Iranian Healthcare Workers' Perspective On Hand Hygiene: A Qualitative Study

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INTRODUCTION

The Importance of Hand Hygiene In Healthcare Settings

- Healthcare associated infections (HAIs) Burden:
  - Affect millions of patients worldwide each year
  - Disease complications
  - Long term disability
  - Increased morbidity
  - Increased mortality
  - Higher healthcare costs

- ***HAI prevention must be a top priority***

- Hand Hygiene as the single most important factor in preventing healthcare-associated infections (HAIs) and antibiotic resistance in healthcare settings

Hand hygiene (HH) Definition

- Washing hands with water and soap
- Using alcohol-based hand rubs

- ***What is the big issue with hand hygiene in healthcare settings?***

- HH compliance remains as low as 40-45% among healthcare workers (HCWs) (Erasmus et al, 2010)

- Strong effort made to improve proper HH practices in some facilities have increased rates to 65%. (Pittet D,2000)

- Self-reported factors for poor HH adherence:
  (Pittet D, Jang et al, Borg et al, Barrett et al, Malekmakan et al)

  - Skin irritation and dryness caused by hand washing agents
  - Scarcity of running water and inconvenient location of sinks
  - Lack of soap and paper towels
  - Too busy/insufficient time
  - Understaffing/overcrowding
  - Low risks of acquiring infection from patients

- Only 32.1% of healthcare workers in our region healthcare settings adhere to moderate-good hand hygiene practice

Aim & Objectives of the study

- To assess various aspects of HH from the perspective of Iranian healthcare workers (HCWs), including:

  - Perception, beliefs and knowledge of hand hygiene practice
  - The obstacles of hand hygiene practice
  - Factors influencing HH compliance
  - Potential ways of improving hand hygiene practices in the hospitals

METHODS

Type & Setting of the Study

- Qualitative study design
- Two hospital settings in Shiraz, Iran:

  1)Public teaching hospital (Namazi)

  2) Private hospital (Markazi Shiraz)

- No specific hand hygiene and infection control policies in neither hospitals
- Limited hand hygiene training seminars provided for staff in both settings

Participants

- Purposive sampling method
- 80 HCWs from critical points of care including Intensive care unit (ICU) and surgery wards:

  - 16 ICU nurses
  - 14 surgical ward nurses
  - 24 support staffs
  - 6 attending physicians
  - 20 medical students (interns who had worked in ICUs and surgical wards)
  - 6 nursing students

Data Collection Methods

- 8 focus group discussions (FGD):

  - For staffs except physicians
  - Voluntary participation
  - Held separately for each group of staff of the same profession

- 6 one-on-one in-depth interviews:

  - Due to physicians' busy working schedules and not participating in FGDs

- For in-depth interviews with physicians:

  - Purposeful selection of ICU and surgical ward physicians

  - Phone contacts made to surgeons, anesthesiologists and other ICU physicians

- Held interview with those willing to cooperate, including:

  - 2 general surgeons
  - 2 anesthesiologists
  - 1 neurosurgeon
  - 1 neurologist

- stopped at 6 physician interviews as data saturation reached

- Each FGD session lasted about 60 minutes

- Each in-depth interview lasted approximately 45-60 minutes

Thematic Analysis

- Verbatim transcription to Farsi and English right after each session
- Review of each transcript separately by the facilitator and colleague
- Extract open codes
- Checked the validity with some participants
- Merged open codes to form the first categories
- Agree on the themes emerged from the categories

RESULTS & DISCUSSION

Our study was the first opportunity for a qualitative study in Iran to explore the views of HH from the perspective of staff with direct patient care.

The Comparison of Different Groups of Staff's View (Attending Physician vs. Nurses, Medical and Nursing Students and Supporting Staff)

Nurses, Medical and Nursing Students and Supporting Staff	Attending Physicians' views
Nearly consistent ideas with one another but different from physicians'	Different views from other staff but sound points of view
Not aware of "WHO's MY 5 Moments for HH"	Complete awareness of WHO "My 5 moments for HH"
Practice HH mostly after touching patients or their bodily fluids (improper practice, skipped 3 steps of WHO's MY 5 Moments for HH)	HH practice in proper situations
Practice HH mostly for self-protection	Practice HH mostly for patients' benefit
Performing more HH while providing care to high risk patients(immunocompromised or HIV,HBV or HCV+, and neonates)	Performing HH for all the patients with more concerns about the high risks
Mostly use gloves instead of HH practice	Perform HH before and after glove use (not using gloves instead of HH)
Warn only their peers	Warn all the staffs and or colleagues in case of noncompliance to HH

- **Three themes emerged from thematic analysis:**
  - ***Theme 1: Relationship between personal factors and HH compliance***
  - ***Theme 2: Relationship between environmental factors and HH compliance***
  - ***Theme 3: The impact of health system on HH adherence***

THEME 1: ”RELATIONSHIP BETWEEN PERSONAL FACTORS AND HH COMPLIANCE”

- Most common belief in the importance of HH in infection prevention

  ✓ *Attending physician (Interview 5) :"If we wanted to measure the impact of the ways for preventing nosocomial infections, [high] hand hygiene would be the best."*

- A few participants' lack of understanding of HH importance:

  ✓ *Nurse (FGD1) :"Is it necessary to wash my hands for each contact to patients? I don't think so."*

- Cultural beliefs as a reason of non-adherence to HH

- "patients being upset" or "HH while examining patients being disrespectful to the patient. "

  - ✓ *An attending physician (Interview 4): "It is a cultural issue. Some physicians think that if they wash their hands, patients would have a bad feeling about that."*

- No clear relationship between knowledge and performing HH:

  - Noncompliance in spite of having correct knowledge,
  - Incorrect HH performance due to a lack of knowledge
  - Not performing well despite the awareness of important role of HH in infection prevention

- ✓ *Nurse (FGD1):"One may suppose that he/she has done the best hand washing, but if we evaluate performance scientifically it might not be the appropriate method."*

- ✓ *Medical student (FGD5):"Many staff members do not know how to wash their hands."*

- Less influential role of positive attitudes towards HH on performance

- *Different* to the experience of other studies reporting positive attitudes are more likely to improve or predict compliance.(Erasmus et al, Pittet et al, McLaws et al)

- Exploration of attitudes in general toward the role and importance of HH in the present study

VS.

- Different aspects of attitudes in other studies

Belief in the role of behavioral factors in adherence to HH

- Act differently in the way of compliance with HH guidelines
- Interpreting and/or adhering to HH recommendations:
  - Personal decision
  - Heavily influenced by individual behavioral factors

✓ *A physician (Interview 2) :"My view to [HH] is different from other HCWs, who don't wash their hands." "It has become my habit."*

Staff indolence as a reason for noncompliance

- Believing in “personal behavior”, “laziness” as a cause for non-adherence

  - ✓ *Physician (Interview 4) :"Laziness is one of the reasons" that prevents HCWs from “do the right thing”.*

- Human behavior is complex and if ‘laziness’ is perceived as an undesirable cause for non-compliance:

  - Using this to apply peer pressure to improve compliance

  - Conform to a social normative belief expressed by our HCWs that *‘non compliance is lazy’*

Belief in noncompliance of other staff groups

- Nurses believing in low HH compliance by physicians

- Medical students complaining about nurses not adhering to HH guidelines

  ✓ *A medical student (FGD5) :"I have never seen nurses perform hand hygiene for a procedure like IV line insertion."*

- Nursing staff belief of physicians' lower levels of HH compliance and rating their own compliance as being higher,

Consistent with:

- A study of physician attitude toward HH found that they had the lowest compliance rate among all HCWs studied (Pyne et al)

- Being a physician, not a nurse, was identified as a risk factor for non-adherence by Pittet et al and Rosenthal et al

- Being allergic to hand hygiene materials as one of the barriers

  - ✓ *Nursing student (FGD7): "Most liquid soaps are not kind to our skin*

THEME 2: "RELATIONSHIP BETWEEN ENVIRONMENTAL FACTORS AND HH COMPLIANCE"

Unavailability of HH facilities as a compliance barrier

- A common complaint by governmental hospital staff members but not the staff of private hospital
  - ✓ *A nurse at the public hospital (FGD4) :"Sometimes we want to wash our hands, but liquid soap does not exist at all."*

- Physicians in the public hospital: "difficulty of producing sufficient amounts of the WHO formulation of ABHRs due to current economic sanctions"

- But that has not been verified.

- Measures taken by hospital administrators improving conditions, raised staff satisfaction with resources and hence their HH compliance

- *Installing pedals for sinks instead of water taps was effective and helped the staffs to do their job more rapidly*

Emergency situations are reasons for noncompliance

- Time restriction as a reason for inappropriately using gloves instead of HH:

  - HCWs not performing HH before and after gloving
  - Not changing gloves between patients

Heavy workloads are reasons for noncompliance

- Causing not remembering to perform HH

- Believing in “sufficient staff levels in each work shift”, improves HH compliance.

✓ *Nursing student (FGD7) :“While a nurse cares for 20 patients during a shift, she doesn't always have the time to wash her hands for each patient."*

- Other studies also reported heavy workload and emergency situations were associated with lower HH compliance (Pittet et al, Jang et al, Joshi et al, Borg et al, Barret et al, Malekmakan et al, Marjadi et al)

➢ Recommendation:

- Using alcohol based hand rubs (ABHR) decreased the time taken to HH, especially during busy hours

➢ Implications:

- Low access to ABHR
- Skin dryness, mounted by glycerinated ABHR
- Different ideas about personal pocket ABHR solutions
- ABHR being expensive when widely used

The role ward type plays in HH compliance:

- Believing in ICUs staff required to have the highest level of HH compliance

- Strict compliance routine in NICU, ophthalmology department and burn units

✓ *One medical student (FGD6) :" some wards like NICU it is routine to [hand hygiene] but it isn't the same in internal medicine wards."*

- Existing belief in some departments, such as ICUs, must have higher HH compliance:
- In contrast with:
  - some studies, working in critical units has been reported to be associated with low compliance (Pittet et al, Pittet D)
- In accordance with:
  - findings of a higher compliance rate in NICUs than in adult wards (Rosenthal et al)

- **Recommendation :**

- **This perception could be used to raise the emphasis of HH in other wards by emphasizing that "all patients could benefit from decontaminating hands."**

THEME 3:
"THE IMPACT OF HEALTH SYSTEM ON HH ADHERENCE"

Inadequate national health systems and HH noncompliance:

- Health system authorities being more concerned about HH improve staffs compliance

✓ *Medical student (FGD5) : "Unfortunately some issues like hand hygiene are not considered at all because they [the healthcare authorities] are not concerned."*

- Understanding the importance of HH in other countries' health systems in some attending physicians and believing in them being their role models

➢ Recommendation :

- Positive effect of peer role modeling

- Attending physicians being role model to other staffs

Beliefs in the role of supervision and obligation

- ✓ *Nursing (FGD7) and a medical student (FGD6) :"There must be an obligation."*
- ✓ *physician (Interview 4) "Supervision in the system is necessary."*

- Few negative attitudes toward supervision and obligation

- Physicians' awareness about being observed had a positive impact on compliance(Pittet et al)

confirms

- Our HCWs’ belief of the supervision has an important role in adherence to HH

Attitude toward surveillance system

- Absence of efficiency in the current hospital surveillance systems

- Physicians emphasized the important role of a functioning surveillance system

✓ *Physician (Interview 2): "If we had a good [HH] surveillance system, our [HH] condition would not be like this."*

Role education plays in HH compliance

- Periodic or continuous training repeated at specified times
- Encouraging posters
- Reminders
- Other training assistance techniques

being used more often by hospital authorities

➢ Recommendation :

- Hospital administrators could incorporate into a:

  - HH audit system
  - Rapid feedback
  - Continuous interactive education

Until compliance is high.

The limitations of the study

- Inherent in qualitative designs, including:
  - Small samples
  - The potential for some participants to keep their views hidden, or
  - conform to the group's view.

- Also the difficulty in arranging interviews with busy physicians

Conclusion

- Adherence to HH could improve with:
  - Increased resources
  - Applying peer pressure to change social norms, that all patients deserve high HH compliance
  - Regular adherence to health system tenets
  - Application of realistic policies and better supervision
  - Appropriate education

THANK YOU FOR YOUR ATTENTION