The healthcare industry is facing numerous challenges like identifying improved ways to coordinate care across the continuum of health care service, improving patient safety, delivering effective and efficient care in a responsible manner and testing innovative methods to achieve these goals. The nurse leader’s role was created to be a key partner in addressing these challenges. The head nurse has one of the most important positions because she is the first-line manager at the hospital level, a middle manager in nursing service organisation level and the top manager at nursing unit level. Today’s head nurse is faced with many challenges, which 10 years ago was not posed as a threat to the emerging nurse leader.

The work environment of head nurses may have substantial impact on both nursing outcomes and patient safety. Performance obstacles hinder nurse leaders’ capacity to perform their jobs and are associated closely with their immediate work environment. The aim of the study was to identify the performance obstacles experienced by nurse leaders in their work environment that cover all elements of the work system model. An exploratory, descriptive design was utilised; the sample included all available nurse leaders (n=50). Data was collected by using a self administered checklist on performance obstacles prepared. It was conducted in selected medical college hospitals at Ernakulum. Results indicated that nurse leaders experience a variety of performance obstacles that cover all elements of the work system model. The study found that 32 percent of participants face low range of obstacles, 38 percent face medium and 30 percent face high range of obstacles.

The work environment of head nurses may have substantial impact on both nursing outcomes and patient safety. Performance obstacles hinder nurse leaders’ capacity to perform their jobs and are associated closely with their immediate work environment (Carayon et al, 2006). Nurses play a key role in patient’s recovery. They respond continuously and quickly to the needs of patients and families, carry out procedures accurately, and interact with the most intense emotional aspects of life. They work in demanding and stressful work environments to help patients in critical conditions. Factors such as interruptions, overwork, fatigue, illegible physician writing, lack of information about the patient, and problems with equipment can increase the likelihood of medication administration errors by nurses (Institute of Medicine, 2004).

Performance obstacles have significant impact on nursing workload, perceived quality and safety of care, and quality of working life (QWL). Factors that affect QWL of head nurses include high workload; task complexity; high patient mortality and morbidity, emergencies, admissions, and transfers; communication problems with co-workers; high noise level; low autonomy; insufficient or malfunctioning equipment; and frequent use of sophisticated technology.

The heavy workload of hospital nurses is a major problem for health care system. Head Nurses are experiencing higher workloads than ever before due to inadequate supply of nurses, reduced staffing, overtime, and reduction in patient length of stay (Lang et al, 2004). Further, performance obstacle and workload negatively affect nurses’ job satisfaction and in turn, contribute to high turnover and the nursing shortage.

Review of Literature

A comparative descriptive study among management involved 85 head nurses selected through census and 170 staff nurses through simple random sampling from hospitals covered by the social security showed a significant correlation between the mean scores of head nurses’ time management and some of their socio-demographic characteristics such as gender, clinical experience, passing a time management course, and book reading (p<0.05). Majority of head nurses (52.9%) believed that their time management was at a high
level; most of the staff nurses (40%) also believed that time management of their head nurses was high. However, there was a significant difference between the perceptions of both groups.

An exploratory, descriptive study among 60 head nurses regarding Performance Obstacles Experiences among Critical Care Nurses in Damanhur Teaching Hospital showed that Head nurses experience a wide variety of performance obstacles that cover all elements of the work system model.

Walston & Kimberly (1997) found that as a result of reengineering projects, staff nurses and individual unit nurse managers were frequently assigned more responsibilities without additional training. Excellent clinical nurses frequently lacked the management skills necessary to direct and delegate responsibilities to a subordinate team, and managerial skills were not routinely taught. Also, management did not appear to recognize that many necessary managerial skills are cognitively learned competencies and should be addressed prior to the assignment of new responsibilities. This finding is echoed by hospital nurse executives involved in reengineering initiatives who reported needing additional knowledge to help them meet the new expectations set for them (Gelinas & Manthey, 1997).

The study was undertaken with two objectives: (1) to identify the performance obstacles among nurse leaders in selected hospitals of Ernakulam, and (2) to find out the association between selected demographic variables and performance obstacles.

**Assumptions**

- There will be performance obstacles among head nurses to function as effective leaders.
- The Nurse leaders will be honest in giving information about their performance obstacles.
- There will be significant association between overall performance obstacles and selected demographic variables.

**Methodology**

This study was based on Systems Engineering Initiative for Patient Safety (SEIPS) model of work system and patient safety by Carayon & Smith (Fig 1).

A quantitative research approach was adopted for this study. An exploratory descriptive design was selected for the assessment of performance obstacles among head nurses. The sample was chosen by the convenient sampling technique. The tool for the data collection contained 2 parts: Part-I with demographic characteristics and Part-II containing 26 statements related to performance obstacles (checklist). The data collection was done after the pilot study and checking reliability and validity of the tool. Reliability of the tool was checked by split half method (r=0.79).

**Data collection procedure:** The study was conducted during 10-20 June 2014 after formal permission and consent of medical colleges of SNIMS Manjali and MOSC Medical College, Kolenchery. The hospitals were visited one after the other. Half a day was spent in each hospital. The subjects were asked to assemble in a common room. The purpose of the study was explained and their willingness was obtained. Confidentiality was assured to the subjects. The baseline data was collected. The researcher consulted each respondent and administered the tool which took almost 45 minutes to complete. Data was collected and tabulated.

**Data Analysis:** Descriptive statistics were used to summarise demographic characteristics of the nurses. Data was revised, coded, analysed and tabulated using the number and percentage distribution. Chi square test was used to find out the association of demographic variables with performance obstacles.

**Scoring system:** The performance obstacle checklist contained two parts parts. The first part consisted of baseline data and the second contained 26 items which had a nominal scale (‘Yes’ or ‘No’). Combinations of positively and negatively worded items were used in the checklist. For example, for the item “insufficient place to sit down and do my paperwork in the unit” the response category of “Yes” indicated that the nurse leader experiences the obstacle whereas for the item ‘Equipments and supplies are timely intended and stored’, the response category of “No” means that the nurse leader experiences an obstacle.

The coding ranged from 0 to 1: ‘0’ denoted no obstacles felt at all and the code ‘1’ denoted obstacles felt in performance. The increase in score indicated increasing obstacles in performance and score decreases, decreasing obstacles in performance. Based on this the subjects were categorised as low: 0-4, moderate: 5-11, and high: 12-26.

**Results**

Table 1 describes that half the subjects (50%) were between the age group 25-34 years; the majority (86%) were female, married (94%) and 78 percent of them were qualified, having diploma in nursing.

Table 2 shows that in regard to experience in nursing service, 44 percent of the subjects had an experience of more than 6 years, 38 percent of the nurses had experience ranged between 1-3 years. Forty-six percent of them are working 7-8 hours daily. Regard-
ing favourable time for work, 76 percent of the subjects prefer morning shift.

Table 3 and Figure 2 indicate the performance obstacles related to environment in work system; only 34 percent of the subjects experienced insufficient place for work in order to complete their paper work, 66 percent were satisfied with the available facilities in their workplace in relation to the paperwork. Only 12 percent subjects reported that equipments and supplies are timely, not indented and stored in their department. Regarding IPR, 100 percent of the subjects agreed that it is maintained through effective communication, only 22 percent of them experienced frequent distractions from family members, and 40 percent of subjects reported that they are receiving too many phone calls during duty time.

Table 4 and Figure 3 outline the performance obstacles related to organisation in work system where 48 percent of the subjects reported that there is a delay in getting medications/other items for patients from pharmacy frequently, and only 26 percent reported that they are getting inadequate information from physicians about condition of the patients frequently, 48 percent of the subjects noted that they spend time searching for the patients’ case sheets, 28 percent of the subjects reported that they are receiving too many phone calls during duty time. Table 5 shows 44 percent subjects had to use equipment that was in poor condition frequently, 32 percent of them were spending time looking for equipment because it was not located in proper place, 30 percent had to wait to use an equipment/article because someone else was using it, 36 percent had to spend time seeking for supplies in the central store.
and 44 percent reported that the central store was not well-stocked.

Table 6 shows the performance obstacles related to tasks in work system that included 40 percent of them were not getting enough time / interest for orienting a new staff nurse, 18 percent of them always have problems with decision making in emergency situation, 72 percent of the subjects expressed that they are spending less time in the ward due to own family needs, 56 percent of them spending a limited amount of time teaching patients and junior staff nurses and 24 percent of the subjects spending a considerable time teaching the junior staff nurses.

Table 7 outlines performance obstacles related to support system; 76 percent of them said they get help from the Administrative persons, 8 percent were not getting help from the nursing superintendent, 100 percent subjects get help from other staff nurses & nursing Assistants and 18 percent responded that they are not provided with adequate educational or staff developmental programmes. Table 8 outlines overall performance obstacles faced by head nurses that included: 32 percent had low range of obstacles, 38 percent had medium range of obstacles and only 30 percent had high range of obstacles.

Association between Overall performance obstacles and Selected Demographic Variables

The association was tested using Chi square. The calculated value of age, education and experience as a ward in charge (9.975, 14.41, and 39.81) were higher than table value at 0.05 percent level of significance indicating that there is a significant association between overall performance obstacles and age, education and experience of the subjects.

Discussion

The work system model (Carayon & Smith, 2000) provides a conceptual framework to identify performance obstacles in work environments. Performance obstacles can arise from any element of the work system or from interactions between the elements of the work system task; organisational factors; environment; equipment and technology; and individual. In this study 50 percent of the subjects were between the age group of 25–34 years (Table1). Our results were inconsistent with those of Kotzer et al. (2006) where the respondents primarily ranged in age from 20 to 35 years.
Abd El-Latif (2004) found that more than two-fifth of nurses aged 25 years while Kim et al. (2008) found that most of nurses were aged between 35 to 53 years.

In regard to favourable work time 76 percent of the nurses choose the morning shift. This result is in congruence with Costa et al. (2004); Costa et al. (2005), where they found that the shift nurses to report lower work ability compared to day workers, with increased discrepancies occurring with age. Camerino et al. (2008) suggested that the nursing staff may suffer from a lack of voluntary choice of the type of shift scheme they can work, but they might not have been offered adequate incentives for their night duties. Dorrian et al. (2006) added that the nurses on night shifts report high levels of stress, physical exhaustion, and mental exhaustion. Fatigue has deleterious effects on all types of performance. Ellis (2008) said that shift work can result in fatigue and negative effects on alertness, vigilance, concentration, judgment, mood, and performance.

The main performance obstacles included in task obstacles were: spending less time in the ward dealing with own family needs (72%) and spending a considerable amount of time teaching the junior staff nurses (76%); only few people identified obstacles in organisation and environment related to support system.

The study shows that there was significant association between overall performance obstacles and age, education and experience of the subjects in hospitals the rate of performance obstacles increases with selected demographic variables.

The head nurses experience some performance obstacles that cover all elements of the work system model. It showed that 32 percent have low range of obstacles, 38 percent have moderate range of obstacles and 30 percent have high range of obstacles. Focus on performance obstacles represent the following elements of the work system: environment (5 obstacles), organisation (6 obstacles), technologies or tools (5 obstacles), and task (5 obstacles).

**Physical Environment:** Regarding performance related to technologies or tools element the head nurses reported that central stock area was not well stocked (44%), equipment was in poor condition (44%), had to wait for using equipment because someone else was using it (30%). These results are congruent with the study that focused on three aspects of the physical environment that are of particular importance to nurses: quality of patient areas, safety, and quality of work spaces. Quality of work spaces refers to convenient access to needed supplies, storage, parking, meeting space and equipment, and a workstation with the features needed for the job. Nurses benefit from well-designed work areas that meet their needs and enhance their ability to accomplish their work.

Performance obstacles reported by Head nurses as related to help from administrative person, Nursing superintendent, help from staff Nurses, help from nursing assistant, adequate educational or staff developmental programs (24 percent, 8 percent, 0 percent, 0 percent and 18 percent) respectively with statistically significant difference.

**Communication between Nurse Leaders and other Providers:**

The main issue related to nurse-physician communication were identified as performance obstacles by nurses' inadequate information from physicians (26%). The performance obstacles reported by head nurses was related to organisational element such as inadequate information given to the nurse by the previous shift's nurse(s) during the shift change (28%). The results of another study in non-ICU environments, missing information (omission of critical information regarding a patient or the omission of an entire report of a patient) as identified as major problem with shift change report. If designed well, information technology has a great potential to improve inter provider communication, including shift change report (Dorrian et al, 2006).

**Family-Related Issues as Performance Obstacles:**

Family-related issues were either categorised in the task element of the work system (e.g., spending less time in ward dealing with own family needs) or in the environment element (e.g. distractions from family members). These included distractions from family members (22%), receiving many phones calls during duty time (40%), spending limited amount of time teaching my patient(s) or junior staff nurse (56%), spending less time in ward dealing with family needs (72%). Studies reported previously that nurses may view getting involved in some of the family-related issues as problems or barriers to their job. Studies also revealed that some nurses consider medical and technical tasks as their main focus and express not having enough time for families.

It is added that dealing with angry and distraught family members, continually calling nurses for an

### Table 8: Nurses’ experience about overall performance obstacles (N=50)

<table>
<thead>
<tr>
<th>Interpretation</th>
<th>Frequency</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Low</td>
<td>0-4</td>
<td>32%</td>
</tr>
<tr>
<td>Moderate</td>
<td>5-11</td>
<td>35%</td>
</tr>
<tr>
<td>High</td>
<td>12-25</td>
<td>30%</td>
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update on patient’s status, and no social workers to help with communication with families were identified as obstacles experienced by nurses providing end-of-life care.

Limitations of study: The researchers used single data collection method (a self-administered check list) which may have biased the results. Nurse Leaders who filled the checklist may have missed out some information due to their busy schedule.

Recommendations

- Future research should investigate the impact of various performance obstacles on nursing workload, nursing quality of working life, quality and safety of care as well as the interventions aimed at redesigning the work system of head nurses to remove performance obstacles.
- Organisations can use the findings to improve work environments and retention of head nurses.

Conclusion

This study focused on a few obstacles that are relatively easy to change, and do not require a large amount of resources. Whereas performance obstacles related to misplacement of equipment, supplies, and patient charts may be eliminated by creating and reinforcing a protocol or by establishing a tracking system, the performance obstacle of inadequate workspace may require a major redesign of the physical layout of the wards. The study indicated that head nurses experience some performance obstacles that cover all elements of the work system model.

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