Improving the comparability and quality of burn research

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Determining pertinent outcomes in burn care to be reported in all future trials

Burn injuries contribute considerably to the global healthcare burden, with an estimated 11 million people annually affected worldwide. The impact of burn trauma can be destructive, lifelong, and indiscriminate. People of all ages, ethnic origins, and backgrounds are at risk. But it is the most vulnerable in society who are disproportionately affected: children, elderly people, individuals with poor mental or physical health, and those of low socioeconomic status. However, the past 50 years have seen substantial reductions in burn mortality, largely due to early excision and grafting, improved burn resuscitation, intensive care treatment, and better management of sepsis and wound care. Survival is now expected for the vast majority of people, even after severe burn injuries. The focus of the next 50 years will be on improving outcomes for survivors.

The evaluation and comparison of burn treatments presents a difficult challenge because they are a heterogenous group of injuries. Burn size, depth, anatomical location, cause, and patient factors are inconsistent. Additionally, the outcomes measured are also heterogenous, reliant on the preferences of researchers and not necessarily those most important to patients. Decreasing incidence of major burn in high-income countries limits recruitment to trials, so evidence increasingly relies either on multicentre collaboration or systematic reviews.

Several of these outcomes emphasise long term function, rather than the short term physiological markers that are often used by clinicians. This list reflects the co-production and participation of a wide group of stakeholders, and is a strength of the burn community.

The final seven outcomes were: death; specified complications (eg, sepsis or wound infection); ability to do daily tasks; time to wound healing; long-term neuropathic pain and itch; psychological wellbeing; and return to school or work. Several of these outcomes emphasise long term function, rather than the short term physiological markers that are often used by clinicians. This list reflects the co-production and participation of a wide group of stakeholders, and is a strength of the work. The inclusion of these outcomes in any study of burn research will be a marker of the standard of research and the importance of findings to the burn community.

Young and colleagues have demonstrated an admirable commitment to co-production in their strategy, through the involvement of clinicians and patients. The process was overseen by a steering group of members of the burn multidisciplinary team and UK patients. Patients were also involved in the study design, both rounds of questionnaires, and the consensus meeting. The authors were unable to recruit international patients, owing to the financial and time implications of translating
and distributing the survey to patients worldwide. This limitation could restrict the relevance of the outcomes globally. The study remains, however, a comprehensive attempt to garner international opinion on burn outcomes, with 77 countries represented by professionals, 18% of whom were from low and low middle income countries.

Research into burn and scar management is on the cusp of further advances in the coming years. The creation of the COSB-I is therefore a timely and important first step in improving the quality and comparability of burn research. The resulting seven outcomes are broad and undefined in nature and scope. While the COSB-I identifies what should be reported in future burn trials, the next step is to determine how these outcomes should be defined and measured.

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