Utilization of CCTV In Improving Nurses' Compliance On Hand Hygiene In Cempaka Inpatient Room, Budhi Asih Hospital Jakarta, Indonesia

INTRODUCTION

Health Care Associated Infections (HAIs) is an infection occurred in hospitalized patient. Health Care Associated Infections (HAIs) adversely affect patients because of the extended length of stay, consequently generate higher inpatient cost and even become cause of death. The most effective and efficient way to prevent it is through hand hygiene implementation. However, handwashing compliance rate in health workers, especially nurses, is still very low. Therefore, various strategies must be developed to create higher compliance. One of The Joint Commission's strategies is by using reminder tools such as CCTV.

OBJECTIVE

This research aimed to understand the association between CCTV utilization as reminder tool in improving the nurses’ compliance on hand hygiene in Cempaka’s inpatient room, Budhi Asih Hospital Jakarta, Indonesia.

MATERIAL AND METHODS

The study used quantitative method by quasi-experimental approach. The subject was divided into two groups: Treatment group and control group. Quantitative data was obtained by filling-in questionnaire and observing each group before and after intervention. The data then was analyzed by univariate analysis in form of frequency distribution and bivariate analysis with chi-square test and multivariate analysis with logistic regression test.

The study was conducted on 1-20 August 2017 at the Budhi Asih Hospital in Jakarta in the Surgical ward (Cempaka) as a treatment group and in the internal medicine ward (Dahlia) as a control group. There were 30 respondents in the treatment group, and only 20 were eligible until the end of the study. The number of respondents in the control group was 30 and all of them participated until the end of the study.

To obtain primary data, the first stage researchers installed CCTV in the area of handwashing of nurses in the Treatment and Control room, without notifying or reminding nurses that CCTV was installed in the hand washing area. Then the researcher observed the compliance of nurses’ hand washing using CCTV in the Treatment and control room. Observations made included adherence to 5 moments, 6 movements and standard length of hand washing time. After obtaining the data on the handwashing compliance of nurses before knowing the installation of CCTV during a certain period of time, the researcher socialized the observation results of the level of compliance of the handwashing of nurses to the treatment group and the management. Then the poster was used to remind nurses that CCTV was installed and used to observe the compliance of nurses’ handwashing according to procedures. While the control group did not socialize the observation results and did not also put up posters as a reminder. In a certain period of time, researchers observed again the compliance of nurses’ handwashing after learning about CCTV installed in the area of handwashing of nurses in the treatment group and the control group.

RESULT AND CONCLUSION

Compliance of nurses’ hand hygiene through CCTV observation in RSUD Budhi Asih were 57%. The use of reminder media (CCTV) significantly improved adherence hand hygiene, which included adherence to 5 moments (p = 0.002), adherence to 6 steps (p = 0.002) and adherence to the standard time of hand washing (p = 0.003). There was no significant correlation between individual characteristics (sex, age, education, years of services and training participation) with nurse’s compliance level to hand hygiene. There was no significant correlation between management support and compliance level of nurse hand washing (p = 0.353).

The use of reminder media (CCTV) significantly improves nurses’ compliance to do hand hygiene, including compliance with the moment, adherence to the 6 movements and adherence to the standard of time.

This finding can be used by hospital to develop policy and regulation related to the use of technology (CCTV) for hospital quality control. Further research is needed to use other technology-based equipment as a tool in improving compliance of hand hygiene in health care workers, especially nurses.

### Table: Correlation of Media Reminder Support (CCTV) with Compliance Level of Handwashing Based on Observation Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>p</th>
<th>OR</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Moments</td>
<td>0.002</td>
<td>3.06</td>
<td>1.477</td>
<td>6.34</td>
</tr>
<tr>
<td>6 Movements</td>
<td>0.002</td>
<td>7.425</td>
<td>1.879</td>
<td>29.34</td>
</tr>
<tr>
<td>Time Standards</td>
<td>0.003</td>
<td>8.972</td>
<td>1.81</td>
<td>44.47</td>
</tr>
</tbody>
</table>

### Figures:

1. Figure 1: Level of compliance with hand washing before knowing CCTV observations and after knowing CCTV observations based on 5 moments.
2. Figure 2: Level of compliance with hand washing before knowing CCTV observations and after knowing CCTV observations based on 6 movements.
3. Figure 3: Level of compliance with hand washing before knowing CCTV observations and after knowing CCTV observations based on time standards.
4. Figure 4: Level of compliance with hand washing before knowing CCTV observations and after knowing CCTV observations based on time standards.

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