



THE CASE FOR PRIORITISING THE IMPROVEMENT OF ORTHOPAEDIC TRAUMA NURSING SKILLS IN LOW TO MIDDLE INCOME COUNTRIES: A SCOPING REVIEW.

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Aims and Objectives

To identify the appropriate directions of educational programmes for nurses in low-to-middle income countries by analysing the global need for specialised trauma nursing skills, and understanding future directions for primary research.

Background

Traumatic orthopaedic injuries are responsible for 5.8 million deaths every year - **90%** occurring in Low to Middle Income Countries.

Approximately **6 times as many people** are injured due to trauma than those who die of it. Nursing is an **under-utilised resource** in global surgery with poor management of traumatic injuries associate with significant **morbidity** and **disability**.

Little research exists into the availability of skilled orthopaedic nurses in Low to Middle Income Countries, or what training is available to support development.

Methodology

Due to limited evidence, a structured scoping literature review was used. 3 databases were searched using a combination of keywords and Boolean operators. These databases were CINHAL, Medline and SOLAR. **11 papers identified – overview in table below.**



Findings and Key Themes Identified

Limited existing evidence looking at nursing role in global trauma surgery – only 11 papers identified, and 4 looking only at nursing.

- Nurses are an **under-utilised resource** in global trauma care, despite having skills, knowledge and potential to be able to reduce morbidity and mortality from traumatic injuries.
- **Nursing education** identified as a vital to develop global surgery, with clear association between increased nursing education and improved patient outcomes.
- **Task shifting and leadership** identified as areas to develop to improve trauma care, nurses' career satisfaction, patient outcomes.
- **Global Perceptions** of nursing identified as a core barrier to the empowerment and utilisation of nurses, with nurses still being viewed in many countries as doctors 'handmaidens'.
- **Poor staff retention** preventing development of staff, increasing staff burnout and undermining opportunities for nursing leadership.

Conclusions

Significant **investment** in training for orthopaedic nursing in Low to Middle Income Countries could reduce morbidity and mortality from traumatic injuries, improve staff retention and encourage nursing leadership.

Perceptions of nursing are a powerful global barrier to full utilisation of the workforce.

Considerable need for **more primary nursing research** due to a paucity of existing work.

| Authors, date & geographical location | Aims | Methodology | sample |
|--|---|--|--|
| Carter and Snell (2016) Zambia | Overview of nursing critically ill surgical patients in LMIC. | Review paper | n/a |
| Chu, et al. (2011) Somalia | A statistical review of the surgical mortality rates. | Quantitative data analysis, post-intervention. | N = 1602 surgeries |
| Chagomerana et al. (2017) Malawi | To describe incidence and subsequent treatment of lower limb fractures. | Prospective cohort study | N = 905 patients with lower limb extremity injury in one tertiary hospital between 2010-2011. |
| El-Dakhkany (2010) Egypt | To improve paediatric nurses' understanding of care for children with fractured limbs in traction Thomas | Quasi-experimental. | N = 30 nurses working in an orthopaedic surgical department. |
| Han et al. (2017) | Description of a collaboration between Australian and Republic of the Union of Myanmar orthopaedic nurses | Qualitative descriptive paper | Numbers not identified |
| Timmins et al. (2018) Haiti | To describe barriers and facilitators to nurses providing quality wound care in three surgical wards, including orthopaedics. | Qualitative descriptive: interviews and observational data | 15 wound care observations 13 nurse interviews and 3 medical resident interviews |
| Nogaro et al. (2015) Central and Eastern Africa | To test if delivering formal primary trauma care courses in seven East and Central African countries can improve clinical staffs' knowledge and confidence managing trauma. | Quantitative pre and post intervention | 240 doctors 99 non-medical staff nurses, student nurses, clinical officers and plastering technicians) |
| Nwanna-Nzewunwa et al. (2016) Uganda | To identify barriers and facilitators to timely surgical care in Ugandan Regional referral Unit | Mixed Methods | Numbers not identified |
| Petroze et al. (2015) Rwanda | To identify if a focused trauma education initiative could improve injury-related outcomes and resource utilisation. | Quantitative post- and post-intervention audit | 24 faculty surgeons and 15 trauma nurses |
| Wesson et al. (2015) Kenya | To present perceptions of systems used to triage and transport patients and explore triage capabilities in district hospitals. | Qualitative focus groups and key informant interviews. | Focus groups (n = 102) Key informant interviews (n=24) |
| Wesson et al. (2015) Kenya | To describe trauma care capacity in two Kenyan hospitals and identify ways which it can be strengthened. | Qualitative interviews and 4-point questionnaires | 17 hospital staff, including clinical and administrative staff. |

References:

- All-Party Parliamentary Group on Global Health (2016) Triple Impact: How Developing Nursing will Improve Health, Promote Gender Equality and Support Economic Growth. APPG, London.
- Carter, C. (2016) The Nurses' Role in Delivering the Global Safe Surgery Campaign. British Journal of Nursing. 25 (16), P. 907
- Meara, J., et al. (2015). Global Surgery 2030: Evidence and solutions for achieving health, welfare and economic development. The Lancet Commissions. 1-56.
- Nwanna-Nzewunwa, O., C., Ajiko, M-M., Kirya, F., Epodoi, J., Kabagenyi, F., Batibwe, E., Feldhaus, I., and Julliard, C. (2016) Barriers and Facilitator of Surgical Care in Rural Uganda: A Mixed Methods Study. Journal of Surgical Research. 204 (1), pp 242-250