Introduction: Infection prevention is an important component of care of children. Nurses constitute the largest percentage of the Health care workers (HCWs) and they are the “nucleus of the health care system”. Despite the vast evidences for the benefits of hand washing and efforts to raise awareness of the importance of hand washing, low rates of hand washing compliance continue to be reported worldwide. Promotion of hand washing is a complex issue; it concerns knowledge and attitude of individual staff among which compliance of hand washing may vary. So, this study focused on effect of knowledge on attitude and practice of hand washing technique among staff nurses working in paediatric units.

Objectives
1. To assess the knowledge, attitude and practice of hand washing techniques among staff nurses working in paediatric units.
2. To determine the correlation between knowledge and (a) attitude, and (b) practice of hand washing techniques among staff nurses working in paediatric units.
3. To find out the association of knowledge, attitude and practice of hand washing techniques with selected socio-demographic characteristics.
4. To develop a hand washing protocol for staff nurses working in paediatric units.

Review of Literature
Shinde B Mahadeo & Mohite R Vaishali (2014) conducted a cross-sectional study to assess knowledge, attitude and practice of hand hygiene among 100 nursing staff and 100 students at a tertiary care hospital at Karad. The knowledge on hand hygiene was moderate (74%) among the total study population. Nursing students had significantly better attitude (52%) as compared to nursing staff (12%) (p<0.05). Student nurses had better hand hygiene practices than the staff nurses.

Muhammad WD, Mahmoud AH, Almhairat, Manal & Al-Sutari (2011) conducted a cross sectional survey on 198 nurses regarding hand washing beliefs and attitudes compliance in Jordan. Nurses reported moderate hand washing compliance and were found to have lack of knowledge concerning hand washing protocols.

Methodology
A correlational study design was used. The study was conducted on 90 staff nurses working in paediatric units (paediatric medicine ward, paediatric surgery ward, thalassemia unit, paediatric emergency, paediatric intensive care unit & neonatal intensive care unit) selected by total enumerative sampling technique. Written permission was obtained from the Department of Paediatrics and ethical committee of institute. Structured questionnaire, Likert scale and observation checklist were used to assess knowledge, attitude and practice of staff nurses regarding hand washing. Concealed participatory observation was done to observe hand washing practice of staff nurses. An informed written consent was taken from staff nurses for participation in the study. The reliability of the knowledge questionnaire (r=0.9) and attitude scale (r=0.74) was established with the use of split half method. The reliability of practice checklist was established by inter-rater reliability method (r=0.8). The tools were validated by experts in the field. Descriptive and inferential statistics was used for analysis.

Results
All the respondents were female, reflecting the predominantly female nature of the profession.
Out of 90 staff nurses, 66.77 percent staff nurses were between 20-30 years of age. As per their marital status, 66.32 percent staff nurses were married; as for their professional qualification, 71.21 percent staff nurses were diploma holders (i.e. GNM) in nursing, while more than 26.87% were degree holder (BSc Nursing). Majority of the staff nurses (83.33%) had attended inservice education on hand washing. Less than half (40.0%) staff nurses had no hand drying facility. A statistically significant association was found between the knowledge and inservice education attended, frequency of inservice education attended, audit on handwashing and frequency of audit (p<0.05). Staff nurses had average knowledge, favourable attitude and unsatisfactory practice regarding hand washing. A statistically significant, positive correlation (r=0.248) was found between the knowledge and attitude (p=0.019) of hand washing. Although staff nurses (45.5%) had good knowledge but their hand washing practice was unsatisfactory (98.9%).

**Discussion**

More than half, 53.3 percent of staff nurses had average knowledge, 72.2 percent had favourable attitude towards hand washing and majority (98.9%) had unsatisfactory hand washing practice with soap and water (Fig 1). All the staff nurses (100%) had unsatisfactory hand washing practice with hand rub. Similar results were found in study by Kudavidnange BP, Gunasekara T & Hapuarachchi S (2011) which reported that majority of staff (72.5%) had moderate knowledge, 47.5 percent had good attitude and 62.5 percent had poor hand hygiene practices (Fig 2 & 3). A contrary study conducted by De WD, Maes L, Labeau S, Vereecken C & Blot S (2010) revealing that nurses neither had good theoretical knowledge of hand hygiene guidelines nor social influence or moral perceptions had any predictive value relative to hand hygiene practice.

A statistically significant, positive correlation (r=0.248) was found between the knowledge and attitude regarding handwashing among staff nurses (p=0.019) (Table 1 & 2). Wong So Man (2002) also revealed that nurses’ knowledge on hand washing for preventing infection was good and there was positive correlation between knowledge and attitude.

**Recommendations**

Although staff nurses had good knowledge but they did not follow hand washing techniques. So, it is recommended that audit on hand washing should carried out at frequent intervals. Adequate handwashing facilities should be available for health care workers in each unit.

**Conclusion**

As caring professionals, staff nurses seek to protect others and ensure the wellbeing of patients and co-workers. Hand washing is a simple measure to prevent the spread of disease but the
literature suggests that hand washing practices are not always undertaken in accordance with universally accepted standards. This paper provides a foundation for further work in evaluating and promoting this important infection control measure.

Table 1: Correlation of knowledge with attitude regarding handwashing among staff nurses (n=90)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean ± SD</th>
<th>Mean %</th>
<th>r</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>14.98 ± 2.183</td>
<td>74.9</td>
<td>0.248</td>
<td>0.019*</td>
</tr>
<tr>
<td>Attitude</td>
<td>77.21 ± 6.247</td>
<td>77.21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p significant (p<0.05) Maximum knowledge score ‘20’ Minimum knowledge score ‘0’

Table 2: Correlation of knowledge with practice (soap and water) of handwashing among staff nurses (n=90)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean ± SD</th>
<th>Mean %</th>
<th>r</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>14.98 ± 2.183</td>
<td>74.9</td>
<td>-0.049</td>
<td>0.645NS</td>
</tr>
<tr>
<td>Practice with soap and water</td>
<td>2.94 ± 1.685</td>
<td>58.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NS= Non significant Maximum knowledge score ‘20’ Minimum knowledge score ‘0’
Maximum practice score ‘6’ Minimum practice score ‘0’

Acknowledgement

The author wishes to acknowledge the staff nurses who participated in this study.

References


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