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Empowering Hospital Infection Control Teams to Optimize Monitoring of Nosocomial Infection Prevention Efforts

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ABSTRACT

Nosocomial infections remain a major health problem in hospitals, causing increased patient morbidity and mortality. Effective monitoring and prevention by the Hospital Infection Control Team (PKRS) are essential to reduce these infections. This community service program empowered 15 PKRS members through training, Standard Operating Procedure (SOP) simulations, and post-training mentoring. Pre- and post-tests were used to measure knowledge improvement, while practical assessments evaluated compliance with infection control protocols. Participants demonstrated a 38% average increase in knowledge scores. Observations showed improved adherence to revised SOPs and successful implementation of a new internal audit tool for infection monitoring. The empowerment approach enhanced both theoretical understanding and practical skills, fostering interdisciplinary collaboration and strengthening the hospital's infection prevention system. Continuous mentoring contributed to sustainable improvements in infection control practices.

1. INTRODUCTION

Nosocomial infections, or healthcare-associated infections (HAIs) that occur after 48 hours of hospitalization, remain a significant challenge in hospital healthcare systems across Indonesia. These infections contribute to increased morbidity rates, prolonged hospital stays, and higher treatment costs for both patients and healthcare facilities.[1] Despite the availability of various guidelines and prevention standards, nosocomial infections persist due to suboptimal implementation in clinical practice.[2]

In Sidoarjo Regency, data from the first semester of 2020 at the regional public hospital (RSUD) indicated an overall HAI rate of 0.20%, which is still below the national maximum standard of 1.5% set by the Ministry of Health.[3] However, specific infection types, such as surgical site infections (SSI) in clean-contaminated wounds, were recorded at 2.018%, exceeding the acceptable standard. This highlights the fact that while the total infection rate may

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appear low, certain critical areas require serious attention and improvement.[4]

This issue is not solely related to clinical procedures but also involves the internal infection control systems within hospitals.[5] The Hospital Infection Control Team (PKRS) plays a vital role in reducing nosocomial infections, particularly through monitoring, internal audits, and staff education.[6] Unfortunately, the effectiveness of these teams is often hindered by a lack of continuous training, limited availability of trained personnel, and an overwhelming workload that outweighs their responsibilities.[7]

Several hospitals, including RSUD Dr. H. Koesnadi in Bondowoso Regency, face similar challenges. Studies have shown that the surveillance systems for nosocomial infections have not functioned optimally due to the absence of regular training and insufficient multidisciplinary involvement in infection control.[7] These findings underscore the urgent need for practical interventions in the form of team empowerment, aimed at improving technical competencies as well as reinforcing integrated and sustainable monitoring systems.[6]

Therefore, an empowerment program for Hospital Infection Control Teams is urgently needed. This program should include evidence-based training, mentorship, and enhanced roles in infection monitoring systems.[5] It is expected that such initiatives will not only reduce the incidence of nosocomial infections but also raise collective awareness among all hospital staff about the importance of infection prevention as an essential aspect of healthcare quality.[8] Strengthening the role of PKRS will enable them to function more strategically and have a tangible impact on patient safety.[9]

2. METHODE

This community engagement activity was conducted using an educational-participatory approach, in which the Hospital Infection Control Team (PKRS) was actively involved throughout the entire process. The aim of this approach was to enhance the team's capacity through knowledge transfer and hands-on involvement in infection control practices.

The activity consisted of the following stages:

1. Needs Assessment and Preliminary Survey

The implementation team conducted initial observations and discussions with hospital management and members of the PKRS to identify key challenges in the nosocomial infection monitoring system. A survey was administered to assess the team's knowledge, attitudes, and practices regarding infection prevention.

2. Training and Workshop

A full-day training session was carried out, consisting of theoretical materials on nosocomial infection surveillance, infection prevention standards, and infection control audits. The training included case studies and simulations of infection monitoring tools.

3. SOP Development and Practical Field Simulation

Together with the PKRS team, participants developed or revised Standard Operating Procedures (SOPs) for nosocomial infection monitoring based on national guidelines. Simulations were conducted in inpatient wards and operating rooms to ensure the SOPs could be effectively implemented.

4. Evaluation and Post-Training Mentoring

Evaluation was conducted using pre-test and post-test assessments to measure the improvement in participants' knowledge. Additionally, mentoring was provided for two weeks after the training to support the implementation of the training outcomes in the hospital setting.

5. Reporting and Recommendations

At the end of the program, the implementation team compiled a final report including evaluation results, documentation, and recommendations for the hospital to

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ensure the sustainable strengthening of the PKRS team's role.

3. RESULTS AND DISCUSSION

Results

The empowerment program for the Hospital Infection Control Team (PKRS) was implemented over three stages: training, simulation, and post-training mentoring. A total of 15 PKRS members participated, representing various departments including nursing, infection control, and hospital administration.[10]

Based on pre- and post-test evaluations, participants showed an average increase in knowledge scores of **38%**, particularly in topics such as nosocomial infection surveillance methods, audit implementation, and standard precaution procedures. The highest improvement was noted in understanding the structure and function of infection surveillance reports.[11]

In the simulation sessions, 87% of participants were able to correctly implement the revised Standard Operating Procedures (SOPs) during ward-based monitoring simulations.[12] Observation checklists used during the mentoring stage showed improved compliance with infection control protocols, particularly in hand hygiene, use of personal protective equipment (PPE), and proper documentation of infection cases.[13]

The team also successfully developed a new weekly internal audit tool tailored to their hospital's needs. The tool has been adopted by the hospital quality assurance unit and is now being piloted for integration into the hospital's infection prevention policy.[14]

Discussion

The significant increase in knowledge and improvement in practical implementation indicates that the empowerment model used in this program was effective. By involving PKRS members in active learning and direct practice, participants were able to not only absorb theoretical content but also translate it into routine actions within the hospital environment.[11]

The success of the revised SOP implementation suggests that PKRS teams benefit greatly from context-specific guidelines. Involving the team in the creation and adaptation of SOPs led to greater ownership and understanding, which aligns with previous studies highlighting the importance of participatory design in infection control policy-making.[15]

Moreover, the mentoring phase proved to be essential in maintaining momentum and ensuring sustainability. Through on-site supervision and continuous feedback, behavioral improvements were reinforced, and systemic weaknesses—such as fragmented documentation and lack of feedback mechanisms—were identified and addressed. This step was instrumental in transforming knowledge into long-term practice.[16]

Importantly, this program also enhanced interprofessional collaboration within the hospital. The PKRS team initiated regular discussions with nurses and support staff, fostering a shared sense of responsibility for infection prevention. This shift reflects a positive move toward a hospital-wide patient safety culture.[15]

In conclusion, this program demonstrates that structured empowerment, when combined with training, simulation, and follow-up mentoring, can significantly optimize the performance of hospital infection control teams in preventing nosocomial infections.[17]

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Figure 1: Nosocomial Infection Prevention Training

Figure 2: Nosocomial Infection Prevention Training

Figure 3: Workshop Activity Evaluation

4. CONCLUSION

The empowerment program for the Hospital Infection Control Team (PKRS) successfully improved the team's knowledge and practical skills in monitoring and preventing nosocomial infections. Significant increases in knowledge scores and enhanced adherence to revised Standard Operating Procedures demonstrate the effectiveness of the training, simulation, and mentoring approach. Additionally, the development and implementation of a tailored internal audit tool have strengthened the hospital's infection prevention system.

Furthermore, this program fostered greater interdisciplinary collaboration, promoting a hospital-wide culture of shared responsibility for infection control. Continuous mentoring and feedback were key factors in sustaining improvements and addressing systemic challenges. Overall, the empowerment of the PKRS team is a critical step toward reducing nosocomial infection rates and improving patient safety in hospital settings.

5. ACKNOWLEDGMENTS

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