Nurses and Physicians Perceptions of Their Interprofessional Relationships at Alexandria Main University Hospital

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Abstract: Medicine and nursing are two entitles which have contribution in health care leadership and in marketplace. Hospitals improve reimbursement and be market share when healthy nurses and physicians interprofessional relationships is achieved which in turn reflect on quality care. This study aims to identify nurses and physicians perceptions of their interprofessional relationships at Alexandria Main University Hospital. A descriptive correlational research design was used to conduct this study. This study was conducted in the in-patient Medical and Surgical units (n=23), where the medical units is 11, and surgical units is 12. Study subjects were composed of 199 nurses, and 86 physicians. Data were collected through; Nurse-physician Interprofessional Relationships Structured Questionnaire that developed by the researcher. The main results that physicians' perceptions mean scores were higher than that of nurses in relation to coordination and cooperation, nurses-physicians relationships, work environment and conflict. On the other hand, nurses' perceptions mean scores were higher than physicians' perceptions mean scores in relation to mutual trust and respect, understanding each other's role and communication. As well as nurses-physicians interprofessional dimensions were mostly significant with each other dimensions as perceived by physicians while, the nurse-physician relationship dimension was non significant with all other dimensions as perceived by nurses. The main recommendations are; Nurses should attend training programs about coordination and cooperation, nurse physician relationships, work environment and conflict. Moreover physicians should attend training programs concerning mutual trust and respect, understanding nurses' role and communication.
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1. Introduction

There is an increased interest among health care leaders to the integration of various categories of health care professionals such as nurses and physicians into a coherent and effective health care team to ensure quality patient care [(1)]. According to **Warren *et al.* (1998), Coeling & Cuker, (2000) and Korabek *et al.* (2004)**, quality health care depends on the successful cooperation and positive interprofessional relationships between nurses and physicians [(2-4)]. It fosters satisfaction and enhances productivity for those who either provide and /or who receive health care and has a significantly impact on health care organizations. It is a way to respond to the dysfunctional split in excessive fragmentation among health care work [(5,6)].

Medicine and nursing are two professions that have many roles that overlap with confused responsibilities as well as areas of functions [(1)]. Also, they have the same type of interest to the promotion of individuals' well-being [(6)]. The physician is responsible for the patients and is legally liable for their treatment. Nurses carry out certain parts of the treatment requested provided because they have adequate experiences and explanations. Meanwhile, physicians rely on nurses to report any changes in patients' conditions and/or any adverse effects of the treatment that they may have observed which may lead them to alter the treatment [(7)].

According to **Walby *et al.* (1994), Arnold and Underman (1995), Jones *et al.* (2004)and O'Brian *et al.* (2006)** nurse-physician interprofessional relationships are built on seven dimensions: mutual trust and respect , coordination and cooperation, understanding each other's role, communication, nurse-physician relationships, work environment and conflict [(1, 5, 7,8)].

Mutual trust and respect means that the nurse and the physician are able to depend on each other[(8)]. **Coordination and cooperation** involve sharing acknowledging while, being willing to examine and to alter one's own professional beliefs and perspectives in order to make decisions jointly and develop an efficient, effective and integrative patient plan of care. They reduce duplication and fragmentation and decrease time waste[(9)]. **Understanding each other's role** is the way each party conceptualizes the problems and

interventions as well as the values of the other' s role and unique experience [7, 10].

Nurse-physician **communication** is the ability of the nurse and the physician to present information together which is timely relevant, concise and which is critical to developing and sustaining collaborative relationships [10,11]. **Nurse-physician relationships** is identified as socially and daily interactions between the nurse and the physician which influence the work productivity. Types of Nurse-physician interactions can be divided as collegial, collaborative, student-teacher, neutral, and negative [12-13]. **Work environment** consider all positive and negative work factors in the health care organization that affect the nurses-physicians interprofessional relationships, their roles, authority, responsibilities and satisfaction [14,15]. **Conflict** exists whenever individuals or group interests diverge within an organization, and is due to lack of agreement between opinions, principles and interests [16].

Curtin and Flaherty, (2001) mentioned that current ambiguity in nurse-physician roles arise from the fact that the role of the nurse has not been clearly defined. This could be the outcome of the nursing educational programs [17]. According to **Joint Commission guide (2005) and Block (2004)**, if the hospital works to create a system where nursing can fulfill its purpose of being ready for providing service, there is a need for health care leaders to focus attention not only on the conditions within which nurses work but also on the quality of the relationships between nurses and physicians. However, observation revealed that it receives little attention and little has been done to promote such relationships [18, 19].

Studies conducted in U.S.A concerning: attitudes toward physician-nurse collaboration: a cross-cultural study of male and female physicians and nurses in USA, Italy, Israel and Mexico [20]. Also, a study done in Canada related to the interprofessional relations and solutions and recommendations to improve nurse-physician relationships [8]. This study indicated that traditional power imbalances in their relationships diminish, suggesting that these imbalances are based on gender as on professional hierarchy, quality of nurses' daily interactions with physicians have a major impact on their job satisfaction [8].

In Egypt, a study was done to explore the nature of nurse-physician relationships and its impact on their perception of nurse's role [21]. It revealed that physicians were more satisfied than nurses with their relationships, but they perceive their relationships with nurses as superior-subordinate. While, most of physicians understand and appreciate the nurse's role, but they perceive their role as the most important one in the health care team [21].

The present study examines nurses and physicians perceptions regarding their interprofessional relationships at Alexandria Main University Hospital. Nurses and physicians are directly involved in delivering care and treatment to patients on an-hour-to-hour basis in the hospital medical and surgical units. Successful nurses-physicians relationships require an understanding of how nurses and physicians perceive such relationships and how different they may be from nurses.

Aim of the Study

The aim of the study is to identify nurses and physicians perceptions of their interprofessional relationships at Alexandria Main University Hospital.

Research questions:

What are the perceptions of nurses and physicians regarding their interprofessional relationships?

Material and Methods

1- Materials

A. Research design:

A descriptive correlational research design was used to conduct this study.

B- Setting:

The study was conducted in Medical and Surgical units (n=23), where the medical units is 11, and surgical units is 12 at Alexandria Main University Hospital.

C- Subject:

Fifty percent of the available nurses (n=199) and physicians (n = 86) were conveniently selected from the previously mentioned units.

D-Tool:

Nurse-physician inter-professional relationships structured questionnaire:

This questionnaire was developed by the researcher based on the reviewed related Literatures [1,5,7, 8]. It was used to identify the perceptions of nurses and physicians regarding their interprofessional relationships. It consists of 82 items divided into seven dimensions namely: mutual trust and respect items (11), nurse-physician coordination and cooperation items (9), understanding each other's role items (16), nurse-physician communication items (11), nurse–physician relationships items (11), nurse-physician work environment items (11) and

conflict items (13). The subtitles were geared to identify physicians' perception toward nurses and the reverse for nurses' perception toward physicians. The responses were measured using a five point Likert scale ranges from strongly agree (5) to strongly disagree (1). Also, it include the demographic characteristics for nurses and physicians such as: working unit; age; gender; years of experience in the unit; specialty and educational qualifications.

2- Methods

1- An official permission was submitted to the studied hospital director and heads of departments to get their approval and cooperation to collect the necessary data.
2- The developed questionnaire was translated into Arabic language for nurses.
3- The developed questionnaire was tested for content validity by five experts in the field of the study from different departments at the Faculty of Nursing, Alexandria University
4- A pilot study for the developed questionnaire was carried out on 10% of nurses (n=20) and physicians (n=9) who were working in the Medical and Surgical Units at Alexandria Main University Hospital, (they were excluded from the total subjects) in order to check and ensure clarity of the questionnaire. In addition, to identify obstacles and problems that may be encountered during data collection. Accordingly, the necessary modifications were done.
5- Reliability of the developed questionnaire was done using cronbach's alpha with value for nurses r= 0.846 and for physicians was r=0.791.
6- Data collection: The developed questionnaire was hand delivered through its distribution to medical and surgical nurses and physicians at Alexandria Main University Hospital. Confidentiality was maintained for all participants.Data collection was conducted during a period of one month; March 2009.

7- Statistically analysis:

Data were collected, entered, organized, computerized, tabulated and analyzed using SPSS software package version 18.0 (SPSS, Chicago, IL, USA). Quantitative data was expressed using Range, mean, standard deviation while Qualitative data was expressed in frequency and percent. Quantitative data was analyzed using student t-test to compare between two groups. The Pearson coefficient was used to analyze the correlation between any two variables. P value was assumed to be significant at 0.05.

3. Results:

Table (1) shows the socio demographic characteristics of nurses and physicians. It was found that the majority of nurses (95%) and 58.1% of physicians were female. The highest percentage of the nurses (55.8%) was in the age group less than 25 years, while, the highest percentage of physicians (37.2%) were in the age group ranged from 25 to 30 years.

More than half of nurses were single (52.3%), while, married nurses were 46.2%. About 50 % of nurses were working in surgical units., and 49.2% were working in medical units. In relation to physicians' marital status, one-half of the physicians were single. While, married physicians percentages were 46.5%, where the lowest percentage (2.3%) of physicians were widows. In relation to working unit, the highest percentage of physicians (51.2%), were working in surgical units. While, the percent of physicians working in medical units' were 48.8%.

According to years of nurses' experience, 57.8% of the nurses had less than five years of experience and who had five to ten years of experience were 27.6% while, 14.6% of the nurses had more than ten years of experience. In relation to physicians' years of experience, 75.6% of the physicians had less than five years and who had five years of experience and more to ten years of experience were 22.1% while, only 2.3% of the physicians had more than ten years of experience.

Table (2) revealed that 46.2% of nurses had a diploma, while, technical nurses constituted the lowest percentage (21.6%). Regarding the highest percentage of physicians (40.7%) were residents. On the other hand, assistant lecturer physicians were the lowest percentage (11.6%).

Table (3) shows the comparison between nurses and physicians' perceptions of nurse-physician interprofessional relationship dimensions. This table revealed that physicians higher mean scores than nurses were found with coordination and cooperation, nurse_physician relationship, work environment and conflict (29.41 ± 2.03), (39.44 ± 2.95), (36.74 ± 3.45) and (48.81 ± 3.78) respectively. On the other hand, the nurses higher mean score than physicians were found in mutual trust and respect, understanding each other role and communication (39.57 ± 5.59), (61.1 ± 8.49) and (34.90 ± 4.47) respectively. Statistically significant differences were found between nurses and physicians regarding all nurse_physician interprofessional relationship dimensions, where $p \leq 0.05$.

Table (4) shows the correlation coefficient values for the relationship between nurse_physician interprofessional relationship dimensions as perceived by physicians. The table revealed that physicians' perception toward mutual trust and

respect dimension have significant correlations with almost all other dimensions, except with coordination and cooperation and work environment (p=0.229, p=0.338) respectively.

As regard coordination and cooperation have a significant relationship (P=0.001) with understanding each other role, communication and conflict. While, understanding each other role dimension shows a significant correlations with communication, and conflict (p=0.001). In addition to, communication have a significant relationships reported with nurse-physician relationship, work environment and conflict where P = 0.001.

In relation to nurse_physician relationship dimension there was significant relationship with work environment (p=0.001). While, work environment had significant correlation with conflict (p=0.001).

Table (5) shows the correlation coefficient values between nurse_physician interprofessional relationship dimensions as perceived by nurses. This table indicates that there were significant relationships among all dimensions, with exception of nurse-physician relationship dimension.

Table (1): Socio demographic characteristics of nurses and physicians working in medical and surgical units at Alexandria Main University Hospital

Socio demographic characteristics of nurses and physicians	Nurses (n=199)		Physicians (n=86)	
	N	%	N	%
Sex				
Female	189	95.0	50	58.1
Male	10	5.0	36	41.9
Age				
<25	111	55.8	5	5.8
25 – 30	60	30.2	32	37.2
31 – 40	22	11.1	29	33.7
41+	6	3.0	20	23.3
Marital status				
Single	104	52.3	43	50.0
Married	92	46.2	40	46.5
Divorced	2	1.0	1	1.2
Widow	1	0.5	2	2.3
The current working unit				
Medical	98	49.2	42	48.8
Surgical	101	50.8	44	51.2
Years of experience				
<5	115	57.8	65	75.6
5 – 10	55	27.6	19	22.1
10+	29	14.6	2	2.3

Table (2): Distribution of nurses and physicians according to their positions and educational qualifications

Nurses educational qualifications	Nurses (n=199)	
	N	%
Diploma nurse*	92	46.2
Technical nurse**	43	21.6
Professional nurse***	64	32.2
Physicians Positions	Physicians (n=86)	
	N	%
Resident	35	40.7
Assistant lecturer	10	11.6
Lecturer	28	32.6
Assistant professor	13	15.1

* Diploma Nurse: Diploma of Secondary Technical School of Nursing.
** Technical nurse: Associate Technical Institute of Nursing.
*** Professional nurse: Bachelor Science of Nursing.

Table (3): Comparison between nurses' and physicians' perceptions of nurse-physician interprofessional relationship dimensions

Nurse-physician relationship dimensions	Nurses and physicians Perceptions		t (p)
	Nurses (n=199)	Physicians (n=89)	
Mutual trust and respect			
Range	25.0 – 55.0	34.0 - 42.0	2.173* (0.031)
Mean ± SD	39.57 ± 5.59	38.59 ± 2.0	
Coordination and cooperation			
Range	13.0 – 43.0	24.0 – 32.0	2.644* (0.009)
Mean ± SD	28.20 ± 5.64	29.41 ± 2.03	
Understanding each other role			
Range	22.0 – 79.0	43.0 – 60.0	8.267* (<0.001)
Mean ± SD	61.1 ± 8.49	55.15 ± 3.65	
Communication			
Range	24.0 – 50.0	30.0 – 37.0	3.131* (0.002)
Mean ± SD	34.90 ± 4.47	33.67 ± 2.13	
Nurse_physician- relationships			
Range	19.0 – 53.0	29.0 – 44.0	4.204* (<0.001)
Mean ± SD	37.41 ± 5.14	39.44 ± 2.95	
Work environment			
Range	19.0 – 55.0	33.0 – 45.0	3.377* (0.001)
Mean ± SD	34.83 ± 6.01	36.74 ± 3.45	
Conflict			
Range	29.0 – 61.0	41.0 – 55.0	7.829* (<0.001)
Mean ± SD	44.45 ± 5.37	48.81 ± 3.78	

t: Student t-test; * : Statistically significant at $p \leq 0.05$

Table (4): Correlation coefficient between the nurse_physician interprofessional relationship dimensions as perceived by physicians.

		Coordination and cooperation	Understanding each other's role	Communication	Nurse_physician relationship	Work environment	Conflict
Mutual trust and respect	r	0.131	0.429*	0.314*	0.277*	0.104	0.503*
	p	0.229	<0.001	0.003	0.010	0.338	<0.001
Coordination and cooperation	r		0.523*	0.498*	-0.038	-0.003	0.520*
	p		<0.001	<0.001	0.727	0.975	<0.001
Understanding each other's role	r			0.352*	0.209	-0.109	0.580*
	p			0.001	0.054	0.318	<0.001
Communication	r				0.535*	0.529*	0.393*
	p				<0.001	<0.001	<0.001
Nurse_physician relationship	r					0.342*	0.098
	p					0.001	0.369
Work environment	r						0.497*
	p						<0.001

r: Pearson coefficient * : Statistically significant at $p \leq 0.05$

Table (5): Correlation coefficient between the nurse_physician interprofessional relationship dimensions as perceived by nurses

		Coordination and cooperation	Understanding each other's role	Communication	Nurse_physician relationship	Work environment	Conflict
Mutual trust and respect	r	0.599*	0.343*	0.350*	0.072	0.406*	0.143*
	p	<0.001	<0.001	<0.001	0.312	<0.001	0.043
Coordination and cooperation	r		0.330*	0.358*	0.084	0.497*	0.196*
	p		<0.001	<0.001	0.238	<0.001	0.006
Understanding each other's role	r			0.344*	0.044	0.456*	0.315*
	p			<0.001	0.541	<0.001	<0.001
Communication	r				0.084	0.354*	0.176*
	p				0.237	<0.001	0.013
Nurse_physician relationship	r					0.092	0.073
	p					0.197	0.303
Work environment	r						0.182*
	p						0.010

r: Pearson coefficient * : Statistically significant at $p \leq 0.05$

4. Discussion

Regarding the findings detected from the comparison between nurses' and physicians' perceptions of their inter-professional relationships dimensions, this study revealed that, understanding each other's role was the highest dimension mean score, while coordination and cooperation was the lowest mean score among nurses and physicians' perceptions. The reason behind this might be that nurses and physicians were appreciated, and understand each other's role. Indeed, most nurses and physicians agreed that the role of nurses is important as well as that of physicians in the health care team. Moreover, a nurse's role is limited to the implementation of physicians' instructions as well as providing direct patients care. Actually, the lowest mean score displayed in terms of coordination and cooperation may be related to the unwillingness of physicians to share patient-care plans with nurses. On the other hand, nurses were satisfied with their role as a follower to physicians.

This finding goes with Diab, (2004) who stated that both nurses and physicians perceived highly in the understanding of each other's role and nurses were satisfied with their role regarding carrying out physicians' orders and patient care. Furthermore, those physicians believe that their role is the most important role in the health care team [(21)].

The results of the present study showed a positive significant correlation between the nurses-physicians interprofessional relationship dimensions as perceived by physicians regarding mutual respect and trust in terms of understanding each other's role, communication, nurses-physicians relationships and conflict. These findings could be related to that mutual trust and respect between nurses and physicians stems from understanding each other's roles which, in turn, helps to establish good communication between them. Subsequently, this leads to improvement in the relationships between nurses and physicians at both social and practical levels. Eventually, conflict management at the workplace would be enhanced. This would be similar to the findings of Rodriguez *et al*. (2008) who stated that the interaction determinants of nurses-physicians collaboration, which include interpersonal trust, respect, understanding each other's role and open communication, were the bases for a healthy and strong nurses-physicians inter-professional relationships [(22)] .

Furthermore, the present study indicated that there were statistically positive significant correlations between coordination and cooperation concerning understanding each other's role, communication and conflict as perceived by physicians. This finding may be related to that understanding each other's role may develop coordination and cooperation between nurses and physicians in terms of the responsibilities and services provided to patients. This may lead to the decrease in the factors provoking conflict. Similarly, this result finding goes in line with the finding reported by Coeling and Cukr (2000)[(3)]. Moreover, the communication styles of the physicians may also play a role in the declining perceptions of nurses with experience. Open communication is regarded as a foundation for good mutual understanding between nurses and physicians which would decrease conflicts and struggle between them. Also, it would definitely enhance coordination and cooperation of the services provided for the patients [(3)].

In addition, the present study indicated that there were positive statistical significant correlations between understanding of each other's role with communication and conflict as perceived by physicians. This finding may be related to physicians understanding the role of nurses. As a general rule, understanding and accepting each other's role while being fully aware of the responsibilities and boundaries between both groups have a significant influence on the improvement of communication and development of conflict resolution. The findings supported by Hojat *et al*. (2003) who concluded that in Italy and Mexico, less conflict existed when nurses and physicians acquire a more traditional role as superior-subordinate relationships and nurses-physicians game exist [(20)].

Moreover, the findings of this study revealed positive statistically significant correlations were detected between communication with nurse-physician relationship, work environment and conflict as perceived by physicians. This may be due to that a clear simple information transmitted between nurses and physicians which may decrease stressful workload and overlapped responsibilities which would diminish disagreements between them.

Furthermore, a positive statistical significant correlation was found between nurses-physicians relationships with work environment as perceived by physicians. This finding may be justified by a healthy workplaces as well as fairness, supportive and empowered administrators of the health care team; As a result, this would decrease conflict. Entail increased physicians' power and increase their responsibilities. This finding was supported by Kanter, (1993) who emphasized that when people have more power and control over the conditions of their work environment they will experience higher levels of autonomy and will have more participation in organizational decisions. Physicians within larger hospital organizations may have higher levels of personal

power related to contingencies controlled, and may experience dependency behavior from nurses. The opposite is also true that dependency is reduced in smaller organizations where people can work more autonomously and have greater decision making perceptions [23].

In addition, it was observed that a positive statistical significant correlation exist between work environments and conflict as perceived by physicians. This may be related to that a traditional nurses-physicians relationship exist to identify the boundaries between both professions. Jenny, (1995) mentioned that the medical profession has actively resisted attempts by nurses to exercise equal power, and has been content to allow a system of dominance and inequity to continue. Which lead to a decrease in conflict between them[24].

The findings of this study revealed the presence of a positive significant relationship between all dimensions with the exception of nurses-physicians relationships dimension as perceived by nurses. This finding was expected, due to the fact that work can be conducted regardless of the kind of nurse-physician relationships'. This was supported by Diab, (2004)[21].

In this respect Diab, (2004) and Elshazli, (1996) indicated that in both studies nurses were satisfied about their relationship with physicians. Moreover, they had significant relations with mutual trust and respect, cooperation, communication, understanding each other's role, work environment and conflict [21, 25].

On the other hand, these findings were in contrast with the results of Essa, (1999). Who stated that disciplinary actions are the tools that promote order within the organization[26]. That is to say, to be effective, disciplinary actions are applied equally to nurses and physicians. Conversely, from the discussion with nurses it was revealed that a large number of nurses reported that, when physicians submit a report against nurses, the latter are punished; however, when nurses report a wrong doing from physicians, the hospital director do not take any action.

Conclusion and Recommendation

Results of the present study concluded that physicians' perceptions mean scores were higher than that of nurses in relation to coordination and cooperation, nurses-physicians relationships, work environment and conflict. On the other hand, nurses' perceptions mean scores were higher than physicians' perceptions mean scores in relation to mutual trust and respect, understanding each other's role and communication. Nurses-physicians interprofessional dimensions were mostly significant with other dimensions as perceive by physicians while, the nurse-physician relationship dimension was non significant with all other dimensions as perceive by nurses.

The present study recommendations will be directed toward four groups nurses, physicians, health organization administrators and the curricula of nursing and medical schools:

A-Recommendations geared to nurses:

1- Nurses should attend training programs about coordination and cooperation, nurse physician relationships, work environment and conflict.

B-Recommendations geared to physicians:

1. Conducting training programs for physicians regarding mutual trust and respect, understanding nurses' role, communication.
2. Physicians should make sure that their clinical decisions are well understood by nurses and that they have covered all contingency plans and set review dates.
5. Physicians should acknowledge and give recognition to nurses' skills when the opportunity arises, and publicize them to outside agencies and management.

C-Recommendations geared to Hospital administrators:

1- Hospital administrators should introduce regular multidisciplinary staff meetings at the ward and management level, implement quality circle meetings, allow representatives of all levels to meet and discuss communication problems, and possible solutions, and be prepared to take action when required; and meet with the nurse manager and other senior staff to discuss policy, philosophy of care and management issues.

2- Hospital administrators should encourage physicians to support nurses when they have arrived at decisions and independent judgments in physicians' absence, even if the physicians have reservations about them or they have had negative consequences. They should review judgments fairly in open, frank discussion in circumstances where all staff can feel comfortable.

3- Hospital administrators should emphasize the team's approach, the need for collaboration and mutual dependency on each other's skills; and refer to physicians as a member of the team.

4- Hospital administrators should implement equity in conflict resolution between nurses and physicians.

D-Recommendations geared to nursing and medical schools curriculum:

1-Encourage the Faculties of Nursing and Medicine under supervision of the High Council of Universities to develop curricula for their health discipline programs to build communication skills,

team approach and foster optimal collaboration between Nursing and Medical students, and graduates as national program to help nurses and physicians to improve quality and efficacy of health care provided.

Further researches

1- Work environment contributing factors that affect nurse-physician interprofessional relationship.
2- Conflict management styles between nurses and physicians and its effect in patient outcome.

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