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Needlestick and Sharp Injuries Among Healthcare Workers In the Operating Theatre: Why They Do Not Report their Incidences?

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Abstract

Introduction: Needlestick and Sharp Injuries (NSSIs) pose a significant threat to healthcare workers, particularly in Operating Theatres (OTs), where the risk of exposure is compounded by high-stress environments and the complexity of procedures. Despite the known dangers, a persistent issue of underreporting complicates efforts to safeguard worker and patient health. This paper promotes the adoption of Evidence-Based Practice (EBP) to mitigate these risks, aiming to improve reporting behaviors and, by extension, overall safety within healthcare settings.

Methods: This study utilizes a qualitative research approach, combining literature review and case studies to explore the phenomena of NSSI underreporting among healthcare workers. It examines barriers to reporting within OTs, such as fear of repercussions and time constraints, and proposes interventions based on EBP. The research methodology emphasizes the application of theory to practice through multidisciplinary team involvement, workshops, and the establishment of clear, achievable goals.

Results: The investigation reveals that while healthcare workers are generally aware of the protocols for reporting NSSIs, a range of barriers inhibits consistent application in practice. The study identifies effective strategies for bridging the theory-practice gap, including fostering a constructive learning environment, ensuring leadership support, and promoting open communication. These strategies are shown to facilitate the practical application of theoretical knowledge, thereby improving reporting rates and enhancing safety protocols in OTs.

Conclusions: Effectively addressing NSSIs in healthcare settings, particularly in Operating Theatres, requires a comprehensive approach that encompasses education, clear reporting protocols, and a culture of collective responsibility. Bridging the gap between theoretical knowledge and practical application through workshops, evidence translation, and an emphasis on interdisciplinary collaboration is key to enhancing patient and worker safety. The study underscores the necessity of understanding the multifaceted nature of behavior change in healthcare environments to implement successful EBP strategies.

Keywords: Needlestick Injuries, Operating Theatres, Underreporting, Evidence-Based Practice, Theory-Practice Gap

Introduction

In the healthcare setting, Needlestick and Sharp Injuries (NSSIs) constitute key health and safety issues faced by HealthCare Workers (HCWs) across the world [1]. Worldwide an estimated two million HCWs sustain NSSIs per annum [2]. This is the second leading occupational injury in the National Health Service (NHS) [3]. The second most common environment where these types of injuries occur is the Operating Theatre (OT) [4]. Of all high-risk exposures reported to the occupational health departments, OT is responsible for almost one-fifth (19%) of cases [2]. For the affected individual, NSSIs can be stressful, debilitating, shocking, and painful [1]. Even though NSSIs incidents are said to be on the rise in OTs, it is also reported that reporting rates are decreasing [5]. It is still unclear why this is the case. To practice responsibly and safely, it is vital to determine the reasons for underreporting of NSSIs [6]. Therefore, the scrub nurses and HCWs need to understand the importance of reporting these incidents and following the laid down policies and procedures [6]. One method that will be suggested for ensuring this is the use of Evidence- Based Practice (EBP) to connect theory and practice [7]. Different disciplines and departments have been slow EBP in the healthcare setting. Studies have shown that EBP is even less common in the OT compared to medical wards [8]. Based on this insight, this paper will describe the importance of successfully conducting and translating studies into clinical practice, ensuring that the skills of Multidisciplinary Team (MDT) are always kept up-to-date [6]. This paper will also present the methods that can be applied to meet this objective.

Underreporting of NSSIs

The risk of blood-borne infections through NSSIs is always present among HCWs [9]. Therefore, it is vital to focus on this issue. In OTs, NSSIs are common because of the type of work done in the theatre using sharp instruments [1]. Even though an injury is accidental, it becomes a mistake when HCW fail to follow protocol and report the injury [5]. The real and possible effect of injuries from sharp objects on their organizations and individuals is much greater than simply the statistical danger related to the transmission of blood-borne viruses [1]. Adams (2012) evaluated the practice approaches and knowledge among HCWs in terms of reporting after NSSIs. The study's aim was recognise the safe practice principles following NSSIs, define the actions required following NSSIs. It also aimed to present ways of knowing the legal and ethical elements. On the basis of the study's findings, it can be noted that a HCW sustaining injury need to report the injury as soon as it occurs so as to ensure infection control and begin other processes as stipulated by policy [2]. In the same vein, the Association for Perioperative Practice (AFPP) advises injured individuals to report injuries, so that appropriate action is taken [1]. A number of reports have highlighted the fact that there are high rates of incidence underreporting [2].

This happens within a setting where HCWs continue exhibiting an attitude of unethical practice or underreporting, which leads to risky practices and places all stakeholders' safety in danger [7]. Mena (2020) estimates that only 10% of NSSIs in OT are reported. Added to this, assessments of the reporting status of HCWs find that almost half (49%) do not report NSSIs [10]. Another study involving 300 HCWs concluded that even though 80% of workers know that sharp injuries and NSSIs need to be reported, only 51% reported these injuries [2]. Several studies have attempted to determine the reason behind the low NSSIs reporting incidence among HCWs. For instance, Adams (2012) notes that some of the leading reasons HCWs do not report incidents are linked to the following: underestimating the risks linked to contaminated sharp objects, fear that reporting may come with negative professional consequences, poor procedures for follow-up, an uncaring attitude, staff are too busy, the reporting procedure is time-consuming [2]. Joukar et al. (2018) and Mena (2020) concluded that some healthcare professionals believe that NSSIs do not have life-threatening risks. Thus, this indicates their poor understanding of risk and hazard management. The same scholar also agrees that

the time and procedures involved deter some employees from reporting. A study by Chowdhury and Chakraborty (2017) concluded that doctors also fail to report and follow up after injuries, and they name the same issues noted by other HCWs [5]. Added to those reasons, surgeons also noted high workloads and challenges in the post-injury process. I concluded through my reading, some HCWs might fail to report incidents because they do not have knowledge about the procedures involved. In other cases, the reporting procedures could be insufficient.

Applying Theory to Practice

To deal with the challenge of the gap between theory and practice, it is vital that following the identification of the challenge an effort is made by the OT to improve practice to enhance practice and ensure staff and patient safety (HCPC, 2014). My strategy will need to be consistent with the philosophy, mission, and vision of the organisation. Added to this, it should be supported by the local policy. According to Monaghan (2015), a successful strategy to improve practice should be compatible with the hospital's vision and mission. The basis for my strategy is a plan that includes the time to action a concept, the stakeholders, barriers, backers, and goals. Central to the strategy is planning to synthesise knowledge for solving the gap and anticipated problems. A plan is a blueprint for achieving the goals, while the goals play an essential role in developing practice (Curtis *et al*., 2017).

All *MDT* in the OT will be involved. The constructivist strategy will be applied. Such a strategy will allow HCWs to learn from their experiences in a manner that facilitates knowledge construction that will assist in the delivery of quality healthcare service. MDT will be encouraged to actively participate in workshops and then apply the knowledge they acquire from these. Added to this, healthcare institutions will be encouraged to provide incentives that will encourage the professionals to apply the theory they learn, share ideas, make decisions about practical problems, and apply and evaluate solutions to improve practice. Sellman (2010) considers that small workgroup workshops help translate theory into practice To deal with any barriers, I will work with experienced backers respected by the HCWs to communicate the changes required, goals, and plans. It will be important to listen to the concerns and feedback from the HCWs. Central to the strategy will be clear goals that will be relevant to our practice. In this setting, my responsibility as the leader will be to make sure that HCWs practice ethically, legally, safely, and effectively and report any issues that need to be attended to.

Theory Practice Gap

From the insights above, it can be generally noted that the lack of NSSIs reporting among HCWs relates to the gap between theory and practice (Weeks *et al*., 2019). A theory-practice gap is represented by a situation where HCWs find it challenging to amalgamate academic knowledge with real-world clinical practice (Monaghan, 2015). In an environment where care standards are in a constant state of evolution, it is usual to notice the disconnect between actual practice and that which is perceived as best practice (Rahman *et al*., 2012). One of the reasons attributed to this situation is that the theory may tend to be too idealistic, making it impossible to apply in practical situations (Kumar, Khuwaja and Khuwaja, 2012). The other factor is related to the failure of HCWs to apply theories, even when such theories have been shown to be beneficial and effective in boosting practice (Curtis *et al*., 2017).

It is the view of Monaghan (2015) that the theory-practice gap does not only apply to practical skills but also implies the possible dearth of proficiency among healthcare professionals in both clinical aptitudes and critical thinking. This is not applicable to every worker. Where the challenge is collective, personal variances in comprehension between professionals should be accounted for. In agreement that the theory-practice gap can be noted in various aspects, Weeks *et al*. (2019) propose that good practice must inculcate the ability to categorise and re-categorise information, determine its integrity, change categories where there is a need to, move from the practical to theory, and vice-versa, perceiving challenges from a novel direction, and ability to self-teach. Sellman (2010) define EBP as a model for solving problems that could be applied as a method for raising care standards so

that the healthcare sector could achieve excellence. It is a model that facilitates decision-making within a clinical setting. It accomplishes this by bringing together patient preferences, clinical expertise, and theoretical evidence (Sellman, 2010). The application of EBP is based on designing clinical questions based on evidence gathered. This evidence will then be evaluated before being amalgamated with clinical experiences before being implemented as a new practice (Sellman, 2010). Without attempting to analyse the relationship between theory and practice, it would be a huge challenge to fill the gap between them.

This is a view acknowledged by Joukar *et al.* (2018), who note that in instances where clinical practice is not based on the best scientific evidence, the care provided to patients often fails to meet standards. In institutions, this could result in challenges and frustrations experienced mainly by the HCWs and patients. This could result in HCWs' professional standing losing its integrity (Joukar *et al.*, 2018). Ferrara (2010) proposes that the gap between theory and practice can be closed by developing strategies to integrate EBP with educational theory. This can be achieved through employing several strategies, including preceptorship programs, mentorships, residences, and internships (Ferrara, 2010). Such strategies assist in describing the importance – and techniques – of successfully doing and translating research into clinical practice (Curtis *et al.*, 2017). This knowledge translation denotes an interactive and dynamic process that involves synthesis, dissemination, exchange, and ethically sound knowledge application to enhance the health of patients, deliver healthcare products and services that could be described as more effective, and make the healthcare system stronger (Curtis *et al.*, 2017).

Based on the insights above, it can be posited that it is necessary to find ways of closing the gap between theory and practice by providing ongoing training to HCWs [11]. Moreover, it will be essential to ensure that this knowledge is then employed in practice with the aim of working effectively, efficiently, and safely to meet the demands of an environment that is ever-changing [6]. This is a view acknowledged by Sellman (2010), who notes that the theory-practice gap should not be perceived as a problem but rather a chance for theorists and health care professionals to work together on how they can make the two work together. On this basis, Sellman (2010) argues that debates on how to close the gap should actually be welcomed as opposed to being avoided. In the same vein, Ferrara (2010) posit that permitting more HCWs autonomy in the clinical environment could be effective in closing the gap between theory and practice. This argument is based on the thinking that allowing freedom in practice makes it possible for HCWs to work according to their preferences, permitting them to embrace varying theoretical references in their day-to-day operations, the impact is to extend the HCWs by considering their practice's ethical, legal and moral contexts [9].

In an attempt to propose solutions to the theory-practice gap, Ferrara (2010) suggests education as a way of bringing the two together. The same author notes that focusing on education could help in finding ways of helping HCWs to use the learning techniques they prefer and their specific skills to close the gap between the two. Using education could also help close the gap using wisdom and good judgement. Monaghan (2015) suggest that the aim of this strategy is to encourage relationships between peers and consider other factors impacting healthcare practice, including legal and ethical considerations, health guidelines, procedures and policy.

Conclusion

NSSIs expose healthcare professionals to the risk of injury because of the use of sharp instruments [4]. This challenge can be dealt with by ensuring that institutions ensure the HCWs follow best practices to report NSSIs [4]. This can be encouraged by ensuring regular training and having that reporting protocols are straightforward [9]. Moreover, the HCWs will be encouraged to see reporting NSSIs as a collective responsibility [10]. It is anticipated that these efforts will ensure that NSSIs are reported, improving the safety of all stakeholders involved [6]. Regular workshops will play a major role in showing the HCWs why it is important to report NSSIs [9]. This paper has also shown why it is important to translate research evidence, so it is easier to put it into practice [11]. Translating evidence ensures that it is related to

cultural, behavioural, and practice settings, helping reduce the theory-practice gap [9]. The transfer of evidence can assist in recalibrating patient care and responses to optimise outcomes for all stakeholders [2]. This is because the successful implementation of a theory depends on changes in the consumer or professional's behaviour [5]. Therefore, it is critical that this is included in the implementation strategy [1]. It has been concluded that the theory-practice gap is not just a result of HCWs failing to remain up-to-date. It is noted that changing behaviour is a complicated endeavour that involves numerous systems [7]. Therefore, it cannot be expected that just having a plan for improving practice strategies on its own will drastically change the situation [9]. All the factors involved need to be understood and taken into account.

Conflict of interests

The authors declared no conflict of interests.

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