

Free clinical practice summary: antibiotic prophylaxis in spine surgery research ...

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Abstract

The scope of the practice guideline was developed to inform medical personnel and medical institutions about the value of using prophylactic antibiotics in the management of infection rates, among the patients receiving spinal surgery. The recommendations and also conclusions of the study were fashioned through evidence-based evaluation of literatures authored on the topic. The guide-document's scope is limited to exploration of usefulness of prophylactic antibiotics in managing infection rates, among spinal surgery patients. The purpose of the study was offering medical personnel and institutions with a model for delivering care to spinal surgery patients. The research questions for the guide document revolved around the effects of prophylactic antibiotics, in controlling infection rates during surgery. The groups targeted by the study included the patients that receive spinal surgery, as well as the medical personnel that offer care services to the patients. The guide document was developed through a highly rigorous study, and the evidence includes that the workgroups engaged in the selection of the sources used for the study was composed of experts in different fields. The rigorous nature of study was evident from the outlook of the study's review of literature. In the way of adopting the recommendations of the study, there were a variety of restrictions, entailing the costs of personnel training.

Introduction

The scope of this practice guideline will be aimed at exploring and defining the clinical practice areas that were fashioned by a team of experts, in the

area of spine injury, giving specifics of the area of study. The information condensed from the practice-based report will be used as guide on the clinical practices to be used during the delivery of care in the area of study. This review will play the important role of exploring and explaining the scope of the guide-document for practice proficiency (Shaffer et al., 2012). Within the framework of exploring the practice skills and areas, the author will point out core practice points. Core practice coverage exposes the expectations that should be met, during the practice of ordinary routine. The advanced level of the practice-guide will be more specific, mainly giving information on the areas that call for the demonstration of expert practice. In order to deliver the best quality of care, practicing personnel should employ a variety of practice points, so as to improve the outcomes of practice and decision-making (Shaffer et al., 2012).

Scope and Purpose

The purpose of this practice model (guideline) is to present the readers with an evidence-based tool for practice and educational purposes, for helping the spine professionals to prevent the infection of surgical areas (Harrod, Boykin & Hedequist, 2009, p. 579). The purpose was served by drawing the information from the evidence-based information developed through the expert practitioners' exploration of the study area, reflecting best practice areas. The guideline is a consolidation of the information showing the practice variations needed so as to offer the most effective practice. Further, the guide was developed as a tool that can be utilized for the training of other experts in the field (Shaffer et al., 2012). During the development of

the report, the principles presented are more orientated towards becoming protocols of clinical practice, which are more specific than practice guidelines. The rationale for this position is that the practice principles are explored in a detailed and specific way.

The scope of the study was the exploration of the techniques and the prevention strategies that can help spine specialist to prevent the infection of open surgery areas on the spine. The study was intended to present the information and the recommendations on infection control to nurses, hospitals, APNs' and physicians (Kakimaru et al., 2010, p. 305).

The questions of the study included the following:

- What is the evidence-guided practice issues related to the usage of prophylactic antibiotics in the control of spine injury?
- What are the processes/ strategies that can help improve treatment, in respect to the prevention of surgical infections?
- What strategies can be employed by regions to reduce the risk of site infection?
- What forms of assistance are necessary to care professionals, during the process of decision-making?

The group targeted by the study included all the patients above the age of 18 and above, whenever they are receiving spine surgery. The recommendations developed will update their care, in the area of infection prevention. The second groups targeted by the study included APN's, physicians, medical health centers and nurses. All these groups will utilize the directives of the study in care delivery. For the patients, they will be the

beneficiaries of the guidelines, and medical personnel will be the consumers (users) of the guidelines (Shaffer et al., 2012).

Stakeholder involvement

During and throughout the development of the report, a variety of groups were engaged in knowledge development. These groups included the trained participants that helped the organization with the processes of fashioning the research questions needed to guide the study. The second group that was directly involved during the study was the workgroup involved in the exploration of the literature to be incorporated into the study (Harrod, Boykin & Hedequist, 2009, p. 579). This group was actively involved in the search of the databases and the information sources that could provide the necessary information. The study also incorporated the input of a research expert in the field of medicine, in order to ensure that the literatures reviewed for the study were consistent with the search protocol for the study (Takahashi et al., 2009, p. 40). The three major groups were involved in a variety of other study areas, including the consensus-establishment aimed at allowed the team to choose the best recommendations – depending on their relevance (Shaffer et al., 2012). There is another very important stakeholder groups that was instrumental to the development of the information that enabled the researchers to complete the study in a highly credible way. This group was comprised of the authors that had written about the field of study – both institutional and individuals – including the “ North American Spine Society” (Kakimaru et al., 2010, p. 306).

The members of the target population engaged in the development of the

recommendations drawn through the consultative meetings were comprised of the medical practitioners that formed the different groups. Further, in the process of reviewing the literature that had been written in the area, the group – which was mainly comprised of medical experts – which are among the major target groups for the information being developed. The conflicts of interest that were reported during the development of the report were those related to the differences between the NASS' policy on disclosure, and that of the authors covered by the study. The evidence of the conflict of interest included that NASS had to, often request them to update their disclosures, so as to enable NASS to continue with the development of the report (Shaffer et al., 2012).

Rigor of Development

The credibility of the articles used for the study was comparatively high, and that was reflected from the process used for the collection of the articles to be incorporated into the study. Firstly, the selection of the members of the workgroup involved in the selection of the key terms to be reviewed from the databases was the multi-disciplinary nature of the work groups. Among the groups represented in the selection of the information bases and the areas to be incorporated into the study were medical and surgical personnel, among other groups. After the search terms to be used for the study were determined by the specialist teams, the literature search was done by a research expert in the field of medical practice (Shaffer et al., 2012). The choice of the expert as the individual for selecting literatures to be incorporated into the study was based on the fact that NASS sought to avoid

any case of compromise, on the integrity of the research process for the study. For example, in the case that NASS commissioned the services of a lay person, the credibility of the sources would have been compromised. In real-world practice, the credibility and the previous experience of the search expert was one bottle neck that would compromise the pre-selection of only highly-credible sources.

After the highly-credible search of literature sources, the review of the literatures selected was highly comprehensive, and that also helped to ensure that the data reported was highly credible. Apart from the search being highly articulate, it sought to represent best information sources in the field of study, which increased the credibility of the study. The randomized nature of the literature search and the exploration of the sources selected randomly, the experts sought to ensure that qualitative studies were incorporated (Takahashi et al., 2009, p. 42). The inclusion of experts from a wide array of experts also sought to ensure that all procedures were justifiably credible. More importantly, the review of sources using the NASS-adopted evidence-certification model verified credibility of data collected and the sources. One area where the study fell short of credibility expectations was that it failed to review the benefits and the risks facing the practitioners. However, the study reviewed the benefits and the risks that the patients treated using the guidelines, were likely to suffer (Shaffer et al., 2012).

Recommendations

The major recommendation for practice improvement, which were drawn from the guideline, covered a variety of areas. The first recommendation was that the use of prophylactic antibiotics was useful in reducing the infection rates of the patient undergoing spinal surgeries. The implication of the recommendation was that the care outcomes of the patients undergoing spinal surgery can be improved through the usage of prophylactic antibiotics to control the infection rates facing the patients (Kakimaru et al., 2010, p. 308). The second recommendation is that under typical conditions, one dose of prophylactic antibiotics was enough to reduce the risk of infection, but re-dosing could be needed, depending on the nature of the particular case (Shaffer et al., 2012). The implications of this recommendation were that medical practice should incorporate it into practice. The nursing roles in the adoption of the recommendations would be that of studying the usage of the anti-infection procedure, and administering it during surgical processes.

Application

The barriers affecting the application of the doctrines drawn from the study include costs of practitioner training on administration of the procedure. Further, the complications that result from the usage of the process are likely to prevent many practitioners from adopting the practice guidelines immediately (Shaffer et al., 2012). The complications that result from the usage of the procedures highlighted include flushing and intramembranous colitis. The worst adverse outcome reported from the usage of the procedure was the incidence of Stevens-Johnson syndrome. The potential costs of

adopting the recommendations among medical personnel include that; the costs of training could hinder the rate of procedural uptake. In measuring whether the adoptions of the recommendations yield positive outcomes, the facilities where the procedure is adopted will be the recording of the outcomes of care procedures, so as to show whether infection rates reduced (Shaffer et al., 2012).

Conclusion

The practical guideline was drafted to offer an evidence-based practice guide that would help medical personnel to improve the care outcomes of spinal surgery patients. The study covered the area of whether the usage of prophylactic antibiotics reduced the infection rates that affect the patients undergoing surgery. The purpose of the study was to fashion a guide-model for practice and educational purposes, for helping medical professionals to reduce infection rates. The stakeholders covered by the study included the workgroups that were involved in the review and the certification of the information sources that would expand the scope of care and improve care outcomes. The study was highly rigorous, and the evidence included the selection process for the articles and also the credibility of the review panel. The recommendations are expected to yield positive outcomes, although the implementation will be limited by the costs of training medical personnel.

References

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