Assessment of the Knowledge and the Predictors of Behaviour in Patient Service Assistants (PSAs) Regarding Environmental Cleaning in a Pediatric Hospital

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ABSTRACT

Background: Many studies have shown that education improves environmental cleaning but does not eliminate contamination in the healthcare setting.

Objective: To assess PSA's knowledge/ beliefs re: environmental cleaning and evaluate their attitudes toward their role in cleaning.

Methods: An anonymous questionnaire was distributed to 30 PSAs working in the pediatric and neonatal intensive care units. Answers to questions on knowledge were evaluated descriptively. The theory of planned behavior framed the analysis of factors contributing to behavior to identify predictors of behavioral intentions. Predictors were analyzed using student t test for significance, and variables with a P value of 0.05 or less on univariate analysis were examined by multiple regression. In addition, 4 PSA focus groups were conducted and the content analyzed for themes.

Results: 53% (16/30) of surveys were returned. 37.5% of PSAs did not agree that the environment has germs that can cause disease, and 25% did not think that the cleaning solutions were safe for patients. Factors predicting behavioral intent were grouped according to 1. Behavioral beliefs (BB) and attitudes toward behavior, 2. normative beliefs (NB) and subjective norms, and 3. control beliefs (CB) and perceived behavioral norms, and 4. behavioral intention (BI) and behavior. BB (P0.01), NB (p=0.002) and CB (0.05) were independently associated with BI and behavior. NBs correlated most highly (R2= .97) with BI compared to BB (R= .90) and CB (R= .77). 15 PSAs participated in 4 focus groups. Despite perceived time constrains and lack of feedback from supervisors, the dominant theme was their commitment to their jobs for the safety of the patients and because it matters to patients and families.

Conclusion: Many PSAs are misinformed about microbial contamination of the environment in hospital as well as about the safety of the cleaning products used. The expectations of others, in particular of patients and families is a key driver of PSAs intentions to perform well; being a pediatric hospital may have impacted on this. Addressing knowledge gaps and attitudes in PSA educational programmes offers an additional opportunity to improve performance and reduce the impact of environmental contamination on health care associated infections.

BACKGROUND

The role of the environment as a reservoir for microbes causing healthcare associated infection (HAI) is increasingly recognized. Frequent contamination of high touch surfaces in a room inhabited by patients with MRSA, VRE and *Clostridium difficile* creates an opportunity for indirect horizontal transmission. Challenges with hand hygiene compliance further underscore the need to keep the environment clean. Education targeting cleaning staff has proven useful in reducing contamination and HAIs in various settings. We hypothesized that the attitude, beliefs and knowledge of PSAs impacted their work and could be modified with targeted education.

INTRODUCTION

Behaviour is defined as the way in which one conducts oneself, and can be used to describe one's actions in the workplace. According to the Theory of Planned Behaviour, behaviour is best predicted by intention, which in turn is determined by one's attitude toward the behaviour, one's subjective norms, and one's perceived behavioural control.

CONCEPTUAL MODEL
THEORY OF PLANNED BEHAVIOUR

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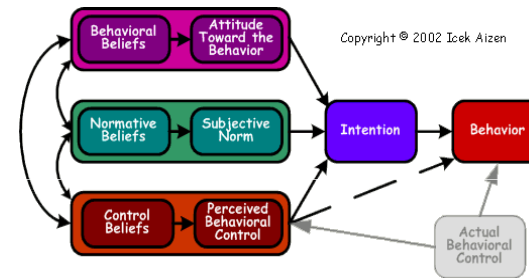
Although previous studies on the role of education in reducing the bioburden and incidence of HAIs have addressed the knowledge of housekeeping staff, there has been no reported focus on understanding the attitudes and beliefs that influence their behaviour and targeting an intervention to these areas. We hypothesized that by improving the knowledge and addressing the attitudes and beliefs of PSA's about their role and the role of the environment in hospital infections, the effectiveness of their work could be improved. The first part of the study consisted of defining those attitudes, beliefs and knowledge.

METHODS

Questionnaires were circulated to all PSAs in the pediatric (PICU) and neonatal intensive care units (NICU) .The questions targeted Beliefs about outcomes & attitudes: value and impact of cleaning (patient outcomes, personal outcomes, attention to policy/procedure),Normative and subjective norms: expectations and determination of important referents (e.g. supervisors, nurses, families, patients, peers), Control beliefs & perceived control: ability to clean as expected (time, knowledge, equipment, interruption, clutter, etc), and intention to clean (according to policy, quickly, as taught, as a priority, completeness). Four focus groups were held using a semistructured interview; the discussion was transcribed and examined for themes. Predictors of intent were determined through multiple regression.

RESULTS

16 questionnaires(53%) were returned.
KNOWLEDGE: 37% of PSAs did not think the environment has germs t hat can cause disease. 25% did not think the disinfectants were safe for children.

ATTITUDES AND BELIEFS ABOUT OUTCOMES: All PSAs considered their work important for patient safety. 7/15 (46%) worried about getting sick from infected patients and 8/15 (55%) worried about being harmed by the products. NORMATIVE BELIEFS AND SUBJECTIVE NORMS: 12/16 (75%) agreed that it mattered to families and patients to do a good job. 13/16 (81%) believed that nurses, MDs and other PSAs expected them to do a good job, and that their supervisor knew when they did a good job. 12/16 (75%) did a good job to please themselves.
CONTROL BELIEFS: PERCEIVED BEHAVIOURAL CONTROL: 9/16 (56%) agreed they had the time to clean as they should but interruptions prevented them from doing a good job.. INTENTION: All 16 agreed their intend is to clean well. Normative beliefs correlated most highly (R2= .97) with behavioural intention compared to behavioural beliefs and control beliefs (R= .90 and 77 respectively).
FOCUS GROUPS: PSAs varied in their understanding of what constitutes "clean": " what your see" or "surface comes in contact with a wipe" .One commented "it is hard to go and wipe down bedside computer….nurses go straight from diapers to computers". Most felt they did not have enough time to do their work : "I'm not a robot- I can only do what I can do". The most important part of their job ranged from "cleaning" vs "answering calls" vs "everything". Training was variable. Although happy for parent recognition they were disappointed in the feedback from their supervisors: "they don't know what I'm doing". The main motivator was :"I do the job because I'm a mother".

CONCLUSION

PSAs varied in knowledge about their job and in tattitudes and perceived control over their work. An education campaign targeting misconceptions, attitudes and beliefs may impact on their ultimate cleaning behaviour. Phase 2 of this study will incorporate these findings into an educational module and measure the effectiveness of the intervention on cleaning as determined by microbial counts.

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