Hand hygiene among doctors in selected departments at Hadassah. Can we improve?

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Abstract

Hand hygiene is known as one of the leading ways to reduce and prevent transmission of infectious organisms between care givers and patients. The association between hand hygiene and nosocomial infections rate is well established. Nevertheless the rate of physician's adherence to the guidelines, as of other medical staff, to the guidelines is consistently low in many studies, averaging between 20%-50%.

Nosocomial infections are of rising interest these past few decades, making hand hygiene relevant more than ever. The current guidelines, worldwide and in Hadassah hospitals, require hand decontamination before and after every contact with a patient.

The main reasons for non compliance include: hand washing is a time consuming procedure during busy times at work, sinks are often poorly accessible, hand washing products are lacking, skin is irritated by frequent washing and gloves are wrongly used as an alternative to proper hand hygiene.

GOALS: assessment of compliance to hand washing guidelines among physicians at Hadassah Mount Scopus (MS) and Ein Kerem (EK) and to try and improve compliance rates by an intervention at selected wards.

METHODS: data were gathered by discreet observation during morning rounds by a small team of trained observers. The data were recorded as the number of times hand hygiene was preformed (washing or disinfection) out of the total opportunities to do so and was expressed as percentage.

The intervention had two phases: Phase one was providing an alternative product, alcohol gel, to the selected wards. Alcohol gel has been found in many studies to improve compliance with hand hygiene and to lower nosocomial infection rates. The use of alcohol gel was found to save time in a number of ways: alcohol gel dispensers can be located in strategic locations
(room entrance, on the file charts, next to patient's beds, etc) and saves time in comparison with hand washing, it application time is shorter. Alcohol gel does not harm the skin with frequent use and can even (according to its ingredients) improve skin condition.

Phase two of the intervention included an educational meeting and information given on rates of nosocomial infection in Hadassah. During the meetings the use of alcohol gel was encouraged. Many studies showed that the combined effort of educational program and introduction of alternative product for hand hygiene brings the best lasting results and can result in substantial behavioral changes among physicians and others.

**RESULTS:** base line results showed that hand washing rates were 77% at Hadassah MS and 39% at Hadassah EK (p<0.001). Hadassah EK results were substantially lower, though still in the range reported in the literature, and thus was chosen to host the intervention. Two wards were chosen: internal medicine C and surgery A.

Compliance increased in both wards when compared with baseline after introducing the alcohol gel (surgery - 13%, 22%, 43% for baseline and first and second phases respectively; internal medicine – 57%, 79%, 64%). In both wards the rise in compliance was statistically significant (surgery p<0.001 ; internal medicine p=0.039) and brought about a change in the preferred hand hygiene method.

Examination of other variables collected showed that overall there was no difference in comparison between specialists and residents, in both hospitals combined, for hand hygiene compliance, though such a difference existed for Hadassah EK’s alone (Hadassah EK + MS – specialists 58%, residents 54%, p=0.468 ; Hadassah EK – specialists 50%, residents 31% , p=0.005). Other studies have reported the opposite in the literature.

The explanation for this could be higher work load, lack of knowledge of protocols and guidelines and perhaps underestimation of the impact of not complying with guidelines.

While most studies did not find a connection between compliance rates and the presence of a sink in the patients room my study found such a relation.
This work did find a connection in the combined results of both hospitals and in the results of Hadassah EK alone (Hadassah EK + MS – washing with a sink in the room 72%, washing without a sink in the room 33%, p<0.001; Hadassah EK - washing with a sink in the room 61%, washing without a sink in the room 28%, p<0.001). The difference between the two hospitals could be explained by the structural differences in patient rooms. It seems that presence of a sink in the room is important for compliance with hand washing, especially when other factors lower the compliance.

**CONCLUSIONS:** I showed in this study that there is room for improvement in the hand hygiene practices of Hadassah's physicians, especially at Hadassah EK.

It was found that a combined approach of introducing an affective alternative hand hygiene agent, like the alcohol gel, together with educational and informative meeting about the nosocomial infections has good results for raising hand hygiene compliance rates among physicians. Periodic observations and feedback to the different wards may have great value in identifying weaknesses in the system and preserving the changes in compliance rates for longer periods of time. They might even lead to long term changes in physicians' behavior, and contribute to the lowering of nosocomial infections rates.