ABSTRACT

Background: The early mobilisation of patients in the intensive care unit (ICU) is advocated as an intervention that may attenuate the consequences of critical illness. Recent evidence shows that the early mobilisation of patients in ICU is feasible, safe and is associated with improvement in the patients' clinical outcomes. However, not all units have adopted an early mobilisation programme as the standard practice of care for every ICU patient. There remains a paucity of evidence to explain why studies supporting the early mobilisation of patients in ICU are not being translated into practice as only a small percentage of patients are being mobilised out-of-bed, and this has resulted in an evidence-practice gap.

Purpose: The overall purpose of this study was to determine whether research evidence related to early mobilisation is being implemented in clinical physiotherapy practice in the ICUs of government hospitals in Zimbabwe and South Africa (SA); to identify the factors (barriers and facilitators) related to the implementation of such interventions; and the design strategies that may address the identified gaps at either the provider, patient or healthcare system level.

Methods: A mixed methods approach was used to address the aims of the study. An explanatory sequential study design in which a cross-sectional survey of 18 hospitals (n=5 in Zimbabwe; n=13 in SA) was done; this was followed by in-depth interviews with 22 physiotherapists (n=4 from Zimbabwe; n=18 from SA) working in ICUs to determine the prevalence of early mobilisation practice in the units, the ICU organisational structures and the barriers and facilitators that influence the early mobilisation of patients in SA and Zimbabwean government hospital ICUs. Lastly, a Delphi study with a panel of 23 experts from SA and Zimbabwe was done to explore expert opinions and consensus on the strategies to be implemented in SA and Zimbabwean government hospital ICUs to overcome the identified barriers to early mobilisation practice.

Results: The findings of the study suggest that there are very low rates of out-of-bed mobility activities performed in the ICUs in SA and Zimbabwean hospitals (19.5% and 25% respectively). Reasons why patients were not mobilised out-of-bed differed between the two countries with the majority of the patients from Zimbabwe not being mobilised on account of sedation and unresponsiveness (n=13; 32.5%), whilst the patients from SA were not mobilised as they were unresponsive (n=50; 24.4%, $p<0.05$). There was a significant difference in the indications for ICU

admission between the two countries, with the majority of the patients from Zimbabwe being in the unit on account of acute respiratory failure (n=13; 30%) and for postoperative care (n=10; 25%), whilst traumatic injury (n=86; 41.9%) and postoperative care (n=54; 26.3%) were the main indications for ICU admission in the SA cohort (p=0.001). Predictors of out-of-bed activities were the type of ICU, the method of ventilation, and the number of days in ICU ($p<0.05$). Facilitators to early mobilisation identified by the physiotherapy clinicians included awareness campaigns of the benefits of early mobilisation in staff training and practice; the acceptance of the intervention as the standard of care; the availability of protocols on sedation, delirium assessment and early mobilisation in the unit; multidisciplinary team engagement; adequate staff numbers (especially physiotherapists); and, adequate mobilisation equipment (e.g. portable ventilators, walking frames and bedside chairs).

Barriers to early mobilisation identified included variability in the manner of defining early mobilisation and the activities that constitute it; undefined roles within the multidisciplinary team responsible for the implementation of early mobilisation; negative perspectives of the clinicians about the intervention; the poor clinical reasoning skills of the clinicians; delayed consultations by specialists in the general ICUs; the high turnover rate of the ICU staff; the lack of protocols in the unit; patients in an unstable condition; inadequate staff numbers; and a lack of mobility equipment.

The expert panel agreed that there is a need to standardise the practice of early mobilisation in units in SA and Zimbabwe by defining the specific activities considered as early mobilisation; through the development of detailed protocols and guidelines to assist with early mobilisation; by enlisting champion leaders in ICU who advocate for the early mobilisation of patients; by ensuring the timely management of orthopaedic fractures; by promoting the admission of patients into specialised units; by making mobility equipment available; through the creation of physiotherapy posts; and through skills training for all staff responsible for implementing early mobilisation activities for patients in ICUs.

Conclusion: The rate of out-of-bed mobilisation activities in SA and Zimbabwean government hospital ICUs was found to be low and to be influenced by patient unresponsiveness, sedation and haemodynamic instability. The predictors of out-of-bed mobilisation activity included the type of ICU, the method of ventilation and the number of days in ICU. Overcoming the highlighted barriers will require a cultural change with regard to ICUs that prioritises the following: the early mobilisation of patients; developing standard operating procedures (clinical practice guidelines

and protocols); multidisciplinary team engagement; coordinating the execution of early patient mobilisation; and effective communication among team members. These expert consensus strategies serve as the first step in guiding the development campaign to a focused approach and to use research evidence to promote better quality patient care in daily clinical practice in an ICU setting.

Key words: early activity, mobilisation, physiotherapy practice, evidence-based practice, clinical practice guidelines, barriers, facilitators, outcomes, critically ill, implementation.