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Review Article

Handwashing in healthcare today: Why haven't we gotten better?

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In 2010, a study identified that only about 40% of doctors and other health care providers comply with proper hand hygiene techniques in hospitals and other healthcare facilities. These statistics are alarming as healthcare professionals are the ones who set the gold standard for hygiene and sterility, but they continue to find it difficult to demonstrate this standard in every practice [1]. Even with The Joint Commission supporting that hand hygiene as the most critical intervention for preventing healthcare-associated infections (HCAIs), the compliance rate for hand hygiene has not drastically improved [2]. The goal of this article brief is to answer the question why hasn't handwashing improved even with the evidence to support that proper hand hygiene decreases HCAIs?

A Brief History

We have known for generations that handwashing with soap and water is part of proper personal hygiene [3]. In fact, this concept of cleansing one's hands with some form of antiseptic emerged in the early 19th Century through a French pharmacist's demonstration. In 1822, this pharmacist wished to eradicate the foul odors of human corpses using a solution of chlorides or soap finding that such a solution could also be used as disinfections and antiseptics [4]. It was not until the 1975, that the Centers for Disease Control and Prevention (CDC) first presented a formalized handwashing guideline for hospitals [5].

Some progress

As the foundation of infection prevention, proper hand hygiene in the healthcare setting assists in decreasing the chances of a patient suffering from a HCAIs. Along with developing these serious infections comes the sometimes-life-threatening complications associated them. The Centers for Disease Control and Prevention (CDC) identifies that nearly 1 in 31 hospitalized patients suffers from at least one infection while in these healthcare facilities [6]. Some progress has been made in improving these numbers from a previous result of 1 in 25 per day, but more needs to done [7].

The culprit

Surprising, the hands that offer the much-needed healthcare services to patients are the ones that are often to blame for the spend of healthcare-associated infections [2,3,5,8]. As the most common vehicle for the transmission of HCAIs, the healthcare professional is the one who can prevent the spread of the resistance organisms leading to HCAIs and thus, decrease the cost of healthcare [8,9]. Of course, major organizations including the CDC and the World Health Organization (WHO) continue to launch patient safety campaigns in an attempt to improve hand hygiene compliance among healthcare professionals [10]. The findings of several studies have determined that it is a combination of many factors that is leading to the lack of a 100% compliance in hand-hygiene among healthcare professionals [8].

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Rationalizing the numbers

One can often attempt to place blame on perhaps the individual who failed to conduct proper hand hygiene. However, the issue with a continued low number that is still (on average) around the 40% mark physicians and other health care providers in proper hand hygiene protocols nationwide is a systems issue. There are several problems that lead to these low numbers and solutions to could improve them [8,10].

Problem One: We think we are in compliance

If the individuals (this means everyone) at the healthcare facility are not aware of the compliance rate for hand hygiene, then this will be the first and often the largest roadblock in improvement hand hygiene at any healthcare facility. The solution is 'show them the numbers.' If the compliance team use some form of objective monitoring system, this has proven to offer improve compliance to hand hygiene guidelines [8,10].

Problem Two: Who has time to do this?

This is another common reason for many health care professionals to identify for the low adherence to hand hygiene. Many facilities do attempt to offer reminders through posters, signs, and so on. In fact, this method of attempting to increasing compliance rates in this area in healthcare has been going on for decade. The issue is that the techniques have little proven success. The staff know they need to practice proper hand hygiene. The solution could be eliminating the steps to process and increase efficiency. One example could include: a lean technique for organizing work-flow such as the 5S methodology (sort, straighten, shine, standardize, and sustain) [11]. This method focuses on addressing the system issue and potentially frees up the individuals time. Another solution is incentive based compliance rate hand hygiene goals. A good way to improve patient-safety and meet these goals [8,10].

Problem Three: A supply and demand issue

If you supply the material, someone may use it. However, you must have enough of the supply available for the individual to use the resource. However, this is not often enough as the sanitizer, soap dispenser, and sink can often be located in an inconvenient location. The best-intention to comply if the barriers are limiting the healthcare profession. The solution is simply asking the assigned staff to establish a process for restocking the soap dispensers and sanitizers. In addition, consider reviewing the location of each for convenience of healthcare professionals [8,10].

One interesting alternative

Some healthcare facilities have implemented what are known as Handshake-free zones. This method to change from the traditional hand-shaken to other methods of greeting someone including a warm smile, Namaste, or fist bumping [9]. However, these alternative means of communication only put a band-aid on the issue of HCAIs. They do not reflect the need to address over concern of lack of infection prevention and control among healthcare providers. Through behavioral changes, is how better to improve hand hygiene compliance. Of course, changing human habits continues to be an on-going challenging globally.

Why haven't we improved?

There is not a simple answer to this question concerning the lack of improved hand hygiene to prevent HAIs among healthcare professional. Through many studies, research has proven that a single intervention doesn't work in addressing the low compliance rate for hand hygiene. Instead, the best approach appears to be combination of support from leadership. These approaches include the following: appropriate access to supplies, frequent educating of staff and professionals, observation and training, and remainders [9]. In addition, there is evidence to support

that surveillance and performance feedback have improved the percentage of hand hygiene among healthcare professional [8,10]. If we wish to move the needle forward on the compliance hand hygiene front, a concerted team effort will be needed among all involved who in healthcare facilities.

Conclusion

Hand-hygiene compliance among healthcare professions continues to be a challenge even into the 21st Century. Globally, the compliance rate for proper hand hygiene for this population continues to fall below 50%, on average [1,8,10]. Numerous publications offer solutions to this problem including this brief article. In this article, a brief history of hand hygiene development from the early 19th Century to today's current CDC's recommendations is first outlined. Then, a review of the potential reasons for why this continues to be an issue for decades. In addition, three problems with solutions are identifies. Of course, more can be discussed on this topic of proper hand hygiene technique in healthcare. In future articles, an exploration of multi-disciplinary approaches to hand hygiene and multi-modalities should be explored. A consideration of the role of technology to further support hand hygiene is another area to consider for future research.

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