Do ward and department managers know their responsibilities in relation to the management of sharps, and is this reflected in the way that they practise sharps management?

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Abstract

Needlestick injuries (NSIs) involving hollowbore needles are the most commonly reported occupational exposure within the healthcare sector in the United Kingdom (HPA, 2012). It is estimated that at least 100,000 NSIs occur each year but due to under-reporting the figure may be much higher (RCN, 2008).

Many strategies aimed at preventing NSIs have been implemented in the healthcare environment, including administrative controls, safer work practices and engineering controls, but despite these measures NSIs remain a serious health and safety threat (EU, 2010).

New legislation has now been introduced as part of EU Directive 2010/32/EU, which requires UK and all EU member states to bring into force regulations, laws and administrative provisions to further protect healthcare workers from sustaining NSIs (EU Directive, 2010). The aim of this study was to determine the degree of responsibility that NHS ward/department managers felt they have in relation to the prevention and management of NSIs and if this was reflected in the way that they carry out relevant practices in their clinical environment. The study also aimed to identify factors which might impact on the ward/department managers' ability to manage sharps effectively.

The study found that although ward/department managers did acknowledge a high degree of responsibility overall for the prevention and management of NSIs, there were some concerns highlighted in relation to certain practices. These included not ensuring that all staff had received up to date training on the safe use and disposal of sharps and not disseminating information on NSI incidences and outcomes to staff in their clinical areas.

The findings of this study have the potential to inform and enhance future training and education schedules that relate to NSI prevention and management and to improve the corporate strategic commitment to reducing NSIs across healthcare organisations.

Introduction

Every day healthcare workers (HCWs) risk occupational exposure to bloodborne viruses (BBVs) such as hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV) in the workplace as a result of an injury from a used medical sharp, for example a needle, lancet or scalpel blade (Gabriel, 2009). Percutaneous exposures to blood or other high-risk bodily fluids carry the greatest risk for the transmission of BBVs in the healthcare environment (HPA, 2012).

Data from the Health Protection Agency (HPA) highlights that between 2002 and 2011 there were 3,140 reported percutaneous injuries (HPA, 2012). Since the late 1990s there have been 20 reported hepatitis C virus seroconversions among HCWs in England, Wales and Northern Ireland (HPA, 2012) and five documented cases of HIV transmission in the UK as a result of sharps injuries (HPA, 2010).

Although the majority of NSIs in the UK are not life threatening an HCW can endure months of anxiety while undergoing blood tests, waiting for a diagnosis, suffering the side effects of post-exposure prophylaxis (RCN, 2011), and the potential for developing an infectious disease such as HBV, HCV and HIV can inevitably cause great distress for the HCW and his or her family (RCN, 2009).

The overall costs of managing an injured HCW and the staff time involved throughout the process can also be significant. It has been estimated that the cost of managing a single case can be between £3,000 and £5,000 and higher if there is a resulting seroconversion

(NHS Scotland, 2006). The estimated cost relating to NSIs per NHS trust in England is approximately £500,000 per annum (RCN, 2008).

Many prevention and management strategies to protect HCWs from NSIs have been introduced to date in the UK and have included education campaigns; the implementation of administrative controls, e.g. policies and training programmes; improving engineering controls, such as the introduction of rigid sharps disposal containers and the recent requirement that safety devices (ie medical devices incorporating safety-engineered protection mechanisms) should be made available; changing work practices, e.g. never re-sheathing needles and disposing of needles at the point of use.

NHS trusts and health boards are also subject to the full requirements of health and safety legislation which place legal duties on all employers to provide for the health and safety of their employees (NAO, 2003). The current overarching law within the healthcare setting is the Health and Safety at Work etc Act 1974 which requires employers to ensure, so far as is reasonably practicable, the overall health and safety of their employees (HSE, 1974).

Despite current legislation and the number of strategies which have been introduced in an attempt to reduce NSIs, such injuries persist within the healthcare environment and remain a concern for healthcare employers (HSE, 2012).

EU Directive 2010/32/EU, on the prevention of sharps injuries in the hospital and healthcare sector, is new legislation which aims to further protect workers exposed to the risk of NSIs (EU Directive, 2010). It provides for a more integrated approach, establishing policies in risk assessment, risk prevention, awareness-raising and monitoring, information and training and response and follow-up procedures. The adoption of the European Directive 2010/32/EU requires the UK and EU member states to bring into force laws, regulations and relevant administrative provisions to comply with the directive by 11 May 2013 (RCN, 2011).

Although it is clear that the management of sharps involves a multi-disciplinary approach across a healthcare organisation, it is the ward and department (ward/dept) managers who have key responsibilities for the risk assessment of activities which are undertaken at ward/dept level (including safe sharp management) and to implement and monitor control measures within this environment (HSE, 2011).

This study aimed to identify the levels of responsibility that the ward/dept managers felt they have in relation to sharps management and identify factors which might impact on their ability to manage sharps effectively.

Methods

Study design

The most effective way to address the research question was to determine the levels of responsibility that ward/dept managers felt they have in relation to sharps management practices and identify if there were other factors which might impact on the ward/dept managers' ability to manage sharps effectively.

In order to obtain a range of perspectives and data that would reflect a broader range of practices it was considered that the population of interest would be ward/dept managers from three NHS acute trusts within the same geographical area in the south of England. The target population was therefore identified as all ward/dept managers from all wards and departments within each acute trust. The population size of ward/dept managers from each acute trust was 48 (Hospital A), 39 (Hospital B) and 27 (Hospital C).

Two of the acute trusts that were included were of average size measured by bed number counts, 563 (Hospital A), 591 (Hospital B) and the other acute trust was small, with 225 beds (Hospital C).

A mixed methods approach was used which focused on a qualitative methodology, but which incorporated a degree of quantitative research in the collection and analysis of standardised numerical data.

Ethics approval

This was sought and obtained from the Ethics Committee at the author's university.

Data collection

A self-completion questionnaire was used and respondents were asked to self-evaluate their levels of responsibility for different practices relating to NSI prevention and management. A Likert scale with level 0 representing no responsibility and level 5 indicating full responsibility was used. A series of open-ended questions were included to identify if there were factors which might impact on the ward/dept managers' ability to carry out sharps management effectively.

Questionnaire piloting

As the questionnaire in this study had not been previously used it was piloted to determine if the instructions and questions were clear, relevant, adequate and well ordered and whether additional questions should be included or whether any questions should be removed.

This involved selecting a small group of respondents which included four infection control practitioners with experience and knowledge of sharps management from three acute trusts (two from trusts that were involved in the current study). They were asked to look at the questionnaire and comment on how relevant the content was in relation to the research question. Appropriate amendments were subsequently made.

Data analysis

The quantitative data was analysed using the Statistical Package for Social Sciences (IBM SPSS Version 21) and frequency tables were generated to summarise the responses to each question.

Responses to the open-ended questions were compiled and manually analysed in order to identify any recurring themes or issues relating to factors which might impact on the ward/dept managers' ability to manage sharps effectively.

Confidentiality and anonymity

The questionnaire for this study was designed to ensure anonymity for the respondents and did not request any information that could lead to the identification of any individual. The identities of participants were not revealed at any stage through the process, even to the author of the study.

The confidentiality of the information obtained from and about the participants was respected at all times. The data provided by the ward/dept managers were stored securely and accessed only by the author.

Results

Tests were initially performed on the data from across the three acute trusts using chi square tests and crosstabulations to identify if there were any significant differences in responses between the three locations. No significant differences were found and results were statistically similar.

In total, 114 questionnaires were distributed and 60 were returned, one of which was incomplete and was therefore excluded, giving a response rate of 51.75%.

The majority of the ward/dept managers (76.3%; $n=45/59$) acknowledged that they had a high level of responsibility for the prevention of NSIs in their clinical areas.

Nearly 40% ($n=22/59$) of ward/dept managers stated that their staff had received training on the safe use and disposal of sharps within the preceding 12 months (Figure 1). Approximately 30.5% ($n=18/59$) were not sure, and a further 30.5% ($n=18/59$) reported that some members of staff had not received relevant, up to date training.

Figure 1. Ward/department managers' knowledge of staff in their clinical area with up to date training in the safe use and disposal of sharps

Figure 2. Feedback to staff on needlestick injuries (NSIs)

More than 66% ($n=35/53$) of ward/dept managers, who claimed that regular ward/dept meetings were held, reported that there was feedback given on NSI incidence, investigations, outcomes or actions which had been taken to prevent any reoccurrences (Figure 2). Nearly 34% ($n=18/53$), however, indicated that feedback on NSI incidents was not given within this forum.

The ward/dept managers were asked a series of open-ended questions to identify if there were factors which might impact on their ability to manage sharps effectively. They were informed of the numbers of reported NSIs which had occurred in the previous 12 months within their own trusts and when asked why they felt there had been so many NSIs the most commonly cited reason was "unsafe disposal of sharps" (Figure 3). "Work" and "time" pressures, "staff rushing" and "staff not following policy" were also identified as contributory factors.

Many of the ward/dept managers suggested that "increased education" for staff is an important factor in the prevention/reduction of the incidence of NSIs (Figure 4). Additionally, they considered that the "introduction of safety devices", and "ensuring the policy was followed correctly", would prevent/reduce incidents from occurring.

Over 60% ($n=35/59$) of ward/dept managers felt that their trust was doing enough to try to prevent/reduce the incidence of NSIs, while 38.6% ($n=22/59$) considered that there were not enough preventive/reductive measures taken by the trust.

Discussion

The findings of this research study highlight how relevant policies and guidance (eg the Health and Safety Policy, the Medical Sharps Policy and the Knowledge and Skills Framework (DH, 2004)) within each trust have, overall, been successfully implemented, communicated and made accessible for the ward/dept managers to have gained appropriate knowledge of their relevant responsibilities.

There were little variations in the levels of responsibility identified for all questions relating to sharps management practices and ward/dept managers felt that they had full or near full responsibility for the aspects of sharps management identified within the questionnaire. No respondent felt that they had little or no responsibility for any aspect of sharps management. Those who did not acknowledge full responsibility might have considered that the broad issue of prevention of NSIs is a multidisciplinary concern, or that the individual has greater responsibility. Effective sharps management is recognised as a trust-wide issue and "everyone has a role to play" (RCN, 2011), but it is the ward/dept managers who are responsible for putting in place and monitoring control measures to prevent NSIs within their own clinical settings.

One of the main requirements of the new EU Directive is that policies relating to NSI prevention and management are developed with clear responsibilities outlined for all staff as an aim to limit exposure to an occupational hazard such as a hollowbore needle (RCN, 2011).

Why do you think there were so many NSIs last year?

Figure 3. Reasons for needlestick injuries (NSIs)

What do you think is the best way to prevent/reduce the incidence of NSIs

Figure 4. Best way(s) to prevent/reduce needlestick injuries (NSIs)

Despite the majority of ward/dept managers acknowledging that they had full responsibility for ensuring that staff in their clinical setting had up to date training on the safe use and disposal of sharps it was identified that some of the respondents were not sure if all staff had received such training and a third of the ward/dept managers claimed that they were aware of staff who had not received up to date training. The respondents were not provided with an opportunity to indicate why they were not sure if all of their staff had received training or why a number of staff had not received training and knowing the reasons for this would have been useful to obtain.

The Department of Health (DH) have highlighted the significance of training in the prevention of NSIs (DH, 2002) and healthcare staff who have not received adequate training on safe sharps management should be identified in order that targeted training can take place.

Most of the ward/dept managers acknowledged that they do have regular ward/dept meetings and many do use these as a forum to feed-back information on NSI incidence, investigations, outcomes or actions taken, but over a third of the respondents do not. The ward/dept managers were not asked if there were other opportunities to disseminate this information, but the importance of providing feedback on NSIs to staff has been highlighted (RCN, 2011) in order that any local emerging trends, including poor practices, can be identified and measures put in place to prevent other such injuries from occurring.

The ward/dept managers were asked if there were other competing tasks or factors which they felt might hinder the improvement of sharps management on their ward/dept and the majority considered that there were not. Interestingly, however, recurrent themes which emerged when the ward/dept managers were asked why they thought there had been so many NSIs in the preceding 12 months were "staff not following policy", "work pressures" and "time pressures". This demonstrates that the respondents do consider these issues to be contributory factors to the incidences of NSIs within their clinical areas.

An investigation resource which is recommended for use in Root Cause Analysis (RCAs) into patient safety incidents is the Fishbone

Template (NPSA, 2012). This is designed to identify root causes and contributory factors to patient safety incidents and includes the analysis of education/training provision and working condition factors such as staffing, workload and time. The introduction of this tool for the thorough investigation of each reported NSI might guide investigation teams through best practice in investigation and provide information which can identify issues such as training gaps, poor/non-compliance to policy or inadequate staffing levels which can be subsequently addressed. Such information can also be utilised to inform future education and training programmes.

One of the underlying principles of the new EU Directive is that the workforce should be "adequately resourced" and it requires that, when NSI prevention and management policies are developed, workplace organisation such as staffing numbers, working hours, working conditions and psychosocial factors, eg fatigue and stress, must be taken into account. This requirement highlights how important and valued the healthcare workforce is considered to be as a resource to prevent/reduce the incidence of NSIs.

"Increasing education" and "introducing safety devices" were commonly suggested by respondents as best ways to prevent/reduce NSIs. This demonstrates the ward/dept managers' awareness of the importance of education in relation to safe handling and disposal of sharps and the use of safety devices, which have now become an important measure aimed at NSI prevention (RCN, 2009; EU Directive, 2010; HPA, 2012; HSE, 2012).

The "lack of access to safety devices" was also commonly cited by the ward/dept managers who considered that their trust as an organisation was not doing enough to try to prevent/reduce the incidence of NSIs. Other comments included "more awareness" and "needs a higher profile", all of which demonstrate the ward/dept managers' recognition of the importance of the organisation's overall commitment to reducing and preventing NSIs.

Highlighting safety from an organisational perspective has been described as "essential" as a measure aimed at reducing NSIs within the healthcare environment (CDC, 2011). The Centers for Disease Control and Prevention (CDC) promotes a safety culture which is

reflected in a level of accountability for, and awareness of, safety by each member of staff in the organisation. Actions which are suggested to improve safety include ensuring that there are clear institutional objectives set, a shared commitment to safety from all staff within the organisation and the role modelling of safe practices by management staff.

The EU Directive advises that medical sharps policies should contain a strategic aim which acknowledges that NSIs are a significant health and safety problem and which outlines the organisation's commitment to reducing NSIs (RCN, 2011).

Conclusion

This research set out to identify if ward/dept managers knew their responsibility in relation to the management of sharps and if this was reflected in the way that they practised sharps management. It focused on the management of sharps specifically at ward/dept level and respondents acknowledged that they had a high degree of responsibility for the practices relating to sharps management.

The areas of responsibility that were investigated related to the broad practices contained in the medical sharps policy and although good practices were demonstrated there were also poor practices that were highlighted.

The study also identified that pressures of time and work experienced on the ward/dept and staff not adhering to policy guidelines might impact on the ward/dept managers' ability to manage sharps effectively in their clinical environment.

It is hoped that participating in this study has increased the ward/dept managers' awareness of sharps prevention and management in their clinical environment and has provided them with an opportunity to reflect on their responsibilities in relation to this issue.

Recommendations considered for the applicability of the research findings are that:

- action should be taken by ward/dept managers to ensure that the issues identified from the study are addressed and measures put in place so that good practices can be carried out
- ward/dept managers are consulted during any new relevant policy development to recognise their input as an important level of staff management
- training must be provided for all staff who have been identified as not having received up to date training in the safe handling and disposal of sharps
- consideration should be given to ensuring that safety devices are accessible where appropriate
- education campaigns on safe practices in relation to NSI prevention should be organised regularly to ensure that the issue remains a high priority
- NSI prevention should be highlighted as a corporate/strategic priority and resources provided to do so in order to demonstrate the organisation's commitment to this important issue.

Limitations of the study

A limitation of this study was that the categories of possible responses offered to the ward/dept managers in relation to their levels of responsibility were not specifically defined and this might have had an impact on the accuracy of responses obtained.

Additionally, the data collection tool, which was developed primarily for use in this study, was relatively untested, and the author recognises that limited testing for reliability and validity can introduce potential error to the results.

Declaration of conflicting interest

The author declares that there is no conflict of interest.

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