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Original article

Factors affecting the delivery of healthcare on a humanitarian operation in West Africa: A qualitative study

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ABSTRACT

Introduction: Medical personnel in the UK Armed Forces are highly trained to deploy in support of military operations that assist humanitarian, peacekeeping, counter-terrorism and environmental catastrophes anywhere in the world. Such environments are often austere and successful outcomes demand an individual is highly resilient and able to adapt quickly to any situation. This qualitative study aimed to determine the factors that affect healthcare delivery on such missions by capturing the personal experiences of the first military personnel deployed on a humanitarian operation in support of the Ebola outbreak in West Africa between October 2014 and January 2015.

Methods: A grounded theory methodology was utilised to probe the personal accounts of these experiences. Semi-structured interviews were conducted on 14 multi-disciplinary personnel 3–6 months following their return to the UK and were transcribed verbatim. Data were analysed and a framework generated that had been further refined by discussion with military personnel independent of the study but with the contextual understanding and experience of this particular deployment.

Findings: The resultant theoretical framework was underpinned by participants framing their experience by "just getting on with it". Stressors such as a poor flow of information, a fear of the unknown, strict patient admission criteria, environmental constraints and transcultural boundaries to care were mitigated by strong leadership, teamwork, peer support and the positive impact of having made a difference.

Conclusion: Collective pre-deployment training generated competence, confidence and team cohesiveness providing a firm foundation for coping with the challenges of this humanitarian mission, which continued to be strengthened throughout the deployment. These factors helped to build personnel's resilience to the stressors associated with the mission and may help to protect their mental health outcomes in the longer-term.

1. Introduction

Disasters around the world, either manmade or otherwise, require a rapid response to structure the delivery of relief aid and healthcare in conditions that can be extremely unpredictable and often in austere settings. Such situations require well-trained teams to be deployed that are fully prepared to deliver the highest possible standard of care whilst potentially being placed equally in harm's way. They must also face the inevitability of constrained resources and resupply chains, particularly during the initial phase of disaster response, and being further challenged by difficult terrain, extremes of climate and threats to their own security. The end of lengthy war fighting operations in Iraq and Afghanistan in 2014 presented a new era of contingency for the Defence Medical Services (DMS). This increased the requirement for personnel to be trained and ready to deploy anywhere in the world on operations to support humanitarian, peacekeeping, counter-terrorism and environmental catastrophes. Few could have predicted that the first of these deployments would be required almost immediately in response to the largest known and most widespread Ebola Virus Disease (EVD) outbreak in West Africa. This was reported to have exceeded 10,100 cases by October 2014 (WHO, 2014) and fears that it would extend beyond African boarders were realised when a patient was admitted to a medical facility in Dallas, USA (McCarthy, 2014).

The first group of UK military medical personnel had been trained and deployed within approximately 6-weeks of their official notification. Their mission was to provide a 12-bedded medical facility to care for UK and international healthcare workers who were supporting the humanitarian relief operation in Sierra Leone. Support to humanitarian missions has been provided previously by the UK military; for example, medical personnel deployed on Operation GABRIEL to Rwanda after the civil war there in 1994. They provided primary healthcare clinics in refugee camps and helped to stem the transmission of disease (Hawley,

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1997). However, the only incidence of the military dealing with highly infectious diseases was in 1945, following the British Forces' liberation of Bergen-Belsen camp in Germany, where personnel treated detainees with typhus and tuberculosis, which were rife throughout the camp (Trepman, 2001). The passage of time and the emotive nature of such deployments meant that there had been no lessons captured to create an institutional memory that would inform the medical response to the crisis in Sierra Leone; therefore, the planning and implementation of the training had to be initiated from scratch in a very short timeline. The DMS strives to deliver the highest standard of care to injured personnel on deployed operations and civilians in need during humanitarian and disaster relief missions. However, there is a paucity of research into the factors that affect the delivery of care on such operations by healthcare professionals. These studies are vital in ensuring that the passage of time does not permit military medicine to regress, thereby generating an intellectual deficit that has been witnessed between previous conflicts (Hodgetts, 2014).

It was this backdrop that formed the study's theoretical framework, which is underpinned by the need for DMS personnel to be appropriately prepared and supported to deliver care on operations. Its aim was to gain a better understanding of the factors that affect the delivery of healthcare during an operational deployment and identifying any associated challenges will permit the DMS to focus the utility of resources, thereby optimising the patient experience and maintaining the psychological wellbeing of its personnel. Despite this study exploring the lived experiences of military personnel it has equal relevance to civilian healthcare teams. Indeed, a number of civilian teams trained alongside the UK contingent to prepare for subsequent deployments in support of this Ebola outbreak. Therefore, the lessons learned from this study have equal importance to the civilian sector that delivers care in similar remote and austere environments and share a need to prepare a resilient workforce to face future challenges.

2. Ethics

Ethical approval for the study was granted by the Ministry of Defence Research Ethics Committee (420/MODREC/13). The primary author was the only individual to have access to the data, all of which were anonymized when discussed with fellow researchers and care was taken to ensure that all quotes used in the paper could not be traced to their originator.

3. Design

A grounded theory methodology was utilised to probe the personal accounts of experiences during the preparatory and deployed phases of the mission. Grounded theory is an inductive technique of developing a framework of conceptual understanding that is grounded in the data and which has been systematically collated and analysed (Glaser & Strauss, 1967). To gain a contextual interpretation of participants' physical and educational preparation the author attended some of the training at the Army Medical Services Training Centre (AMSTC) with personnel who would be the first to deploy to the British Ebola Virus Treatment Unit (EVTU) in Kerry Town between Oct 14 and Jan 15. Data from an evaluation of that training was used as a means of better understanding how their educational preparedness translated into practice (Lamb, Jones, & Gibson, 2017). This was further explored during semi-structured interviews that investigated the participants' perceptions of: educational preparedness, standards of care, multi-professional and international boundaries, stressors and cultural differences.

In line with grounded theory methodology the processes of data collection and analysis were iterative and it was important to capture the experiences of the multi-disciplinary team. Initially recruitment focused upon those responsible for providing direct patient care but was extended to include wider members of the team who provided vital support in the undertaking of these duties. This iterative process continued until data saturation had been reached.

4. Method

Fourteen multi-disciplinary team members participated in the study; these comprised: doctors (n = 4), nurses (n = 4) and allied health professionals and support personnel (n = 6) comprising health care assistants, biomedical scientists, personal protective equipment (PPE) monitors and drivers. Participants who were allied health professionals and support personnel were combined into one group (AHP) to protect their identity due to the small number within each sub-group. Participants included 7 females and 7 males with an age range of 24–48 years. Interviews were conducted between 3 and 6 months following participants' return from West Africa; the interview schedule is at Box 1. Discussions were digitally recorded and transcribed verbatim. All transcripts were independently checked against their digital recording to confirm accuracy, 4 (28.6%) of which were randomly selected and returned to participants for confirmation that they accurately reflected the discussion of their experiences.

4.1. Analysis

Data collection and analysis were conducted simultaneously following a systematic iterative process that constantly compared the data. As concepts emerged these were explored during subsequent interviews to test evolving theories until data saturation was reached (Charmaz, 2006). Emergent categories and themes were discussed with personnel independent of the study but who had experienced the deployment to assure the data had been correctly interpreted.

5. Findings

Participants described a number of factors that challenged their delivery of healthcare on this mission, which are outlined in Box 2. These will be discussed along with the coping mechanisms they employed to counter their effects.

5.1. Stressors

5.1.1. Fear of the unknown

Participants described how there were so many “unknowns” and their questions had no answers so there was no other alternative than “just getting on with it”; “*there's no point in stressing. .. you just have to get on with it*” [AHP1]. The fear of the unknown was primarily attributed to what would happen if they were to contract the Ebola virus, *“that was certainly an underlying anxiety I would say for a lot of people, it was just that lack of clarification as to what would happen, whether you'd just remain in the healthcare system out in Africa or whether you would be brought home so yeah certainly I think that did play on a lot of people's minds”* [N3]. This was also reported as stressful for those making strategic planning decisions: *“I remember vividly. .. that there was about a hundred of them* [medical personnel] *in the room and that I had predicted that we would have a 1% casualty rate from Ebola in our staff and I remember looking out among them thinking, ‘somebody here is probably going to get Ebola because of what we are about to do’, and I did feel you know. .. that was a bit of a choking moment”* [D1]. Some trepidation about the deployment was expressed with regard to family members. One participant declared that her partner *“would rather I go and get shot at than work in that environment.”* [N2] The preparatory phase had been particularly difficult for family as so much detail about the disease and it effects had been disclosed in graphic news reports, “*They were really apprehensive and they didn't want* [me] *to go, just because of what was in the media*”. [N4].

5.1.2. Empty beds

Ethical concerns were expressed such as the number of EVTU beds that remained empty, which was described as unexpected and also