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Developing Practice to Reduce Healthcare Acquired Infections on a Vascular Ward

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Summary of project

This report outlines the ways in which staff on a vascular ward implemented changes in practice to reduce healthcare acquired infections. All staff involved in patient care worked collaboratively with the infection prevention team and patients and visitors to identify the key areas of practice that needed to be improved and develop strategies to achieve these improvements.

Background

The effects from healthcare acquired infections (HAIs) can vary from discomfort for the patient to prolonged or permanent disability. A small proportion of patient deaths each year are primarily attributable to hospital acquired infections (National Audit Office, 2000).

MRSA has become the single most common organism associated with complex wound and graft infections after vascular surgery (Thompson, 2006). The vascular ward cares for patients who suffer from peripheral vascular disease, a debilitating condition which is treated both medically and surgically. These vascular patients are often elderly and have co-morbidity conditions such as diabetes and renal disease; which in turn leads to regular re admission to hospital, putting them in a high risk category for acquiring a hospital infection. Taking this into account, staff on the vascular ward view infection control and prevention as a major priority and as a quality indicator.

The vascular ward had systems in place to control infection rates but with this patient client group the rate of healthcare acquired infection was still high. In the year prior to the commencement of this project, the average monthly infection rates were as follows:

- Total number of MRSA cases – 6.5 (monthly rates ranged from 2-13 cases)
- Positive screening on admission – 5.2 (monthly rates ranged from 1-10 cases)
- Hospital acquisitions – 1.3 (monthly rates ranged from 1-5 cases)

At the outset of the project, the vascular ward was a twenty five bedded area in a poor state of repair, with a ward environment that did not lend itself to the ideal clinical area with limited single rooms and a lack of storage, bathroom and toilet facilities. The RCN (2005) identified that a dirty clinical environment is one of the factors that may contribute towards infection rates. In May 2006 the ward relocated to an eighteen bedded inpatient facility comprising of four high dependency care beds plus fourteen general care beds which includes six single rooms.

Aim of the project

The focus of this project was to support the development of health care practice to optimise in-patient hospital care by encouraging active involvement of nurses, medical staff, health care support workers, patients and their carers in effectively reducing and preventing healthcare acquired infections.

Methods

The approaches used to enable the development of healthcare practice were underpinned by the idea that people need to be involved in the change process and that the culture within which people work effects the success and sustainability of change. Rogers and Reynolds (2003) expressed that change involves people, and a skill in communicating with and engaging people in planned change is fundamental to successful change. Senge (1990) however, acknowledges that people involved in a change process will have different degrees of commitment and not everyone will be fully committed, supportive and active. Nevertheless, he suggests that a 'critical mass' should be enough for change to succeed.

A number of key activities were therefore used as a means of enabling nurses, medical staff, health care support workers, patients and their carers to be involved in the process of changing and developing practice. These activities were:

- A values clarification exercise
- Focus group discussions
- Patient/carer questionnaires
- Establishing protocols and learning tools to support best practice
- Education

Exploring values and beliefs

Values and beliefs influence our attitudes and behaviour as they reflect what we think ought to be done and what is true. When working in a team, identifying the values and beliefs held by team members can be a useful way of developing a shared vision or purpose to enable change. A values clarification questionnaire was therefore used at the beginning of the project to explore how members of staff perceived their role in reducing healthcare acquired infections. The questionnaire was based on a values and beliefs template developed by Warfield and Manley (1990).

Fifty questionnaires were distributed with an accompanying self explanatory letter signed by the project lead. The letters were sent out individually to all staff involved in patient care, including the vascular nursing and medical teams, occupational therapists, physiotherapists, student nurses and porters.

Twenty two questionnaires were returned and the responses were analysed by the project lead. The findings were then presented to the first focus group for debate and discussion. From the questionnaire responses and the focus group discussion, common themes were very apparent; therefore the top six recurring answers per questionnaire statement became the focus of how we as a team wanted this project to progress.

The key findings from the questionnaire are outlined below. Staff believed that:

- The purpose of reducing infections on the vascular ward was to improve quality by protecting patients' health and protecting patients from harm
- Reducing infections would reduce the length of patients' stay, reduce patient and visitor anxiety and be cost effective
- Reduction in infections could be achieved by role modelling good practice, including hand washing and the correct use of protective clothing
- Factors that would enable the reduction in infections were increasing awareness through induction programmes, education and promotion of policies and guidelines that are audited
- Involving patients and visitors is key to reducing infections
- Support from the infection control department would be valuable

Focus group discussions

Focus groups were arranged to involve staff of all grades in discussions about the findings from the values clarification exercise and how to move forward. After the initial launch of the project, staff were openly invited to participate in the groups. The meetings were usually one to two hours in duration and held within the vascular ward. They were held monthly in the first instance and then three monthly whilst the questionnaires were circulated. On average there were four to six attendees dependent upon factors such as workload.

Findings from the values clarification questionnaire were presented and discussed. The sessions provided opportunities for finding solutions to some of the barriers to promoting infection control and prevention measures. Key issues raised by participants related to role modelling and challenging poor practice.

Patient/carer questionnaires

It was important to obtain the perceptions of both patients and their relatives in order to identify how effective the project was working, and if the project was addressing the beliefs, values and expectations that patients and carers held about healthcare acquired infections within a hospital environment. The RCN (2007) identified that service user's have a range of life skills and abilities that they can bring to a research activity, they may have gained expertise through personal experience of their condition or of someone they know.

In order to get the patients perception on healthcare acquired infections, a patient/carer questionnaire was developed and distributed over a three month period. The questionnaire was devised by the focus group with ideas and suggestions as to what information we as a team were hoping to gather in order to establish the patients' perspective on HAIs.

Four questionnaires were distributed per week by the nursing staff on duty to both patients and their visitors. With only eighteen beds and length of stay longer than most surgical wards it was felt that capturing four patients per week would prevent the same patients being asked repeatedly. Patients were selected at random with no exceptions other than the confused or disorientated patients. All other patients were given the opportunity to answer the questionnaires. The questionnaires were distributed at the weekends when the visiting hours are extended as staff felt that they could offer out the questionnaires in a more relaxed manner allowing the patient/carer the opportunity to question or comment directly to the nursing staff. In total forty eight questionnaires were handed out over a twelve week period, thirty one were returned, giving a response rate of 83%. The questionnaires were anonymous but dated.

The auxiliary nurses took main responsibility for this aspect of the project as they now felt that they had the knowledge and confidence to answer any questions that were posed to them by patients and visitors. Many issues were raised during these informal conversations such as 'concerns as to what people/public bought into the ward area on their shoes' and 'why can't dressings be carried out in a clinic room rather than at the bedside?' Many of these concerns were discussed and the staff were able to dispel many of the fears and myths around HAIs.

The questionnaires identified that 100% of respondents believed that preventing infections is an important aspect of patient care. The majority of respondents were happy with the ward environment with only four of the respondents identifying that hand washing could be improved and treatments such as dressing changes could be performed in a treatment area rather than at the bedside. Many respondents acknowledged that elements of cross contamination from one patient to another could be an issue if policies and procedures were not robust. Respondents were asked to score the ward from 0 to 5 for infection prevention, with 0 being the worst and 5 being the best. 68% of respondents gave the ward a score of 5, and 29% gave a score of 4, with 3% unanswered. These responses would suggest that patients and visitors perceive that the vascular ward team are maintaining high standards of infection prevention controls and measures.

Establishing protocols to support practice

Following the focus group meetings it was decided that protocols should be developed to support best practice. These were divided into three main categories; clinical, audit and education and are listed below.

Clinical

- Introduction of the Department of Health High Impact Interventions (Department of Health, 2006)
- Revised MRSA screening programme for all vascular patients admitted to the ward
- Revised cleaning regimes for equipment and bed spaces
- Revised decontamination guidelines
- Terminal cleaning of specialist unit following any infected patient cases
- Hand hygiene champions elected
- Use of hand gels in all patient areas
- Replacement mattress programme introduced
- Curtain change programme

Audit

- Hand hygiene champions conduct monthly hand hygiene audits
- Environmental audits using the ICNA audit tool conducted monthly
- Commode audits regularly performed
- Privacy and dignity audits incorporated into quality round

Education

- Development and implementation of work based learning book on how to reduce healthcare acquired infections on the vascular unit
- CD-Rom in preliminary stages of development
- Infection prevention now an integral part of ward induction
- Mandatory training for hand hygiene
- Infection control notice board in-situ
- KSF outlines to include all aspects of infection prevention

Implementing the change

Several approaches were used to support the staff in the implementation of the changes necessary to develop practice, especially increasing the awareness of staff and patients and staff education. However these were not used in isolation as several activities were running alongside and interlinking to bring about major changes in infection prevention in the clinical area.

Raising staff awareness

Raising staff awareness remains an important part of change process (Effective Healthcare Bulletin, 1999).The project team used a variety of approaches to raise awareness of staff and patients regarding healthcare acquired infections in the vascular area. These included presentations and attendance at meetings, stickers for equipment and cleaning lists, revised MRSA screening protocol and treatment regimes.

The team identified that successful implementation of change in their clinical area was enabled by active support from managers and consultant staff together with support from the infection prevention department. The support systems enabled staff to engage in discussions about HAIs and how to reduce them in the clinical area. The team were able to identify barriers to change and this developed a greater sense of responsibility and empowerment especially amongst the auxiliary nursing team, which gave them the confidence to question their own practice and that of other staff and enabled them to negotiate and facilitate any changes necessary.

Raising patient awareness

During the project the patients were made aware of the impact of HAIs on them as individuals and the ways in which HAIs could be reduced or be prevented. Some resources used were patient information leaflets distributed on admission to the ward or in pre-operative assessment clinic and a visible poster campaign relating to infection prevention measures. Patients were also encouraged to wash their hands frequently and use the alcohol gel provided as identified by the National Patient

Safety Agency (2004).

Whilst opinions and views were identified by the use of patient satisfaction surveys, the most valuable responses about HAIs were comments received by patients and visitors following them seeing environmental audits, hand hygiene audits and bed space and equipment cleaning being undertaken by members of the nursing and domestic teams. Unfortunately as yet there is no evidence available to evaluate the impact of these approaches.

Staff education

A multidisciplinary approach to formulating a self-directed work based learning book was discussed. Following consultation with all the user groups, medical, nursing and ancillary staff, a final draft was agreed. This is being evaluated and will be circulated to all new members of staff for them to complete within a timescale of six-eight weeks with the support of a supervisor/mentor (not necessarily a qualified nurse but a member of staff who has the necessary knowledge and skills to supervise). Once completed there will be a second stage education programme which will be a CD Rom which has yet to be finalised.

It is envisaged that both education tools once completed can be used as part of the individuals annual performance review and can be incorporated into the Knowledge Skills Framework

Overall it seems possible that the impact of any education is likely to be influenced by the views that individual staff hold about their responsibility towards the impact of reducing the impact of HAIs in their area.

Reduction in infection rates

Over the timescale of the project, the vascular ward has seen a reduction in infection rates. In the year of the project, the average monthly infection rates reduced to

- Total number of MRSA cases – 4.5 (monthly rates ranged from 3-8 cases)
- Positive screening on admission – 4.3 (monthly rates ranged from 1-8 cases)
- Hospital acquisitions – 0.16 (monthly rates ranged from 0-2 cases)

Conclusion

This project has demonstrated that by motivating and supporting the entire ward team to undertake relevant elements of infection control prevention, it is possible to reduce healthcare acquired infections. Although a lot of effort was needed to initially implement the necessary changes and to integrate them as a part of normal practice, there has been a noticeable change in hand washing and cleaning within the ward environment. These changes in practice have largely been achieved through collaborative working and empowerment of all the staff.

It is hoped that following the successful outcome of this project, that through collaboration between with the infection prevention team and other ward managers, this process will become established trust wide, leading to a noticeable reduction of preventable HAIs within the trust.

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