individuals – but this is fires alone, and excludes contact burns, scalds, chemical, electrical and radiation burns (Velasco, 2013). 458 criminal burns cases were reported in 2013-2014, making it the 8th most common criminally-caused injury, but many victims may be reluctant to report injuries to the police, and most burns injuries are accidental (Rivera et al., 2018). Other than these studies, there are no statistics on burns injuries in the Philippines, representing a huge research gap.

The Philippines has just four burns centres to serve a population of over 103 million, and these facilities are all based around the capital Manila (Elloso and Cruz, 2017; World Bank, 2016). This means many patients with burns injuries just get treated at general, unspecialised hospitals around the country. Unique to the Zambales province is an NGO - Triple B Care Projects (Triple B), that provides specialised, free burns treatment to patients. In 2015, the experienced staff at Triple B treated over 80 burns injuries, with numbers growing annually as word spreads (Triple B, 2015). Treatment in these facilities has never been evaluated or researched, representing another real gap in the literature to uncover patient experiences.

One of the earliest examples of burns treatment dates back to 1600BC, where resin and honey salve were recommended in an Egyptian Smith Papyrus (Moiemen et al., 2014). Since then, a variety of treatments have been recorded in historical texts including rendered pig fat, vinegar soaks and wine (Moiemen et al., 2014). In the present day, complex practise guidelines exist, detailing the most up-to-date knowledge of burns treatment including initial assessment and stabilisation, shock resuscitation, wound care, infection prevention, nutrition and rehabilitation (ISBI, 2016).

Treatment depends on the severity of the burn, which can be categorised into superficial (affecting the skin epidermis); partial thickness (affecting the epidermis and upper layers of the dermis); deep dermal (that impacts the whole epidermis and dermis); full thickness (destroying the epidermis and dermis); and 4th degree burns (extending through all layers of skin into the muscle and bone layers) (Bousfield, 2002; Nuchtern et al., 1995). A diagram of the layers of skin is shown in *figure 1* for reference.

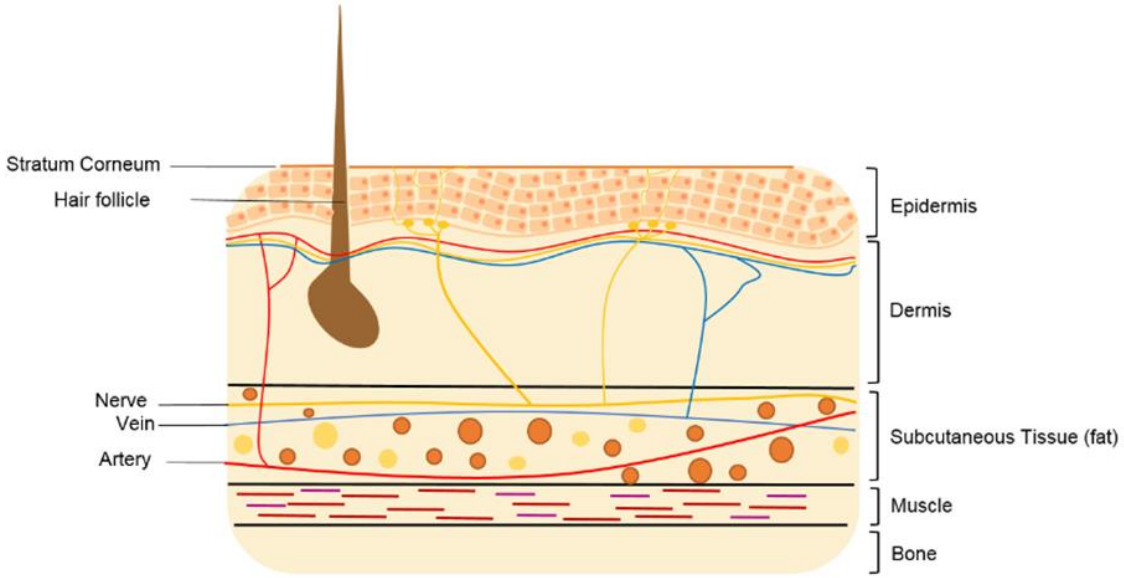

Figure 1: A diagram showing the different layers of the skin, drawn with inspiration from Whittier (undated).

The International Society for Burns Injuries (ISBI) released updated practise guidelines in 2016, designed for use in both resource abundant (RAS) and resource poor settings (RPS) (ISBI, 2016). This qualitative research aims to determine if burns treatment in the Philippines is in-line with these recommendations, while evaluating female patient experience and quality of care at state facilities and Triple B.

1.2 Aim:

To understand experiences of burns injury treatment in the Philippines, focusing on women burned in the last five years.

1.3 Objectives:

- To uncover the nature and severity of burns injuries in the women, and to understand their knowledge of first aid.
- To understand the health seeking behaviour of the women, including initial treatment centre choice, and the timeliness of treatment seeking.
- To understand the quality of treatment received for the burns injury at the initial treatment centre, and from Triple B, to see if it is in-line with international burns treatment standards.
- To make recommendations to Triple B and Philippine Department of Health regarding burns treatment.

2. Methods

2.1 Study Design

This is a qualitative study investigating burns treatment in the Zambales province of the Philippines in 2018. Ten semi-structured interviews were conducted to try to get a rich insight into the treatment experiences of the participants. It was inspired by the phenomenological approach, a theory first developed by Edmund Husserl, which aims to get an insight into the lived experience of individuals (Reeves et al., 2008).

2.2 Sampling

A purposive sampling technique was used to recruit participants who met the inclusion criteria, being female adults (over 18 years of age), who had been burned up to five years ago, and had received treatment at a state facility prior to Triple B. Triple B acted as a gatekeeper in this research, assisting in identifying participants and contacting them by phone or email. They were then provided with a participant information sheet (*appendix 1*) and consent form (*appendix 2*), both translated to Tagalog, so they could decide if they wanted to participate. Just ten of twenty-eight individuals who met the inclusion criteria could be recruited for interview due to outdated contact details or unavailability due to work commitments. This was a small sample size, meaning data saturation is unlikely to have been achieved. All participants had received treatment in the Zambales province, from a range of eight different hospitals and clinics.

2.3 Data Collection

Semi-structured interviews were conducted by two researchers, involving a series of open-ended, non-leading questions and prompts (*appendix 3*). Individual, semi-structured interviews were appropriate as they allow deep exploration of personal experience, while remaining organised around predetermined questions (DiCicco-Bloom and Crabtree, 2006). Eight interviews were conducted at the Triple B clinic, and two at a medical centre in Botolan; participants were reimbursed for their travel expenses at both locations before the interviews commenced. Interviews were tape-recorded and conducted in the local language Tagalog, with an interpreter being present to translate to English. Interviews lasted between nine and forty-six minutes, with the longer interviews typically being later in the data collection process due to increasing experience and confidence of the researchers. This could have been

mitigated by conducting pilot interviews, which help train researchers in the research process, develop questions and identify logistical problems (Teijingen and Hundley, 2002).

2.4 Ethics

This research underwent a rigorous ethics process, and was granted full approval by the University of Leeds Ethics Committee. Full, informed consent, anonymity and confidentiality were important aspects of this to ensure the safety of the participants.

2.5 Data Analysis

The recorded interviews were transcribed onto Microsoft Word, then read through several times for familiarisation. The transcripts were then uploaded to NVivo for coding, thematic analysis, and thematic diagram production. Thematic analysis was deemed appropriate as it is a 'highly flexible' approach that is 'more accessible for those early in their research career' (Nowell et al., 2017, P2). The analysis was inductive, where themes were generated based on the data, rather than trying to fit it into a pre-constructed coding frame (Ahmed, 2017). Triangulation of researchers in the data analysis process could have increased the rigor of the results, however this was not feasible for this project.

2.6 Limitations

The gatekeeper (Triple B) had a clinic that served as the main location for the interview, and a nurse from the clinic was the translator in the interviews. On one hand, it was a safe, familiar place for both participants and researchers, and was easy to access using public transport. On the other hand, this may have made the participants feel under-pressure to give certain responses regarding their treatment from this facility, biasing their responses.

Another limitation of this project was the challenge in participant recruitment due to outdated contact details. People commonly swap SIM cards in the Philippines to take advantage of the best deals, with it being known as the "texting capital of the world" (GSMS, 2014, P3). This resulted in a smaller sample size than hoped.

3. Findings

3.1 The Sample

Ten adult female participants were recruited, with all types of burn severity other than 4th degree. This included one superficial burn, one partial thickness burn, four partial/deep thickness burns, two deep dermal burns, one deep/full thickness burn and one full thickness burn. Nine were thermal burns (five flame, three scald, one flame/scald/contact), while one was an electrical burn.

Broadly there were three overarching themes in the interview – health seeking behaviour, burns treatment received, and general experience. The results will therefore be split into these topic areas, and emerging themes explored within them. Quotes will be used where appropriate, to illustrate an emerging theme.

3.2 Health Seeking Behaviour

The first themes relating to health seeking behaviour were first aid and self-care. Knowledge of correct first aid practises varied substantially between participants, but no participants identified the main recommended practise of cooling the burn with water for 20 minutes (BBA, 2018). Of the 50% of participants that did attempt first aid, they used tomatoes, vinegar, toothpaste, water, ice, and unidentified ointments. The other 50% of participants did not attempt to administer first aid, citing reasons such as immediately rushing to hospital or not knowing what to do. The reasoning behind the first aid decisions was not explored in this research, but it appeared that knowledge was poor and participants were misinformed.

Participants spoke of their choice of initial treatment facility, and the timeliness of presenting. All of the participants attended hospital, whether they had attempted first aid or not. Participants all identified either private clinics or tertiary hospitals as their treatment centre of choice – no traditional healers or alternative medical practioners were consulted. It was not asked why participants chose the facilities that they did, however one participant suggested proximity to their residence was important.

"*Normally all the Filipinos go to the closest hospital that we can get" … "We go there because we don't have any closer ones*".

All of the participants sought medical help within one day of being burned, but only 50% of patients attended their health facility of choice within one hour of being

burned. This implies that all participants saw benefit to seeking further help, and assessed their wounds as severe enough to require this, however not all participants prioritised immediate treatment.

All of the participants in this study received further treatment from Triple B and spoke of their referral method and timeliness of this. All of the participants were referred by word of mouth, whether this be a friend, family member, neighbour, or even strangers in a laundry shop. On some occasions, staff from Triple B were called into the hospital to give treatment, and patients were discharged directly into their care. But normally the patients were normally discharged home from the hospital and had to rely on word of mouth. Due to these referral methods, there was a big range in time taken to seek this care – from immediate to two months. This means treatment at Triple B also ranged from acute burns management to scar management, as some patients presented so long after their burn injury.

A summary of the health seeking behaviours of the women with burns injuries is shown in *figure 2*.

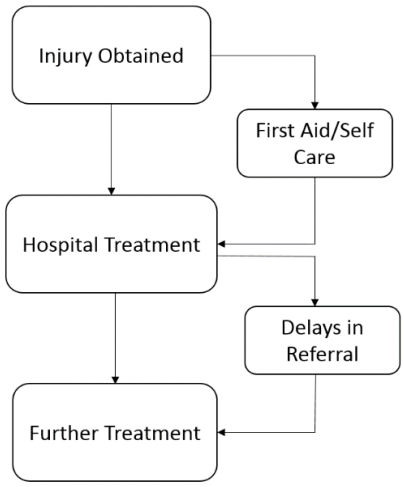

Figure 2: A flow diagram showing a summary of the health seeking behaviours of women with burns injuries in the Philippines.

3.3 Comparison of Treatments to International Standards

Participants were asked to recall treatment received from the state facilities and Triple B so it could be compared to international standards. The advantage of having Triple B as a gatekeeper meant the staff were present to answer questions, and patient records could be observed. This resulted in less reliance on patient memory and gave a more rounded picture of treatment. This was not possible for the state facilities, as participants received treatment from eight different medical centres. So total reliance was placed on participant memory.

At the state facilities, based on the recall of the participant, treatment did not match international standards in any of the cases, and there was a big range in perceived quality of care. At Triple B, patient recall and assessment of patient records meant all care was deemed to match international standards, and all patients seemed satisfied with the quality of care. The treatment given was compared to guidelines published by the ISBI and Wounds International (ISBI, 2016; Wounds International, 2014).

Bandages and Lotions

One of the most common treatment themes raised by participants was bandages and lotions. At state facilities, a lack of dressings and antimicrobial lotions were commonly identified by patients, with only 50% of participants being given bandages or dressings, and only 60% of participants having a lotion applied to their burn. Of the patients that did have burns lotions, these were either unspecified, or silver sulfadiazine (SSD). In contrast, 100% of participants noted being given bandages/dressings at the NGO facility, and 80% received burns lotions including medicinal grade honey, silicone gel and itching creams. Bandages are recommended for all types of burns to absorb drainage, provide protection from the environment, and decrease wound pain (Herndon, 2006). Lotions are recommended for faster healing, and should be applied between 1-2 times daily and once a week depending on the nature of the injury (Herndon, 2006). SSD is generally no longer recommended as reviews have shown it to be associated with poorer healing outcomes than other biosynthetic dressings, silver-coated dressings and silicon-coated dressings (Wasiak et al., 2013). Honey has been shown to promote faster healing, and have better scar and contracture outcomes than SSD, although it is not promoted in burns guidelines currently (Gupta et al., 2011). However, the Philippines

being a RPS means specialist burns lotions are often expensive and unavailable, so the use of SSD and medicinal honey is significantly better than using nothing at all.

Wound Cleaning

Wound cleaning was raised by many participants as an important aspect of their burns care. Wound cleaning is identified by the ISBI as 'the first step in infection prevention and cure, and essential for sound healing', and was done in 80% of participants at Triple B, but just 40% of the participants in the state facilities (ISBI, 2016, P975). In regards to state facilities, several of the participants expressed dissatisfaction at a lack of wound cleaning. The participants seemed to recognise that this was unacceptable, using language that suggests their expectations were higher, such as:

"*He just take a look and give me some antibiotic and analgesic for pain, that's all. She didn't clean the wound. Even in the hospital they do not clean the wound*."

Debridement

Debridement, or usually a description of debridement, was identified by several of the patients as part of their burns treatment. This is where dead tissue is gently trimmed away, and should cause no pain or bleeding for the patient (Herndon, 2006). Debridement is recommended to remove necrotic tissue, prevent infection and encourage reepithelialisation (Wounds International, 2014). Debridement was identified by 40% of participants at the state facility, and included surgical and non-surgical examples. It is unclear whether just the dead skin alone was gently removed, after one participant claimed:

"*They scraped the whole skin in the operating room*".

30% of participants noted debridement at Triple B, and none of these stated any pain or bleeding. In contrast to the statement regarding the state facility, patients commented on the gentle removal of skin, and none of the procedures required general anaesthetic.

Pain Management

A common theme spoken of by participants was pain and pain management. Pain is often under-estimated and under-treated according to Wounds International (2014). Of those reporting being in pain, the majority were given painkillers, however some

participants at the state facility noted not receiving adequate pain relief for procedures. One participant gave a particularly distressing account of hospital care quoted below:

"*They gave me the liquid stuff on a gauze and scrub it onto your skin," … "It feels like hell, it burns like hell because they get all your skin and scrub it" … "They didn't even give me any type of painkillers*".

Pain management should have been prioritised and intravenous opioids given, as the participant had a partial/deep thickness burn, where the most severe pain can be seen as the nerves are still intact (Herdon, 2006).

Unnecessary Treatments

Some participants identified having treatments that are unnecessary at the state facilities, and not usually recommended for burns care. No examples of this were seen at Triple B. One patient recalled being given a CT scan and blood tests, but in no practise guidelines does it state that these are necessary in the management of burns injuries (Wounds International, 2014). The participant also identified being given antibiotics, alongside one other participant, but does not identify having an infected wound. Practise guidelines advise against the use of prophylactic, systemic antibiotics in acute burns treatment, as they have no benefit if the wound is not infected (ISBI, 2016).

Home Care Instructions

Several participants expressed a belief that home care instructions were an important aspect of treatment, being frustrated at a lack of, or pleased with the receipt of them. Home care is important, as burn wounds can take several weeks to heal followed by extensive scar management treatment. Pressure garments, silicon gel treatments, and exercises should be prescribed before departure from hospital, alongside pain relief and the ability to recognise symptoms of infection (Herndon, 2006, P635). No participants identified home care instructions from state facilities, and in fact, several participants identified this as a problem and, including one that stated:

"*There were no instructions when I went home, so I just take a bath and put the ointment on*."

In contrast to this, several participants identified having home care instructions from Triple B, including bandages and burns lotions to take home with them. An example of this is shown below:

"*She gave some to take away too if you're going home, like pads so if we accidently take off your bandage. And every hour or something your burn is dry, she gave us some takeaway tube so we can put it on our own*."

Physiotherapy

Two participants identified being given physiotherapy from Triple B; none identified it in the hospital. Physiotherapy should be used for deep dermal burns for joint mobilisation, and to prevent scarring and contractures (ISBI, 2016). Without physiotherapy, patients may have physical limitations and struggle with day to day tasks (Wounds International, 2014). The two participants who received physiotherapy claimed:

"*Monthly I came here… they give me exercise and cream, and the silicone gel," and "even though I don't want to stand up… she push me to stand up*."

This contrasts to the state facility treatment, where participants identified long periods of inactivity rather than physio and rehabilitation. A participant who spent 22 days in hospital did not comment on any type of physio or exercise given during this time, just stating:

"*She's just laid there. They just check her IV and then nothing. They just come and go in the ward*."

3.4 Affordability of Treatment

Cost was a recurring theme from the interviews, with treatment being free at Triple B but costly at state facilities. Participants identified a wide range treatment costs from state facilities, from 200PHP (£2.85) to over 200,000PHP (£2850). One would assume costs increased with complexity of treatment and length of hospital stay, however this is not the case. A 22-day hospital stay treating full thickness burns cost 40,000PHP, while a 4-day hospital stay treating deep dermal burns cost 70,000PHP. This suggests cost of treatments is subjective, and may vary depending on hospital, and medical professionals who treated them. Another participant suggested quality of care may vary depending on the wealth of the patient, claiming:

"*If they treat me in the hospital and I don't have money maybe they just leave it like this, the wounds. Because I don't have money*."

While highlighting the prevalence of out-of-pocket payments in the Philippines - insurance, relatives, and social welfare were also identified as payment methods. In contrast to this, many participants identified the significance of free care from Triple B. One participant claimed:

"*Triple B should not change. Even though the patient has no money and the patient is poor, they should go and treat them. They respect and be good to the people at the clinic even though they don't have any money*."

All of the comments received from participants suggest affordability of care is important, but more alongside this they seem to define a link between wealth, respect, and quality of care.

3.5 Attitudes Towards Treatment

Participants overwhelmingly expressed dissatisfaction about their hospital treatment, especially when asked to compare it to the treatment from Triple B. Specific reasons for this appear to be attentiveness of the medical staff and quality of care. A participant summarised this well, stating:

"*For how many days in the hospital I didn't even take a sponge bath. I just laid down straight, sleeping day and night. I didn't even defecate for 10 days. Then Triple B cleaned my burns, then she rub it with the honey, manuka honey. I was here for 10 days also, I stayed here for 10 days. Maybe if I wasn't here, I just went straight home I wasn't able to recover that fast."*

5. Discussion

These findings suggest there are many improvements that could be made to reform the quality of burns treatment at state facilities in the Philippines, in contrast to the exceptional care provided by Triple B. There also needs to be raised awareness of appropriate first aid practises, and education to prevent burns in the first place. The findings from the state facilities are not unusual, with a literature review finding 14 other LMIC countries ill-equipped to manage burns injuries, suggesting inadequate burns care is a global issue (Gupta et al., 2014).

The inadequacy of state burns treatment suggests that burns treatment guidelines do not translate in RPS, and are not known and/or implemented by healthcare professionals. The WHO produced the 'Plan for Burn Prevention and Care' in 2008, a document produced in collaboration with the ISBI, aimed especially at LMIC (WHO, 2008). The document acknowledges inequity in burns treatment, and makes a series of recommendations to improve care, although it is unclear how easy this is to do in practise. Interburns, an international burns charity, works to translate guidelines into practical action in LMIC. In Bangladesh and Nepal, Interburns worked to support 10 burns units, developed training services, trained over 600 professionals, and trained 150 individuals as instructors to disseminate information (Interburns, 2013). A similar programme would be hugely beneficial for the Philippines, to support healthcare professionals in delivering a better service for patients with burns.

Affordability was an issue raised by many participants, alongside feelings of gratitude for the free care provided by the NGO facility. Even in high income settings, burns treatment is extremely costly, with a major burn costing the NHS an average of £168,155 – but health financing means the patient doesn't have to pay any of this (CBT, 2016; Jeevan et al., 2014). This contrasts to the Philippines, where the patient takes a major financial burden for health care, with governmental health expenditure per capita being just $329 (WHO, 2014). Despite having PhilHealth, a national health insurance agency, out of pocket payments account for 48% of health expenditure (WHO, 2011a). In order to increase affordability of burns treatment, the coverage of PhilHealth needs to be increased, especially to the poorest and most vulnerable individuals.

Although participants correctly identified health facilities for treatment, the first aid completed before this was either non-existent or incorrect. Participants used toothpaste, tomatoes, vinegar, water, ice, and unidentified 'ointments'. These practises are seen in many other counties from all areas of the world, including the UK, Zimbabwe, and Saudi Arabia. The use of butter, milk, oil and toothpaste was noted in UK patients; eggs, margarine and traditional herbs used in Zimbabwe; and honey, toothpaste, lavender oil and fruit were used in Saudi Arabia (Graham et al., 2012; Chirongoma et al., 2017; Kattan et al., 2016). First aid is very important to limit the thermal damage, reduce pain and swelling, and lower the risk of scarring (Red Cross, undated). Guidelines describe correct first aid practises following a burn and include – removing clothing/jewellery near the burned area, cooling the burn with water for 20 minutes, and seeking professional help (Baker et al., 2015). The promotion of these correct first aid practises is required globally, as well as in the Philippines, to limit the extend of burns injuries.

5.1 Recommendations

Shown in *table 1* are four SMART recommendations based off the results of this study. Emphasis is placed on both prevention and cure of burns injuries, as it is stated by the WHO that 'greater application of burn prevention strategies globally would go a long way towards lowering the unacceptable burden of death and suffering from burns' (WHO, 2011b, P8). The prevention strategies are directed at flame burns involving kerosene and LPG fuel, as these types of burns were seen most commonly in this study. Alongside these recommendations, it is proposed that significantly more primary research needs to be done on the aetiology and treatment of burns in the Philippines, so policy and interventions can be informed and effective.

Table 1: Recommendations to reduce the burden of burns injuries in the Philippines.

Recommendations	**Details**
1. Kerosene Flame Burn Prevention Programme.	Kerosene lamps are used by many who have poor access to electricity, including many tribes on the 7000 islands. A Filipino inventor produced the 'SALt lamp' in 2015, powered by salt water, and also works to supply communities with these safe lamps (SALt, undated). A funding collaboration should be sought to extend this project (perhaps the Rolex Watch Company, who sponsored a Safe Bottle Lamp Project in Sri Lanka in 1998 (Lau, 2006). As in Sri Lanka, the aim should be to replace 60% of kerosene lamps with SALt lamps within the next 3 years.
2. LPG Flame Burn Prevention Programme.	LPG is a cheap, accessible, widely used fuel in the Philippines that helps tackle energy poverty by replacing traditional cooking materials (WLPGA, 2014). The public must be informed how to use this gas safely to avoid burns injuries. The World LPG Association suggests school-based training to educate whole families at a time, promoting safety checks with the gas dealers, never using over-sized pots, and avoiding wearing loose fitting clothing while cooking (WLPGA, 2015). These classes should happen once annually in all schools, in collaboration with local fire and rescue units.

3. Burns First Aid Promotion.	This report highlighted the need for improved first aid knowledge, which could be achieved using a mass media campaign. Successful efforts to improve burns first aid in New Zealand utilised mass media, conveying messages using television, radio, billboards, newspapers and magazines (Skinner et al., 2004). This could work in collaboration with the Philippine Red Cross, who already work to promote burns first aid (PRC, undated). March has been declared as 'Fire Prevention Month' by the Bureau of Fire Protection in the Philippines, presenting an opportunity for an annual media campaign, hopefully funded by the bureau itself.
4. Burns Treatment Staff Training.	Improving burns treatment does not always need expensive equipment; knowledge and skills training can be very important (Gupta et al., 2014). An Essential Burn Management Programme was developed for East Africa; it was a 3 day course with a seminar, group discussions, skills using models, modules in all the aspects of essential burn management (Spiwak et al., 2014). This could be done in the Philippines, in collaboration with the Philippine Society for Burn Injuries, made up of medical professionals (PSBI, 2003).

6. Reflective Conclusion

One of the most striking aspects of this research was the importance of a local gatekeeper. The gatekeeper, Triple B, was incredibly important in participant recruitment, providing an interview location, and translating the interviews. Without Triple B, the project would have been very difficult to coordinate; therefore having a strong gatekeeper will be prioritised when planning any future research projects.

If this project could be repeated, I would include pilot interviews. Without these I found the first few interviews to lack depth and detail, being short and less-informative. It took me a few interviews to build my confidence, develop more effective prompts, and feel at ease with the process. As the interviews progressed, I believe they became more fulfilling for both researcher and participant, and more detail came to light of their treatment. For these reasons, pilot interviews will definitely be incorporated into any future research projects.

Being from a non-medical background, I found the choice of topic challenging and had to adapt to new medical terminology. Extensive reading was informative; however I couldn't help but feel underqualified to be asking the questions. The host, Triple B, was helpful in explaining medical terminology and treatment processes, allowing me to feel more at-ease with the topic. This did however ensure the questions were unbiased and very open ended, as I entered the process with no expectations.

References

Ahmed, S. 2017. Approaches to Analysis. University of Leeds.

Baker, B., Amin, K., Khor, W. and Khwaja, N. 2015. Response to: Practice of first aid in burn related injuries in a developing country. *Burns.* 41(8),pp.1893-1894.

BBA 2018. British Burn Association First Aid Clinical Practice Guidelines. Britishburnassociation.org. [Online]. [Accessed 18 July 2018]. Available from: https://www.britishburnassociation.org/wp-content/uploads/2017/06/BBA-First-Aid-Guideline-3.7.18.pdf.

Childrens Burns Trust 2016. National Burn Awareness Day.

Chirongoma, F., Chengetanai, S. and Tadyanemhandu, C. 2017. First aid practices, beliefs, and sources of information among caregivers regarding paediatric burn injuries in Harare, Zimbabwe: A cross-sectional study. *Malawi Medical Journal*. 29(2),p.151.

DiCicco-Bloom, B. and Crabtree, B. 2006. The qualitative research interview. *Medical Education*. 40(4),pp.314-321.

Elloso, M. and Cruz, J. 2017. A review of electrical burns admitted in a Philippine Tertiary Hospital Burn Center. *Burns Open*. 1(1),pp.20-24.

Graham, H., Bache, S., Muthayya, P., Baker, J. and Ralston, D. 2012. Are parents in the UK equipped to provide adequate burns first aid?. *Burns*. 38(3),pp.438-443.

katGupta, S., Singh, O., Bhagel, P., Moses, S., Shukla, S. and Mathur, R. 2011. Honey dressing versus silver sulfadiazene dressing for wound healing in burn patients: A retrospective study. *Journal of Cutaneous and Aesthetic Surgery*. 4(3),p.183.

Gupta, S., Singh, O., Bhagel, P., Moses, S., Shukla, S. and Mathur, R. 2011. Honey dressing versus silver sulfadiazene dressing for wound healing in burn patients: A retrospective study. *Journal of Cutaneous and Aesthetic Surgery*. 4(3),p.183.

Gupta, S., Wong, E., Mahmood, U., Charles, A., Nwomeh, B. and Kushner, A. 2014. Burn management capacity in low and middle-income countries: A systematic review of 458 hospitals across 14 countries. *International Journal of Surgery*. 12(10),pp.1070-1073.

Interburns 2013. Setting Standards for Burn Care Services in Low and Middle Income Countries [Online]. [Accessed 1 August 2018]. Available from: https://aidstream.org/files/documents/Interburns%20Standards%20Report%202013.pdf.

ISBI Practice Guidelines Committee 2016. ISBI Practise Guidelines for Burn Care. *Burns.* 42(5),pp.951-952.

Jeevan, R., Rashid, A., Lymperopoulos, N., Wilkinson, D. and James, M. 2014. Mortality and treatment cost estimates for 1075 consecutive patients treated by a regional adult burn service over a five year period: The Liverpool experience. *Burns*. 40(2),pp.214-222.

Kattan, A., AlShomer, F., Alhujayri, A., Addar, A. and Aljerian, A. 2016. Current knowledge of burn injury first aid practices and applied traditional remedies: a nationwide survey. *Burns & Trauma*. 4(1).

Lau, Y. 2006. An insight into burns in a developing country: A Sri Lankan experience. *Public Health*. 120(10),pp.958-965.

Moiemen, N., Lee, K. and Joory, K. 2014. History of burns: The past, present and the future. *Burns & Trauma*. 2(4),p.169.

Nowell, L., Norris, J., White, D. and Moules, N. 2017. Thematic Analysis. *International Journal of Qualitative Methods*. 16(1),p.160940691773384.

Nuchtern, J., Engrav, L., Nakamura, D., Dutcher, E., Heimbach, D. and Vedder, N. 1995. Treatment of Fourth-Degree Hand Burns. *Journal of Burn Care & Rehabilitation.* 16(1),pp.36-42.

PRC 2018. Philippine Red Cross offers first aid tips for burns. Redcross.org.ph. [Online]. [Accessed 30 July 2018]. Available from: https://www.redcross.org.ph/press/news/philippine-red-cross-offers-first-aid-tips-for-burns.

Philippine Society for Burn Injuries 2003. Acute Burn Injuries: Burn Management [Online]. Manila. [Accessed 23 July 2018]. Available from: http://www.thefilipinodoctor.com/cpm_pdf/CPM5th%20Acute%20Burn%20Management.pdf.

Red Cross. First aid for someone who has a burn. British Red Cross. [Online]. [Accessed 1 August 2018]. Available from: https://www.redcross.org.uk/first-aid/learn-first-aid/burns.

Reeves, S., Albert, M., Kuper, A. and Hodges, B. (2008). Why use theories in qualitative research?. *BMJ*, 337(a949)

Rivera, A., Lam, H. and Macalino, J. 2018. Epidemiology of Injuries in the Philippines: An Analysis of Secondary Data. *Acta Medica Philippina*. 52(2).

SALt. It's a Social Movement. SALt | It's a Social Movement. [Online]. [Accessed 3 August 2018]. Available from: http://saltph.strikingly.com/#community-activities.

Skinner, A., Brown, T., Peat, B. and Muller, M. 2004. Reduced Hospitalisation of burns patients following a multi-media campaign that increased adequacy of first aid treatment. *Burns.* 30(1),pp.82-85.

Spiwak, R., Lett, R., Rwanyuma, L. and Logsetty, S. 2014. Creation of a standardized burn course for Low Income Countries: Meeting local needs. *Burns.* 40(7),pp.1292-1299.

Teijlingen, E. and Hundley, V. 2002. The importance of pilot studies. *Nursing Standard.* 16(40),pp.33-36.

Triple B Care (TBC) 2015. [Online]. [Accessed 26 February 2018]. Available from: https://triplebcareprojects.org/.

Velasco, C. 2013. Epidemiological Assessment of Fires in the Philippines, 2010-2012. Mandaluyong City.

Wasiak, J., Cleland, H., Campbell, F. and Spinks, A. 2013. Dressings for superficial and partial thickness burns. *Cochrane Database of Systematic Reviews*.

Whittier, L. Undated. In: 5.1 Layers of the Skin - Anatomy and Physiology [Online]. Open Oregon State. [Accessed 7 August 2018]. Available from: http://library.open.oregonstate.edu/aandp/chapter/5-1-layers-of-the-skin/.

WHO 2008. A WHO plan for Burn Prevention and Care [Online]. Geneva. [Accessed 1 August 2018]. Available from: http://apps.who.int/iris/bitstream/handle/10665/97852/9789241596299_eng.pdf;jsessionid=E0BA626786D4DD4F7D576A6F28C5CA04?sequence=1.

WHO 2011a. The Philippines Health System Review [Online]. Geneva. [Accessed 1 August 2018]. Available from: http://www.wpro.who.int/philippines/areas/health_systems/financing/philippines_health_system_review.pdf

WHO 2011b. Burn Prevention Success Stories Lessons Learned [Online]. Geneva. [Accessed 7 August 2018]. Available from: http://apps.who.int/iris/bitstream/handle/10665/97938/9789241501187_eng.pdf;jsessionid=05257B5C9FC152E3FAB8D03203C5C195?sequence=1.

WHO 2014. Philippines. World Health Organization. [Online]. [Accessed 1 August 2018]. Available from: http://www.who.int/countries/phl/en.

WHO 2018. Burns. World Health Organization. [Online]. [Accessed 19 July 2018]. Available from: http://www.who.int/news-room/fact-sheets/detail/burns.

Wounds International 2014. Best practise guidelines: Effective skin and wound management of non-complex burns. [Online]. [Accessed 23 July 2018]. Available from: http://www.woundsinternational.com/media/issues/943/files/content_11308.pdf.

World Bank 2016. Philippines | Data. Data.worldbank.org. [Online]. [Accessed 24 July 2018]. Available from: https://data.worldbank.org/country/Philippines.

World LPG Gas Association 2014. Cooking with Gas: Why women in developing countries want LPG and how they can get it [Online]. France. [Accessed 3 August 2018]. Available from: https://www.wlpga.org/wp-content/uploads/2015/09/2014-cooking-with-lp-gas-women-report.pdf.

WLPGA 2015. Cooking with gas: How children in the developing world benefit from switching to LPG [Online]. [Accessed 3 August 2018]. Available from: https://www.wlpga.org/wp-content/uploads/2015/09/cooking-with-gas-how-children-in-the-developing-world-benefit-from-switching-to-lpg.pdf.

Appendix 1: Participant Information Sheet

Our names are Emily Marshall and Chrissie Bradley, and we are International Health students from the UK. We are carrying out some research into burns as part of our university studies and we are inviting you to participate in this research. This information sheet will tell you more about the project, and what you will be asked to do if you take part. Please read this sheet in full and take some time to consider whether you would like to be involved. Thank you.

Background
Burn injury is very common in South East Asia, with women being disproportionately affected. Currently, there has been very little research into burn injuries in the Philippines. This project aims to understand the experiences of burns victims in the Philippines regarding burns treatment and care from healthcare professionals.

Why have you been chosen?
You have been identified by Nurse Valerie as one of her patients who has experienced burns care both in a state facility and at Triple B Care Projects.

Do you have to take part in the study?
No. There is absolutely no obligation for you to take part in this study, it is completely voluntary. You can withdraw from the study up to 24 hours after your interview has taken place. Participating in this study is unrelated to your right for future support or treatment from Triple B Care.

What will you be asked to do in the study?
You will be asked to read this information sheet carefully and decide whether you want to take part. If you are willing to take part, you will be asked to take part in an interview in Integritas House, the base of a charity (Integritas Healthcare) who work in your local area. Your travel to and from Integritas House will be reimbursed. You do not have to answer any questions you don't want to, and the interview can be stopped at any point.

Who will be present during the interview?
Yourself, the researcher and interpreter.

Will the interview be recorded?
Yes, if you agree. Otherwise notes will be made by the researcher. This recording will only be listened to by the researcher and will anonymized as soon as possible. All information will be kept confidential. Any personal information recorded will be kept separately to the recording of your interview so that they cannot be linked.

What are the risks of being involved in the study?
Some people might find it distressing talking about their burn injury. Please remember this when deciding on whether you would like to take part. You can stop the interview at any point. If you find the interview distressing at any point, you will be referred to Nurse Valerie to speak about any problems. We would ask that you also contact either one of us, or Nurse Valerie if you want to withdraw from the study (which is possible up to 24 hours after your interview).

What are the benefits of taking part in the study?
It is hoped that this research will raise awareness of burn injury in the Philippines. Furthermore, it could help Nurse Valerie in guiding her future burn education programs.

What will happen to the research results?
All personal identifiable data will be removed. The results from the interviews will be analyzed and written into a report. A final copy of this report will be sent to the clinic in August, so that you can read it if you wish. Also, the findings of this study might be disseminated through conferences and publication.

Will your information be kept confidential?
All information will be kept confidential. Anyone who is present during your interview will be asked to keep all information completely confidential. After the interview all identifiable information will be removed from the interview. We may use direct quotes from you in the final report but names, addresses and any other identifiable information will be removed from the interviews. It will not be possible to trace your answers back to you from the report.

What should you do next if you want to be involved in the study?
If you would like to be part of this study, please tell the researcher or Nurse Valerie. You will then be asked to sign a consent form to confirm that you wish to be involved. If you are unable to sign the form, you will give verbal consent our loud and this will be recorded.

Appendix 2: Participant Consent Form

Understanding the experiences of burns victims in the Philippines regarding burns treatment and care from healthcare professionals.

Researchers: Emily Marshall and Christina Bradley, MSc International Health, University of Leeds

	Please initial box
I confirm that I have read and understand the information sheet dated _____ explaining the above research project and I have had the opportunity to ask questions about the project.	
I understand that my participation is voluntary and that I am free to withdraw up to 24 hours after the interview has taken place, without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. (Contact number to be inserted). Should I wish to withdrawal from the study I understand that my data will not be included in this research.	
I understand that my responses will be kept strictly confidential. I give permission for members of the research team to have access to my anonymized responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research.	
I agree for the data collected from me to be used in future research	
I agree to take part in the above research project and will inform the lead researcher should my contact details change during the project and, if necessary, afterwards.	

Name of participant	
Participant's signature	
Date	
Name of lead researcher	
Signature	
Date*	

Appendix 3: Interview schedule and questions

1. Researcher gives their name and asks for confirmation of the participant's name; reminds the participant that this will be anonymized.
2. Researcher reminds the participant of the aim of the study: "This study aims to explore the experiences of burns victims in the Philippines regarding burns treatment and care from healthcare professionals."
3. The information sheet and consent form are reviewed by the researcher and participant to ensure informed consent.
4. Opportunity to answer any questions.
5. The participant is reminded that they can stop at any time or refuse to answer any questions without consequences - specifying that there is no need to give a reason for doing so and that there will be no implications.
6. Begin building a rapport with the participant, asking questions such as 'how are you' or discussing the weather

Section 1

Question 1: When did you receive your burn injuries?
Question 2: Is this the first time you have been burned?
Question 3: Where did you receive treatment before Triple B Care Projects?

Section 2
Question 1: Did anyone perform First Aid?
Prompts: Run under water? Cover the burn? Painkillers?
Question 2: How long did you wait to receive treatment?
Question 3: Describe your experience of burns treatment initially?
Prompts: Any dressings? Surgery? Splints? Medicine? Complications?
Question 4: How did you hear about Triple B Care and why did you choose to get treatment there?
Question 5: Describe your experience of burns treatment from Triple B Care Projects.
Prompts: Any dressings? Surgery? Splints? Medicine? Complications?