

Practice Forum

Infection Prevention by Behaviour Modification

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Abstract:

With limited resources available to a small infection control (IC) team at Apollo Hospital, Colombo, rising nosocomial infection rates were addressed by introducing an innovative Behaviour Modification campaign. Through education, encouragement and incentive programmes, the campaign resulted in a notable improvement in attitudes to IC throughout the entire hospital. As a result the hospital nosocomial infection rate dropped by 55% from November 2005 to November 2006. The nosocomial infection rate in the Neonatal and Cardiac Surgery ICUs dropped to 0% from 10% and the device-associated infection rate in the Medical ICU dropped from 50% to 15% during the same period. A reduction in infections caused by multi-drug resistant organisms was also observed.

Introduction

In developing countries, a lack of resources, infrastructure and qualified personnel can often hamper effective infection control (IC) programmes. There is also a lack of awareness about the importance of hospital acquired infection (HAI) prevention. Commitment and action, at all levels, is needed to ensure clean and safe health care.

Apollo Hospital, Colombo is a new, multi-speciality, 250-bed hospital that opened in 2002. Although an IC Team, IC procedures and protocols were in place, the hospital experienced repeated surges in nosocomial infection rates from 2002-2005.

Since resources were limited, it was decided to apply a cost effective Behaviour Modification approach to all levels of staff, using tools such as education, encouragement and incentive schemes. The ultimate aim was to build a positive attitude towards IC practices in all categories of staff as a means of preventing HAI.

Challenges

1. The IC team lacked a trained IC nurse
2. Housekeeping (HK) services were outsourced and the turnover of HK staff was high, thereby affecting environmental sanitation
3. There was a lack of knowledge about HAI amongst HK staff
4. There were repeated breaches in aseptic precautions, particularly when new staff joined (nurses or housekeeping)
5. Staff resisted strict adherence to standard IC protocols
6. The overuse of antibiotics has resulted in nosocomial infections caused by multi-drug resistant bacteria and yeast species
7. Staff appeared indifferent to the IC team



Methods and results

Actions

The 'Infection Prevention by Behaviour Modification' campaign was launched in November 2005 with the slogan 'Prevention is the best Intervention'. This initiative had a number of key elements:

Education of staff at all levels

Top management: Special presentations were made to impart knowledge about HAI and the benefits of prevention, such as financial savings, reduced hospital stays and improved reputation. Since the cost of the Behaviour Modification programme was minimal, permission was granted for implementing further strategies, as described below.

All staff categories: An easily accessible, one hour session on IC practices was included in all hospital induction programmes, with written handouts for future reference. Topics included: patient safety – every patient's right; personal preventive measures to protect the health of staff and their families; financial benefits of infection prevention to the organisation; the role of antibiotic over-use in the appearance of multi-drug resistant infections; and confidentiality.

Nurses: On-line modular training on IC practices was made mandatory for all nurses working in the hospital. Each module must be completed in a specified time and a minimum score achieved. Doctors are also encouraged to take the same on-line training, which culminates in a certificate awarded by the hospital.

Operating theatre staff: Special training, covering the more stringent precautions required in this area, was imparted to theatre staff.

CSSD staff: Special training about quality control, quality checks and documentation was given to staff working in CSSD. Written guidelines were also placed in the department for all new staff joining the CSSD.

Visitors: Polite notices, regarding IC issues relevant to visitors, were positioned near hospital entrances, elevators and waiting areas.

Smaller IC Meetings

It was considered that the exposure of shortcomings in IC practices during large meetings could cause embarrassment to the individuals concerned and potential breaches in confidentiality. It was decided, therefore, to replace large IC meetings with frequent smaller meetings, in particular with:

Staff in departments with HAI problem: These are called when just one HAI has occurred, rather than waiting for an outbreak.

Support services

Staff in outsourced services, such as Engineering, House-keeping, Materials and Dietary departments, are invited to informal meetings to build good rapport and to educate them about HAI and their prevention.

Encouragement and incentives

As a rule, criticism of any sort was banned during the Behaviour Modification campaign. Instead, faults were pointed out carefully and sensitively, and good practice was rewarded with public praise. This improved the morale of good workers and encouraged others to follow their example.

The IC Team endeavoured to understand the specific problems in different areas when shortcomings in IC practices were observed, and sought to help them overcome these problems. If required, one-to-one meetings were conducted with staff concerned when IC problems were noticed on IC rounds.

To nurture positivity and healthy competition in all areas, trophies were awarded on a quarterly basis for best practice in terms of cleanliness, low infection rates and adherence to good IC practices.

Star Link Nurses

The nurse in charge of each area was nominated as the Link Nurse in the IC programme, identified by a gold star on his/her collar. This helped to build pride and a sense of responsibility. Known as 'Star Link Nurses', they are required to meet the IC team once a week to discuss issues concerning IC in their areas. One of their roles is to encourage junior nurses in IC practices in order to sustain enthusiasm and good work. Star Link Nurses are also responsible for IC training in their areas, thereby reducing the burden on the IC team.

Infection Control Week

An industry-sponsored, biannual 'Infection Control Week' event was initiated. The main activities during this week include: a series of lectures given by doctors and senior nurses; audio-visual shows on IC practices supplied by industry; a poster session, where posters prepared by nurses on themes involving IC practices were judged and prizes given to 3 best posters; and informal evening entertainment designed to deliver special messages to the audience about positive attitude to IC practices.

Suggestion/Feedback Forms

Suggestions and feedback were welcomed from all staff. Forms were placed in suggestion boxes labelled 'Infection Prevention Campaign'. All ideas were considered seriously and good suggestions were incorporated after in-depth discussion with the people concerned and management. The best ideas received awards during the IC week.



Prevention of overuse of Antibiotics

An Antibiotic Policy is currently being formulated. In the meantime, during the campaign, the following steps have been taken to curb overuse/unnecessary use of antibiotics:

- Education about the consequences of antibiotic overuse, including the emergence of resistant organisms and cost concerns, is included in Staff Induction Programmes.
- Lectures have been held to emphasize newer strategies of prudent antibiotic use.
- Posters encouraging judicious use of antibiotics are displayed in areas frequently visited by doctors.
- Separate posters are displayed to educate patients and their attendants about the adverse effects of unnecessary antibiotic use, since antibiotics are available over the counter in this region.

Results

A difference in the attitude of staff at all levels towards Infection Control Practices and the IC team was observed. This resulted in adherence to aseptic precautions, procedures and protocols in 100% of the staff was identified during the first quarter of the year of campaign (November 2005-November 2006).

Notable outcomes of this Behaviour Modification campaign include:

- The hospital now has a trained IC nurse, in addition to IC trained nurses with positive attitudes. (All nurses receive IC training via the on-line modular training programme.)
- A chart for surveillance of device related infections was completed by nurses diligently. This data formed the basis for feedback to the department(s) concerned and helped to derive strategies for infection prevention.
- Awareness and performance of housekeeping staff was enhanced
- Between November 2005 and November 2006, the nosocomial infection rate in the hospital dropped by 55% in certain areas. The nosocomial infection rate in the neonatal ICU and Cardiac Surgical ICU fell to zero from 10% in the previous year.
- The Device Associated Infection rate in the Medical ICU dropped from 50% in November 2005 to 15% in November 2006. The rate of infections by MRSA, ESBL and yeast species dropped from 15%, 40% and 15% to 5%, 25% and 6% respectively from November 2005 to November 2006.
- Antibiotic usage in the hospital decreased. The pharmacy noticed a reduction in dispensing of antibiotics worth SLR 10 Million [62,625 €] per month during the campaign.
- The attitude of staff towards the IC team has improved. Physicians now request meetings with IC the

team, having seen the benefits and positive outcomes for their patients.

Conclusion

Where once there was apathy and inactivity, there is now a very positive attitude towards IC throughout the hospital. It has been decided to continue the campaign indefinitely, since the whole hospital is appreciating the enthusiasm and better patient outcomes.

With a small Infection Control Team, which included an untrained (initially) IC nurse, innovative ideas for changing human behaviour were applied, turning the mindset of a large number of people from negative to positive concerning IC issues. This campaign incurred minimal costs to the organisation and generated an ongoing, sustainable process to improve patient safety. Financial savings (to the organisation and patients) and the numerous lives saved/disabilities prevented by reducing HAI remain unaccounted.



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