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Review

The year in burns 2013



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ARTICLE INFO

Article history:

Accepted 31 October 2014

Keywords:

Burns

Year in review

ABSTRACT

Approximately 3415 research articles were published with burns in the title, abstract, and/or keyword in 2013. We have continued to see an increase in this number; the following reviews articles selected from these by the Editor of one of the major journals (Burns) and colleagues that in their opinion are most likely to have effects on burn care treatment and understanding. As we have done before, articles were found and divided into the following topic areas: epidemiology of injury and burn prevention, wound and scar characterization, acute care and critical care, inhalation injury, infection, psychological considerations, pain and itching management, rehabilitation and long-term outcomes, and burn reconstruction. The articles are mentioned briefly with notes from the authors; readers are referred to the full papers for details.

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Contents

1. Introduction	1422
2. Epidemiology and prevention	1422
3. Wound/scar characterisation	1423
4. Acute care	1424
5. Inhalation injury	1426
6. Infection	1426
7. Psychological considerations	1427
8. Pain and itch management	1428
9. Rehabilitation	1428
10. Outcomes	1429
11. Burn reconstruction	1430
12. Conclusion	1430
References	1430

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<http://dx.doi.org/10.1016/j.burns.2014.10.026>

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1. Introduction

The care of burns continues to advance with improvements in many outcomes; these advances are related to published research from investigators in the field. This is a continuous and iterative process that is reflected in papers in the literature from year to year. Many investigators, clinical sites, and laboratories continue to be active in studying the pathophysiology of burns and determining the effects of new and old treatments. These efforts are made to affect improvement in understanding of the events related to burns, and to direct processes of care to improve outcomes in burned patients. These are found in the literature, which is the most-oft used means of sharing new knowledge in this scholarly field.

For many years now, we have performed an annual review of the burn literature including those articles felt to be most important to burn care going forward [1-5]. To continue this tradition, we now report on papers published in 2013. The format will be similar to that found previously for archiving purposes. This report is based on the views and opinions of the authors, and should not be taken as the policy or opinion of either the publisher or the International Society of Burn Injury. The authors have established a comprehensive knowledge of the literature, but in any opinion paper such as this, some bias is likely based on experiences of the authors; this should be considered in the reading. Further, this is only a very brief report on each paper, and we encourage the reader to read the cited articles if his or her interest is raised. As in previous years, there are many works that are not mentioned which may in fact be much more important when seen across time. We congratulate all authors on their contributions for which we look forward to seeing more.

The methods used for this review are as follows: a search of the literature was done with Scopus[®] with the following limits: burns (article title, abstract, keywords); year (2013); Life Sciences, Health Sciences, and Social Sciences and Humanities (Medicine, Biochemistry, Genetics and Molecular Biology, Pharmacology, Toxicology, and Pharmaceutics, Nursing, Social Sciences, Engineering, Immunology and Microbiology,

Neuroscience, Health Professions, Materials Science, Psychology, Arts and Humanities, Business Management and Accounting, Computer Science, Multidisciplinary, Economics, Econometrics and Finance, Mathematics, and Decision Sciences); journals and conference proceedings; and English language. For the year 2013, 3415 papers met these criteria, which was another increase over the previous year.

This article will highlight approximately 100 publications from 2013 which the authors considered to be important with potential to impact understanding of the effects of burns and burn care. The articles were distributed by best fit into 9 areas of interest: epidemiology of injury and burn prevention, wound and scar characterization, acute care and critical care, inhalation injury, infection, psychological considerations, pain and itching management, rehabilitation, outcomes, and burn reconstruction.

2. Epidemiology and prevention

Here, we include articles describing the types of injury occurring in patients from disparate parts of the world as well as papers describing the effects of prevention efforts. The first is a very interesting paper describing the correlation of flame burn mortality rates and the economic status of countries. They begin by claiming that 95% of burn related deaths occur in low and middle income countries (LMICs) (Fig. 1). They used World Health Organization statistics to determine an association between burn mortality and gross domestic product (GDP) ($r = -0.26$) and gross national index ($r = -0.36$). This demonstrates that both country income and income disparity are associated with higher rates of death related to burns [6]. Previously, Ahuja et al. demonstrated that burn incidence decreases with increasing GDP, and these data corroborate this notion [7]. As economic development advances, we might expect that human suffering associated with burns should also diminish. From the r values provided, it is also true that many other conditions are associated with mortality, and these should be examined as well.

The next two studies describe epidemiologic outcomes specific to a particular region. The first comes from Ghana

Worldmapper Distribution of Deaths

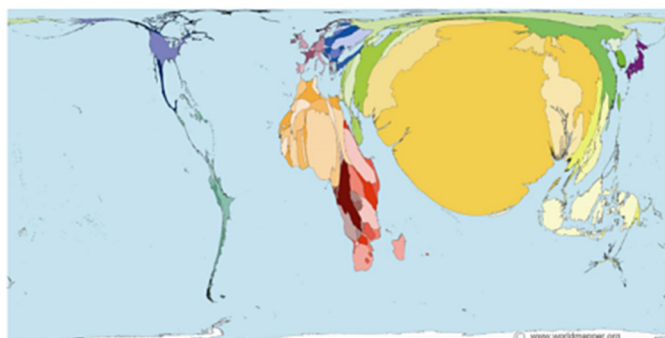


Fig. 1 – Worldmapper demonstration of the predominance of burn related deaths. Reprinted with permission from the Publisher, Ref. [6].

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