
ASSOCIATION BETWEEN PERFORMANCE OBSTACLES AND QUALITY OF WORK LIFE AMONG INTENSIVE CARE NURSES

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Abstract:

Background: The work environment of intensive care nurses characterized by creating obstacles for nurses in performing patient care tasks, therefore threatening the quality and safety of care provided by nurses. **Aim of the study:** The aim of this study is to determine performance obstacles among intensive care nurses, assess quality of work life (QWL) among intensive care nurses, and explore the relation between performance obstacles and quality of work life among intensive care nurses. **Subjects and Methods:** A descriptive design was utilized to attain the aim of the present study. The study sample included 103 staff nurses working in ICUs at Mansoura University Children Hospital (MUCH) and 27 staff nurses working in ICUs at Mansoura General Hospital (MGH). Data was collected by using the two tools: Performance obstacles questionnaire, and Quality of work life (QWL) questionnaire. **Results:** Performance obstacles related to Physical work environment, work organization, technology and tools, and nursing tasks were more in MGH than MUCH. Levels of satisfaction related to all domains of QWL were higher in MUCH than MGH expect team work and supervisor leadership style domains MGH was higher than MUCH. There was statistically significant relation between total performance obstacles which were reported by the studied nurses in MUCH and MGH and their quality of work life. **Recommendations:** Policy makers in both hospitals must develop strategy, protocol, or system to eliminate performance obstacles related to misplacement of equipment, supplies, and patient charts. In both hospitals policy makers are needed to redesign of the physical layout of the ICU to eliminate performance obstacle of inadequate workspace. Quality Circles program must be provided in both hospitals to develop a culture of participation and team work among the nurses. It also reflects the democratic set up where the management keeps full faith in the employees and also there is a complete understanding between the management and nurses.

Key words: Performance Obstacles, Quality Of Work Life, Intensive Care, Nurses.

Introduction:

Intensive care units (ICU) are a dynamic and highly technological environment. Professional nurses who have been working in these units for a period of time are passionate about the environment in which they work, they find their on duty time challenging and stimulating. The intensive care units environment is slowly changing due to the fact that there are fewer professional nurses with an

additional qualification available to work in the intensive care units ⁽¹⁾.

Characteristics of the ICU work environment can create obstacles for nurses in performing patient care tasks, therefore threatening the quality and safety of care provided by nurses ⁽²⁾. Performance obstacles are the factors that hinder intensive care nurses' capacity to perform their jobs and that are associated closely with their immediate work environment. ⁽³⁾

Performance obstacles have significant impact on nursing workload, perceived quality and safety of care, and quality of working life (QWL) ⁽⁴⁾. There is no universally agreed definition of QWL ⁽⁵⁾. **Brooks and Anderson (2005)** ⁽⁶⁾ define quality of nursing work life as “the degree to which nurses were satisfied regarding their important personal needs (growth, opportunity, safety) as well as organizational requirements (increased productivity, decreased turnover) through their experiences in their work organization while achieving the organization’s goals.”

Improving quality of working life of staff is as much needed as improving quality of care of patients. Quality of working life is important because it is associated with employee commitment, turnover intentions, organizational effectiveness, productivity and quality of life ⁽⁷⁾.

Aim of study

The aim of this study is to determine performance obstacles among intensive care nurses, to assess quality of work life (QWL) among intensive care nurses, and to explore the relation between performance obstacles and quality of work life among intensive care nurses at Mansoura University Children’s Hospital (MUCH) and Mansoura General Hospital (MGH) affiliated to Ministry of Health.

Research Questions:

RQ1: what are performance obstacles among intensive care nurses?

RQ2: what is quality of work life (QWL) among intensive care nurses?

RQ3: Is there relation between performance obstacles and quality of work life among intensive care nurses?

Subjects and Methods

Study Design:

A descriptive design was used to carry out this study.

Setting:

The study was conducted at intensive care units at Mansoura University Children’s Hospital (MUCH) affiliated to Mansoura

University Hospitals and Mansoura General Hospital (MGH) affiliated to Ministry of Health (MOH).

Subjects

The subjects of this study included all staff nurses (130) which represent staff nurses responsible for providing nursing care to patients in predetermined setting during the time of data collection. Studied nurses included 103 staff nurses working in ICUs at MUCH and 27 staff nurses working in ICUs at MGH.

Tools of data collection

Data collected through using two tools: Performance obstacles questionnaire and Quality of work life (QWL) questionnaire.

A. Performance obstacles questionnaire

This tool was aimed to identify performance obstacles among intensive care nurses. The development of the tool was guided by **Gurses & Carayon (2007)** ⁽³⁾; it consists of two parts as follows:

The first part was concerned with demographic characteristics of the staff nurses such as: age, sex, social status, educational degree, total experience in nursing field and intensive care unit. The second part was concerned with performance

obstacles among intensive care nurses; it included 30 statements. These statements categorized into four domains namely as follows:

1. Obstacles related to physical environment (9 statements).
2. Obstacles related to work organization (10 statements).
3. Obstacles related to technology and tools (7 statements).
4. Obstacles related to nursing tasks (4 statements).

The responses for the items were ranged from yes and no, it's scores ranged from 1 for no and 2 for yes. Reversed score was used for statements which have negative direction ⁽³⁾.

B. Quality of work life (QWL)

questionnaire

This tool was aimed to assess the QWL at work place. The development of the tool was guided by the national institute for occupational safety and health⁽⁸⁾. This tool includes 36 items categorized into 6 domains, namely as follows:

1. Psychological work environment.
2. Job characteristics.
3. Salaries and incentives.
4. Team work.
5. supervisor leadership style
6. participation in decision making

According to Likart scale, the responses for the items were on 5 point ranging from strongly agree to strongly disagree. These were scored respectively from 5 to 1.

Preparatory phase:

The data collection tools were reviewed by five professors in nursing administration to test face and content validity of these tools. Reliability of these tools was assessed by Cronbach's alpha test in SPSS v16.

Pilot study was conducted on 16 staff nurses, after the development of the tools and before starting data collection to determine the applicability and clarity of the designed tool, it helped in identifying potential obstacles and problems that may encountered during period of data collection, it also served to estimate needed time to fill the questionnaire, questionnaire format completed within 20 to 30 minutes for every staff nurse. Nurses included in pilot study were excluded from the main study sample. Data obtained from pilot study were analyzed.

Statistical analysis

- Collected data coded, summarized and analyzed by using SPSS program version 16.
- Chi-square test (χ^2) and Pearson's correlation coefficients tests were used to study the relation between two variables.

Results

Table (1): demographic characteristics of the study subjects.

Table (1) shows demographic characteristics of the nurses in the two studied hospitals. The total studied nurses were 130 nurses (103 from MUCH and 27 from MGH). In MUCH half of the nurses were aged from 25 to 30 years, having experience ranged from 5 to 10 years in nursing field, majority of them were female, married, and having bachelor degree in nursing.

In MGH less than half of the nurses were aged from 25 to 30 years, almost of them were female, married, having bachelor degree in nursing, half of them have experience ranged from 5 to 10 years in nursing field.

Table (2): performance obstacles domains as reported by the study subjects:

Table (2) shows the domains of performance obstacles as reported by nurses in the two studied hospital. MGH was higher in the following domains:

Physical work environment, work organization, technology and tools, nursing tasks (55.5%, 37.0%, 33.3%, 74.1% respectively) than MUCH (43.3%, 20.3%, 30.0%, 36.8% respectively). With highly statistically significance.

Table (3): quality of work life domains as experienced by the study subjects.

This table shows the domains of QWL as experienced by nurses in the two studied hospital. MUCH was higher in the following domains: Psychological work environment, Job characteristics, Salaries and incentives, Participation in decision making (64.0%, 62.1%, 16.5%, 51.4% respectively) than MGH (55.5%, 51.8%, 7.4%, 44.4% respectively). MGH was higher in the two following domains: Team work, Supervisor leadership style (62.9%, 37.0%) than MUCH (55.3%, 34.0%).

Table (4) describes relation between total performance obstacles score reported by the studied nurses and their quality of work life at MUCH and MGH. There was statistically significant

relation between total performance obstacles score reported by the studied nurses and their quality of work life at MUCH and MGH ($r= 0.449 - P= 0.000$)

Table (1): Characteristics of the study subjects (n=130).

Characteristics	MUCH (n=103)		MGH (n=27)	
	No	%	No	%
Age (years)				
<25	17	16.5	11	40.7
25 -	52	50.5	13	48.1
< 30	34	33.0	3	11.1
Sex				
Male	3	2.9	0	0.0
Female	100	97.1	27	100.0
Marital status:				
Single	15	14.6	4	14.8
Married	85	82.5	23	85.5
Divorced	3	2.9	0	0.0
Educational qualification:				
Bachelor of nursing	64	62.1	17	63.0
Technical nursing institute	12	11.7	0	0.0
Nursing school diploma	27	26.2	10	37.0
Years of experience :				
<5	20	19.4	10	37.0
5-	54	52.4	14	51.9
>10	29	28.2	3	11.1

MUCH = Mansoura university Children Hospital

MGH = Mansoura general hospital

Table (2): performance obstacles domains as reported by the study subjects.

obstacles domains	MUCH (n=103)		MGH (n=27)		X2	P*
	No	%	No	%		
Physical work environment	48	43.3	15	55.5	20.9	0.007**
Work organization	21	20.3	10	37.0	26.8	0.001**
Technology and tools	31	30.0	9	33.3	14.5	0.04*
Nursing tasks	38	36.8	20	74.0	29.7	0.000**

* Statistically significant at $p \leq 0.05$

** Highly statistically significant at $p \leq 0.01$

Table (3): Quality of work life domains as experienced by the study subjects.

QWL domains	MUCH (n=103)		MGH (n=27)		X ²	P
	No	%	No	%		
Psychological work environment	66	64.0	15	55.5	40.5	0.002**
Job characteristics	64	62.1	14	51.8	25.3	0.11
Salaries and incentives	17	16.5	2	7.4	54.4	0.000**
Team work	57	55.3	17	62.9	28.7	0.12
Supervisor leadership style	35	34.0	10	37.0	50.8	0.000**
Participation in decision making	53	51.4	12	44.4	49.4	0.000**

*Statistically significant at $p \leq 0.05$ ** Highly statistically significant at $p \leq 0.01$ **Table (4)** Relation between total performance obstacles score reported by the studied nurses and their quality of work life at mansoura university children hospital (MUCH) and mansoura general hospital (MGH) (n=130).

	Total Performance obstacles score	
	Pearson correlation coefficient(r)	P-value
Total Quality of work life score	- 0.449	0.000**

* Statistically significant at $p \leq 0.05$ ** Highly statistically significant at $p \leq 0.01$ **Discussion**

Performance obstacles are the work system design characteristics that inhibit performance and are closely associated with the immediate work setting⁽⁹⁾. performance obstacles defined as the work factors in the immediate work setting of ICU nurses that increase their workload beyond what is expected, negatively affect their QWL ,performance, quality and safety of care they provide⁽¹⁰⁾.

As a part of the broader quality movement in health care, staff members' quality of work life (QWL) has been recognized as an important facet of health care organizations' performance⁽¹¹⁾. According to **Burtson and Stichler (2010)**⁽¹²⁾, QWL within the health care organizations can contribute to other positive outcomes for both the healthcare

providers and patients (e.g., greater satisfaction).

The present study revealed that performance obstacles related to physical environment were more in MGH than MUCH and the difference between them was significant. The reason for the aforementioned significant is due to may be due to disorganized workspace, high noise level due to alarms of monitors, crowdedness due to many people (physicians, medical students, visitors) in the unit during day shifts, long visits which give chance for each family members to ask a lot of question, sometimes family members don't know what to ask or what to be worried about, also when family members got an important information about patient's condition, they keep asking on that with many phone calls.

These results agreed with **Janakiraman et al., (2011)**⁽¹³⁾ 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 patient areas refers to the comfort and privacy afforded patients and families due to the physical design of the area in which they spend time. Given the hospital setting, the authors focused on the patient rooms. Safety is a basic need that takes on added prominence in work roles that are inherently dangerous. 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. They found that the perceived safety of the physical environment is associated with perceived service quality. Also these results congruent by **(keshk, et al;2012)**⁽¹⁴⁾ who reported environmental obstacles as distractions from family member, receiving many phone calls from family members.

Finding of the study indicated that performance obstacles related to work organization were more in MGH than MUCH and the difference between them was significant. The reason for the aforementioned significant may be due to lack of collaboration during medical rounds, nursing shortage, no structured mechanism to inform nurses about new orders written in patient charts, hard to decide on when to contact a physician, most medications are not stored in the pharmacy, but only in the central medication storage area in the hospital.

These results agreed with **Gurses and carayon (2007) and (keshk, et al;2012)**^(3,14) who reported organizational obstacles as delay in seeing new medical orders for patient(s), spending much time searching for patients' charts. It also in the same line with **Tammelleo (2001)**⁽¹⁵⁾ who revealed that nurses may not get the

information they need from physicians during both the day and night shifts. During the day shift, physicians may not be available immediately to respond to nurses' questions because they face other demands such as being in surgery or attending meetings. Even if they are available, they may forget or unintentionally omit to communicate important information to nurses due to their high workload. During the night shift, the cross-covering physician may not have adequate knowledge of the patient to be able to answer nurses' questions. Ineffective communication between nurses and physicians has been linked to medication errors, patient injuries, and patient deaths.

Finding of the study indicated that performance obstacles related to technology and tools were more in MGH than MUCH and the difference between them was significant. The reason for the aforementioned significant may be due to insufficient supplies and equipment, poor equipment maintenance.

These results agreed with **Gurses and carayon (2007) and (keshk, et al;2012)**^(3,14) who reported that performance obstacles related technology and tools as spending much time seeking for supplies in the central stock area, spending much time looking for equipment

Finding of the study indicated that performance obstacles related to nursing tasks were more in MGH than MUCH and the difference between them was significant. The reason for the aforementioned significant may be due to there are no nursing aids responsible for transport ICU patient to other units in the hospital for tests and procedures.

These results agreed with **(keshk, et al. 2012)**⁽¹⁴⁾ who reported that performance obstacles related nursing tasks as accompanying patients during intra-hospital transport, responsible for orienting a nurse. It also in the same line

with **Gurses and Carayon (2007)** ⁽³⁾ showed that intra hospital transport for ICU patients need to be transferred to other units of the hospital for tests and procedures and are at high risk en route. Furthermore, accompanying a patient for intra hospital transportation increases the workload of nurses considerably and takes them away from other patients staying in the ICU. These results agreed with **Soderstrom et al., (2006)** ⁽¹⁶⁾ revealed that some nurses consider medical and technical tasks as their main focus and express not having enough time for families.

The study indicated that levels of satisfaction related to all domains of QWL were higher in MUCH than MGH expect team work and supervisor leadership style domains MGH was higher than MUCH.

Concerning the Psychological work environment domain of QWL. The present study revealed that Psychological work environment in MGH satisfied less than in MUCH. The difference between them was significant.

These results agreed with **(Yassi et al., 2002)** ⁽¹⁷⁾ who reported that the working conditions in the health care sector are demanding and stressful compared to other job sectors. The emotional aspect of the workplace environment had a major impact on the nurses' QWL and the relationship with colleagues was particularly important. The relationship with peers has been studied extensively in nursing. For instance, in a study by **AbuAlRub et al. (2009)** ⁽¹⁸⁾, it was found that the perceived level of social support from coworkers enhanced the level of perceived job satisfaction among Jordanian hospital nurses. Therefore, the creation of a friendly work environment as a critical aspect of the management process should be considered by nurse managers. Nurses have long reported that their work conditions are not conducive to providing patient-centered care that is safe

and of high quality (**Aiken, L.H, et.al, 2011**) ⁽¹⁹⁾. Furthermore, researchers have suggested that the work environment and staffing levels for nurses affect both nurse burnout which is characterized by feeling extremely overextended and depleted of one's emotional and physical resources in response to chronic job stressors and job satisfaction, and are also associated with patients' satisfaction with care (**Maslach C, et al., 2001, Vahey DC. et. al, 2004**) ^(20,21).

According to the job characteristics model of Hackman and Oldham, (1980) ⁽²²⁾ job characteristics are predictors of the work attitude of job satisfaction. The present study revealed that Job characteristics in MGH satisfied less than in MUCH. The difference between them was significant. This may be due to nurses in MGH don't have sense of responsibility about they do, workload in MGH is less than in MUCH, this may be due to cases transferred to new MGH. These result agreed with, **Finn (2001)** ⁽²³⁾ showed that autonomy in the workplace was one of the most important factors that affected the job satisfaction level among nurses. Also in the same line with **Noor and Abdullah (2012) and Koonmee et al. (2010)** ^(24, 25) study indicates that there is a significant relationship between job satisfaction and quality of work life.

Concerning salaries and incentives domain of QWL. The present study revealed that salaries and incentives in MGH satisfied less than in MUCH. The difference between them was significant. This may be due to salaries of nurses in MUCH include instead university and bonus for exams as compared to their colleagues in MGH.

These results agreed with **Saraji & Dargahi (2006)** ⁽²⁶⁾ who reported that Pay and Autonomy were the two most important components of nurses' quality of work life. It also consistent with **(Vagharseyyedin, et al; 2011)** ⁽²⁷⁾ who

revealed that nurses were not satisfied with their salary and benefits. Furthermore **Herzberg (1972)** ⁽²⁸⁾, have suggested that the satisfaction of basic needs is essential because individuals cannot concentrate on their higher needs until their basic needs are satisfied.

According to team work domain of QWL. The present study revealed that team work in MGH satisfied less than in MUCH. The difference between them was insignificant. This may be due to nurses in MGH don't have good relationship with each other or less trained on working as a team.

These result agreed with **(Miller, 2006)** ⁽²⁹⁾ who reported that all nurses should be encouraged to work together as a team and share goals, in as much as team work, cohesiveness, and shared values have been identified as levers for good work by nurses. It also in the same line with **(Daubermann & Tonete., 2012).** ⁽³⁰⁾ who reported that adequate team work was considered to be necessary for a satisfactory QWL. Multi-professional team work was considered to be an important basis for the organization of work processes in the primary health care setting.

According to supervisor leadership style domain of QWL. The present study revealed that supervisor leadership style in MGH satisfied less than in MUCH. The difference between them was significant. This may be due to there is no effective leadership style and each nurses acts as she want, supervisor's treatment is not fair.

These results consistent with **(Kandasamy & Ancheri, 2009)** ⁽³¹⁾ who reported that respect and recognition, care and support, close supervision, and good internal communication can minimize problems, boost employees morale, and motivate them to work harder. It also in the same line with **(Cavry,1995)** ⁽³²⁾ who reported that organizational features such as policies and procedures, leadership style,

operations, and general contextual factors of setting, all have a profound effect on how staff views the quality of work life.

According to participation in decision making domain of QWL. The present study revealed that participation in decision making in MGH satisfied less than in MUCH. The difference between them was significant. This may be due to there is gap between administration and nurses, they don't know work objectives, they don't share in decisions to solve work problem.

These results agreed with **(Dargahi & Nasle Seragi, 2007)** ⁽³³⁾ who showed that the nurses were unsatisfied because they could not participate in decision making. It also consistent with **Certo (2004)** ⁽³⁴⁾ study shows that quality of work life is the degree of opportunity of nurses to make decisions that influence their work situation. The greater the opportunity of nurses to make such decisions, the higher the quality of work life. It also consistent with, **Finn (2001)** ⁽²³⁾ showed that autonomy in the workplace was one of the most important factors that affected the job satisfaction level among nurses. It also in the same line with the finding, in a study by **Hsu and Kernohan (2006)** ⁽³⁵⁾, nurses in Taiwan strongly emphasized equal opportunity for progression as an important aspect of their QWL.

The present study revealed that there is statistically significant relation between total performance obstacles which were reported by the studied nurses and their quality of work. This may be due to performance obstacles such as environmental obstacles, organizational obstacles, tools obstacles and nursing tasks obstacles. All these performance obstacles may affects on job satisfaction which may affect on QWL. This result agreed with **(Gurses, 2005)** ⁽³⁶⁾ showed performance obstacles affect on QWL negatively. It also consistent with **(Gurses, et al., 2009)** ⁽⁴⁾ shows that workload due to performance

obstacles negatively affects ICU nurses' QWL.

Conclusion:

It was concluded from the present study that: Performance obstacles related to Physical work environment, work organization, technology and tools, and nursing tasks which were reported by the nurses were more in MGH than MUCH and the difference between them was statistically significant. Levels of satisfaction with quality of work life related to psychological work environment, job characteristics, salaries and incentives, and participation in decision making were higher in MUCH than MGH. On other hand, levels of satisfaction with quality of work life related to team work and supervisor leadership style were higher in MGH than MUCH. There is statistical significant relation between total performance obstacles which were reported by the studied nurses and their quality of work life.

Recommendations:

- 1- Policy makers in both hospitals must develop strategy, protocol, or system to eliminate performance obstacles related to misplacement of equipment, supplies, and patient charts. Policy makers are needed to redesign of the physical layout of the ICU to eliminate performance obstacle of inadequate workspace.
- 2-Nurse Managers / supervisors in both hospitals should be provided with short training programs on the art of management, leadership and communication skills. Approaches should be developed to allow nurses to participate in decision making regarding practices that influence their work life, receive meaningful feedback on their performance and recognition for their accomplishments.
- 3-Quality Circles program must be provided in both hospitals to develop a

culture of participation and team work among the nurses. It also reflects the democratic set up where the management keeps full faith in the employees and also there is a complete understanding between the management and nurses.

- 4- Nurse Managers / supervisors in both hospitals should encourage nurses who have knowledge, skill and experience to participate in decision making make them to work enthusiastically and give recognition to them in their work which also promotes cooperation and conflict management, commitment, self-efficacy and organizational effectiveness.

Further research:

Further research should use the concept of performance obstacles in health care settings other than ICUs. Identifying performance obstacles can help us to design and target interventions aimed at reducing nursing workload by focusing on the causes of high workload, and consequently improving QWL of nurses, and quality and safety of care in health care settings.

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