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Developing a context appropriate clinical guideline for post-operative pain management in Ghana: A participatory approach

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ABSTRACT

Clinical guidelines involve statements that guide clinicians to provide effective care to patients. However, there are no context appropriate clinical guidelines for post-operative pain (POP) management in Ghana. This study sought to develop such a clinical guideline. The study adopted a participatory approach drawing from the existing literature to develop the guideline with the involvement of 27 experts and stakeholders including nurses, doctors, anaesthetists, pharmacists, patients, and patients' relatives. Also, the guideline statements were discussed and finalised at a multidisciplinary consensus forum made up of 29 members. Consensus was achieved by employing procedures similar to a modified nominal group technique. Purposive sampling was employed. The guideline was made up of four dimensions described in a conceptual Radial Venn which emphasised inter-relationships among patient and family education, team work, monitoring and input by hospital leadership, and application of appropriate scientific recommendations for POP management. The effective collaboration with stakeholders resulted in the adoption of the clinical guideline by the Ghana Health Service for use within the Ghanaian health system.

1. Background

Clinical guidelines are defined as statements that are developed systematically to help health care providers and patients make appropriate decisions about specific clinical issues (Hewitt-Taylor, 2004). The statements of a clinical guideline are based on the best available evidence relating to the specific aspect of care or procedure. The process of guideline development involves establishing the scope or parameters of the guideline. This forms the foundation of the clinical guideline, whereby specific limits of the guideline are clearly stated, such as the objective of the guideline, the target patient group and the specific procedure or patient care activity involved (Hewitt-Taylor, 2004; National Institute for Health and Clinical Excellence (NICE), 2014; Scottish Intercollegiate Guideline Network (SIGN), 2013; The Appraisal of Guidelines Research and Evaluation in Europe (AGREE) Collaboration, 2013).

The development of a clinical guideline also involves identification of a multidisciplinary team or stakeholders to ensure that all relevant areas are incorporated. It is recommended that the team should have a balance of disciplines and that the membership should be kept at a manageable size to ensure effectiveness (Hewitt-Taylor, 2004; Keeley, 2003). Another hallmark of clinical guideline development is a systematic review of the evidence for which the clinical guideline is developed (National Institute for Health and Clinical Excellence (NICE), 2014). Thus, a systematic review was conducted as part of the doctoral study from which this paper was derived (Aziato, 2012) to ensure that guideline statements included evidence-based recommendations for POP management.

Clinical practice guidelines may be procedure-based, unit-based, institution-based or for national use. (Haljamäe & Stomberg, 2003; Lindenfeld & Kelly, 2010; Rolley, Salamonson, Wensley, Dennison, & Davidson, 2011). Therefore, it is necessary for the limits of a particular clinical guideline to be well demarcated to avoid ambiguity and confusion regarding its use, as this could have negative repercussions Thus, the development of clinical guidelines follows standard processes stipulated by recognised bodies such as the National Institute for Clinical Excellence in the UK, the Scottish Intercollegiate Guidelines Network, and The Appraisal of Guidelines Research and Evaluation in Europe Collaboration. This study drew from these standard processes to develop a contextual clinical guideline for post-operative pain (POP) management in Ghana.

Guideline development institutes most often develop guidelines for specific conditions and procedures at the national

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level, and therefore such guidelines have a wider spectrum (Hewitt-Taylor, 2004). However, this paper describes the development of a clinical guideline for a specific clinical issue (post-operative pain management on a surgical ward). On a surgical ward, there may be different guidelines for various procedures that guide the health professional to provide the best possible care. For example, there are guidelines for the administration of drugs such as opioids, for the nursing care of a patient receiving patient-controlled analgesia or epidural analgesia, and intravenous fluids (Rolley et al., 2011). Generally, such guidelines reflect current evidence-based standards and are reviewed periodically. However, within resource constrained countries, the authors were not aware of any clinical guideline for POP management at the time of the study.

Many patients continue to experience moderate to severe post-operative pain globally and researchers over the years have devoted attention to many aspects of pain (Abdalrahim, Majali, & Bergbom, 2010; Qu, Sherwood, McNeill, & Zheng, 2008). Although pain is a personal phenomenon, patients respond to POP differently (Aziato & Adejumo, 2014c). Also, the socio-cultural background of the patient influences pain response (Lovering, 2006). In view of this, individual and contextual factors are to be incorporated in the planning and delivery of care. Therefore, the guideline developed for a resource-limited clinical context is necessary as it is suitable to address the uniqueness of such context. Lack of understanding of context factors could lead to inappropriate guideline statements. The inappropriate statements will result in difficulties in the use of the clinical guidelines (Ploeg, Davies, Edwards, Gifford, & Miller, 2007; Taba et al., 2012).

In this study, a resource-limited clinical context is defined as a situation/scenario where there is limited staff education, equipment and non-use of methods such as patient controlled analgesia [PCA]). Thus, the scope and limits of the clinical guideline were derived from in-depth understanding of contextual factors that influenced post-operative pain management and a systematic review of the literature. For example, patients and nurses in Ghana do not have adequate knowledge on POP management due to inadequate education and training (Aziato & Adejumo 2014a; Aziato & Adejumo 2014b; Aziato & Adejumo 2014c; there are no advanced techniques for pain management such as PCA. Nurses fear patients will be addicted to opioids such as pethidine and hence do not administer adequate opioids (Aziato & Adejumo 2014a). There was also inadequate knowledge on pain management, team work, and supervision. Post-operative pain management is seen as inadequate in Ghana (Aziato & Adejumo, 2014a; Clegg-Lamptey & Hodasi, 2005). Incorporating systematic reviews in clinical guideline development is recommended by accredited guideline development agencies such as The Cochrane Collaboration, Scottish Intercollegiate Guideline Network (SIGN), National Institute for Health and Clinical Excellence (NICE), and The Appraisal of Guidelines Research and Evaluation in Europe (AGREE) Collaboration (Hewitt-Taylor, 2004). It is necessary to appraise included studies based on an established hierarchy of the evidence. The hierarchical order of the scientific evidence is systematic reviews and meta-analysis, randomized controlled trials (RCT), cohort studies, case-controlled studies, cross sectional surveys, case reports, expert opinion, and anecdotal evidence (Keeley, 2003). The method used for appraisal of the evidence is determined by the type of studies involved in a particular systematic review.

This article provides a detailed account of a participatory process undertaken to develop a clinical guideline for POP management in Ghana. The participatory process employed ensured that relevant stakeholders were actively involved and their views incorporated in the clinical guideline developed. Participatory processes have been adopted by community-based projects and this approach has been demonstrated to be effective (Kraemer Diaz, Spears Johnson, & Arcury, 2013; Ritchie et al., 2013). The approach has been employed successfully for promoting environmental health (Liu et al., 2011). The report is derived from a multi-stage doctoral study by the first author.

2. Methods

The study was approved by the Ethics Committee at the University of the Western Cape (South Africa) and the Ghana Health Service Ethics Committee. Steps were taken to ensure anonymity and confidentiality of participants, through the use of identification codes. Participation was voluntary and individual informed consent was obtained by signing the informed consent form. The study was conducted in two hospitals in Accra, Ghana.

A systematic review was attempted in January to April, 2012. The aim of the review was to answer the question: 'What measures ensure effective POP management among adult general surgical patients in a resource limited environment?' The review adopted an exploratory approach targeting both quantitative and qualitative literature with a comparable group or control group. Data sources searched included several online databases, books, and non-electronic journals. The selection of articles was done with focus on the study (intervention for POP management) and not the author, particular journal or the author affiliation. Both authors independently selected the relevant article to avoid selection bias. A critical independent review of the abstracts resulted in exclusion of eight (8) of the selected studies because findings were not applicable to the Ghanaian clinical setting (Arya, Abdollahi, Golalipour, Kazemnezhad, & Mohammadi, 2007; Bardiau, Taviaux, Albert, Boogaerts, & Stadler, 2003; Closs, Briggs, & Everitt, 1999; Good et al., 1999; Good et al., 2001; Roykulcharoen & Good, 2004; Seers, Crichton, Carroll, Richards, & Saunders, 2004; Wong, Chan, & Chair, 2010); and only one study included (Mac Lellan, 2004) based on a nurse-led intervention rather than the use of advanced pain management technique (Table 1).

Subsequently, a *focused review* was undertaken as a remedial review to identify studies applicable to a resource-limited context. Identified studies emphasised effective leadership and team work, pre-emptive analgesia, regular around-the-clock analgesia, multimodal analgesia, and patient education (Table 2). The *focused review* was necessary because of paucity of evaluative research for pain management in resource-limited clinical environment. The studies identified were appraised for quality and applicability to resource-limited clinical context and not the level of scientific evidence. The identification of studies during the *focused review* was based on an in-depth understanding of context factors (Aziato, 2012).

Subsequently, two participatory approaches were adopted and included participant/expert review and the conduct of a consensus forum oriented towards a modified nominal group technique to achieve consensus (Jackson, Hettinga, Mead, & Mercer, 2009). A full understanding of the contextual factors influencing POP management in Ghana (Aziato & Adejumo, 2014a,b,c), a systematic review (Aziato, 2012), and a review of existing clinical guidelines on acute pain management in other countries such as the USA, Australia, New Zealand, Canada, UK and South Africa (American Society of Anaesthesiologists (ASA), 2012; Australian and New Zealand College of Anaesthetists (ANZCA), 2010; European Association of Urology, 2010; The British Pain Society, 2007; The South African Society of Anaesthesiologists (SASA), 2009), indicated that the existing guidelines could not be applied in a resource-limited clinical context as occurs in Ghana. The reason for this assertion is that the existing guidelines included statements for PCA and epidural techniques which were not available in resource-limited clinical context at the time of study. Thus, the authors developed initial