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SURGEONS AND PHYSICIANS COMPLIANCE WITH THE WORLD HEALTH ORGANIZATION (WHO) PRESCRIBED FIVE MOMENTS OF HAND HYGIENE

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Abstract:

Objective: *The aim of this study is to determine the Surgeons and Physicians compliance with the World Health Organization (WHO) prescribed five moments of hand hygiene.*

Study Design: *Descriptive / cross-sectional Study*

Place and Duration of Study: *This study was conducted at the Department of Community Medicine, Nishtar Hospital, Multan from November, 2018 to October, 2019.*

Material and Methods: *In this study non-probability convenient sampling method was adopted. Hand washing compliance was compared among Surgeons and Physicians. A survey was performed in all surgical and medical units of teaching institution to observe the hand washing compliance randomly according to the WHO five moments of hand hygiene. Semi-structured proforma was used to collect the data secretly without the knowledge of the personnel who were being observed.*

Results: *The mean compliance among Surgeons and Physicians was very low, 14.33% and 6.11%, respectively. There was a strong association between surgeons and physicians regarding hand washing at 95% confidence level. (P< 0.00). Surgical wards sink to beds ratio was 1:24 and bar soap to beds ratio was 1:48. Medical wards sink to beds ratio was 1:33 and bar soap to beds ratio was 1:49. Alcohol-based hand gel or sanitizer was not available in both Surgical and Medical units during the study period.*

Conclusion: *Hand washing compliance was very low among surgeons and physicians. The reasons for poor adherence to hand hygiene was non-availability of good numbers of wash basins and bar soap. There is a necessity for regular education, re-education campaign and provision of amenities for hand hygiene.*

Key Words: *Compliance, hand washing, Surgeon, Physician.*

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INTRODUCTION:

All patients in the hospital care are at risk of community-acquired and hospital-acquired infections. This is known fact in the past 150 years ago; there is a strong association between hand contamination and infection. The hand washing is the main measure of prevention [1]. The improvement in hand-washing practices by health care personnel is significantly associated with reduction in community-acquired infection rate.[2]

Unluckily, compliance with hand hygiene is still very poor at most institutions.[3,4] The phobia of hands allergy, distance from wash basins, and a dearth of time, are the main excuses mostly untaken to explain poor adherence.[5,6] Overall hand washing compliance was under 50% in studies carried out in last 20 years [7,8].

Lately, the introduction of alcohol-based hand sanitizing gel has been effective in snowballing the hand washing compliance, particularly in intensive care units [9,10]. There have been few studies about hand washing; they found potential pathogens on the healthcare workers hands, such as Staphylococcus aureus, E. coli, Enterococcus faecalis and Pseudomonas aeruginosa.[11]

MATERIALS AND METHODS:

All Surgical units and Medical units were selected to collect data regarding handwashing compliance among Surgeons and Physicians of altogether 1800 bedded, Nishtar Hospital Multan. Teaching Hospital had an infection-control team. There were seven infection control personnel in the teaching hospital. No change was made in the team during the study.
The study was performed in 195 bedded surgical units, and 198 bedded Medical units. The study was carried out at the same time in surgical and medical units from November, 2018 to October, 2019. The students of fourth-year MBBS were divided into two groups to collect the data. One group observed hand washing opportunities for one hour daily during the daytime in surgical units and another group in Medical units under my supervision.

Each member of the study was directly observed. All the Surgeons and Physicians working in the Surgical and Medical units were not informed that the study was being carried out and feedback performance was not reported during the study period.
The following WHO desirable recommendations for hand washing were observed:

- Before and after direct examining the patients
- Before and after invasive procedures (including establishing intravenous line)
- After touching the patient surroundings. (Treatment chart, bed, etc.)

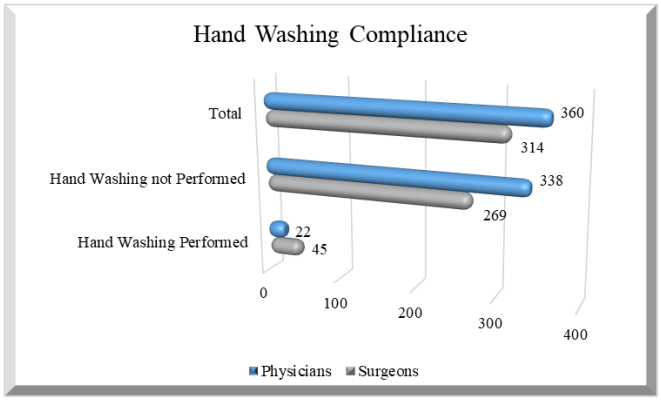
Handwashing Compliance was defined as hand washing with bar soap, Liquid Soap or washing hands with alcohol base hand sanitizer. The use of disposable gloves was also taken as compliance. Univariate analysis to examine the associations between Surgeons and physicians were compared by using Chi-square tests. The level of statistical significance was 0.05. SPSS 20 was used to analyze the data.

RESULTS:

There were 314 opportunities for hand washing among the surgeons and 360 among the physicians. The mean compliance among surgeons and Physicians was 14.33% and 6.11%, respectively. Overall compliance for hand washing was poor however surgeon's compliance was better than physicians. There was a strong association between surgeons and physician regarding hand washing at 95% confidence level. (P< 0.00). (Table 1).

Table No 01: Hand Washing Opportunities Compliance Among Surgeons and Physicians (N = 674)

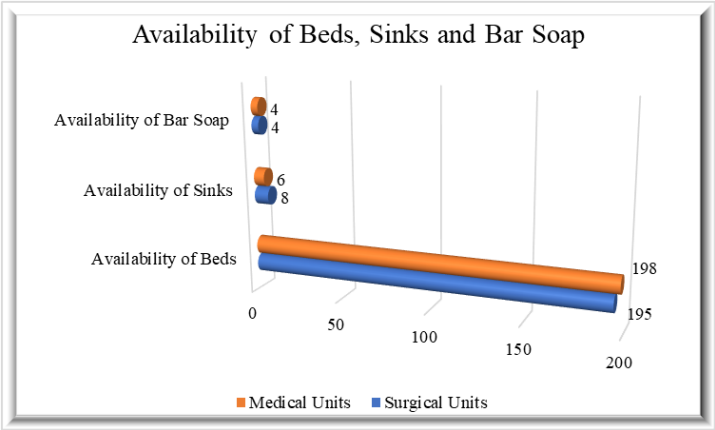
Type of Health Care Worker	Hand Washing Performed	Hand Washing not Performed	Row Total	P-Value
Surgeons	45/314 (14.33%)	269/314 (85.66%)	314	0.000
Physicians	22/360 (6.11%)	338/360 (93.88%)	360	
Column Total	67	607	674	



Surgical units sink to beds ratio was 1:24 and bar soap to beds was 1:48. Medical units sink to beds ratio was 1:33 and bar soap to beds was 1:49. Alcohol-based hand gel or sanitizer was not used in both surgical and Medical during the study time due to its non-availability. (Table 02)

Table No 02: Availability of Beds, Sinks and Bar Soap in Surgical and Medical Units

Wards	Availability of Beds	Availability of Sinks	Availability of Bar Soap
Surgical Units	195	08	04
Medical Units	198	06	04



DISCUSSION:

Our study showed bothersome results: a very poor compliance with hand washing. The mean compliance among surgeons and physicians was 14.33% and 6.11%, respectively. There was a strong association between surgeons and physicians regarding hand washing at 95% confidence level. (P= 0.00)

We also found an underlying relation between little numbers of wash basins and inadequate hand washing. The poor hand washing adherence was due to non- availability of hand sanitizers, washbasins facility nearby the patient's beds. Lack of education may be an essential factor, A study was done by Gould D and found that a high demand for hand washing was associated with low compliance which was congruent with the present study [12]. A study was undertaken by Rotter ML. and Pittet D, Mourouga P, Perneger TV. In both studies, it was found that low hand hygiene compliance in tertiary care hospital despite infection control team of the hospital. There was the unavailability of hand sanitizer nearby patient's beds. This was consistent with our study [13,14].

A study performed in Argentina confirmed that hand washing practices and health-care worker (HCW) education considerably improved HCW adherence to hand hygiene; however, after routine feedback was assimilated, hand washing compliance improved to a far greater degree. Our study did not calculate steps to improve hand washing compliance since we only desired a baseline assessment of hand washing compliance in surgeons and physicians of tertiary care hospital.[15] A study was undertaken by Pittet; it was observed a significant progress in hand hygiene compliance after an educational training program. There was also a reduction in nosocomial infection rates and MRSA communication.[16]

In another study, Harbarth also described a surge in hand hygiene obedience in a paediatric hospital, after the start of alcohol-based hand sanitizer and educational struggles.[17] This did not inconsistent

with our study, due financial constraints, lack of educational programs and scarcity of hand washing facilities, compliance was very low.

CONCLUSION:

Hand washing compliance was very low among surgeons and physicians. The reason for poor adherence to hand hygiene was non-availability of good numbers of wash basins and bar soap. There was a necessity for regular education, re-education campaign and provision of amenities for hand hygiene.

A health education campaign should address properly in the health care workers to enhance their hand washing compliance. Further research studies should be carried out to emphasize issues of concern and achievable solutions of hand washing adherence in Surgeons and Physicians.

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