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## **A study to assess perception of nurses and physicians towards their collaboration in pediatric hospitals**

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**Abstract**---Background: Collaboration is one of the best techniques for healthcare systems when seeking to improve outcomes. Aims: The purpose of this study is to investigate the perception of nurses and physicians towards their cooperation in pediatrics Hospitals/ Babylon, Iraq. Methods: A comparative study is conducted in Baghdad Province at the pediatric hospitals. A non probability convenience of 390 nurses and 107 physician participated in the study. The instruments underlying the study phenomenon deals with nurses and physicians socio-demographic characteristics and constructed questionnaire related to the nurses-physicians relationship. The reliability of the questionnaire was achieved through a pilot study and then presented to experts to prove its credibility. The data were collected by using self-report techniques method and analyzed through the application of descriptive and inferential statistical analysis. Results: Findings show that the mean age for nurses is 27, the age 20-29 years old were recorded the highest percentage among nurses (83.3%). While, the mean age among physician is 34, the age 30-39 years old were recorded the highest percentage among physician (37.4%), the female were predominated among nurses (80%), compared with male among physician (60.7%), both nurses and physician had been 5 to 10 years of experience (70% and 45.8%) respectively, most of nurses work at wards (80%) and most of physician work at emergency department (53.3%). Findings indicate that the nurse-physician perception related to relationship was demonstrate at  $M \pm SD= 36.69 \pm 5.135$  among

nurses and  $M \pm SD = 29.05 \pm 2.935$  among physician. There were highly significant difference in perception towards relationship with regard to nurses ( $M \pm SD= 2.03 \pm 0.285$ ) and physicians ( $M \pm SD=1.61 \pm 0.163$ ) at p-value  $<0.01$ . Conclusion: Nurses and physicians held different perceptions of nurse-physician collaboration. Relationship, effect of work stress on their relationship, effect of job performance on their relationship, influence of administrative policies and norms on their relationship, and role effect on their relationship were reoccurring themes in reports of perceptions about nurse-physician collaboration. Recommendations : Giving rewards for well established inter-professional collaboration between nurses and physicians and emphasizing that the role of nurses is no less important than that of doctors and other workers in health institutions.

**Keywords**---nurses, physicians, relationship.

## **Introduction**

The nature of critically ill patients, who are defined by the presence of real or prospective life-threatening health problems, necessitates constant monitoring and titration of delivered care on a minute-by-minute basis <sup>(1)</sup>. As a result, a multidisciplinary approach to managing unwell children is critical to the quality of treatment given in pediatric hospitals <sup>(2)</sup>. Nurses and doctors make up the majority of the health-care team. Because of its impact on how care is delivered and what outcomes are obtained, the concept of collaboration between nurses and physicians has received a lot of attention in recent years <sup>(3)</sup>. Nurse-physician cooperation is defined as an engagement between physicians and nurses that allows both professionals' knowledge and skills to influence patient care in a synergistic way <sup>(4)</sup>. The necessity of trust in bringing the parts together. Cooperation, assertiveness, responsibility, communication, autonomy, and coordination are some of these characteristics. Nurses can become involved in patient care decisions with physicians by sharing patient information and patient care planning based on their knowledge and clinical experience by exhibiting assertiveness and autonomy in the cooperation process. According to the findings, successful collaboration between nurses and physicians is associated to better patient outcomes, lower organizational costs, and increased job satisfaction for both nurses and physicians <sup>(5)</sup>. Ineffective collaboration between nurses and physicians, on the other hand, has been linked to higher risk-adjusted mortality, longer lengths of stay, and worse patient outcomes <sup>(6)</sup>. Therefore, thus study aimed to assess the perception of nurses and physician regarding their relationship in pediatrics Hospitals/ Babylon, Iraq.

## **Methodology**

A comparative study is conducted in Baghdad Province at the pediatric hospitals. A non probability convenience sample of 390 nurses and 107 physicians included in the study sample. The instruments underlying the study phenomenon deals with nurses and physicians socio-demographic characteristics and constructed

questionnaire related to the nurses-physicians cooperation. The questionnaire was presented to 11 arbitrators, including professors specialized in nursing science. Arbitrators were requested to provide their views and suggestions on each of the items of the study questionnaire in term of its linguistic appropriateness, its association with the dimension of study variables it was assigned to and its suitability for the study population context.

Data were collected out from study participants to verify the reliability of questionnaire, the test was applied to 30 nurses of the study population from outside the original sample. Cronbach's alpha was found at 0.79. Statistical analyses were performed using the SPSS version 20.0 software program (SPSS). The data were normally distributed. One-way analysis of variance to analyze the differences variables according to socio-demographic characteristics. Descriptive data are presented as mean  $\pm$  standard deviation for continuous variables and number (%) for categorical variables. A  $p < 0.05$  was considered as statistically significant.

## Results

In table (1) findings show participants age, the mean age for nurses is 27, the age 20-29 years old were recorded the highest percentage among nurses (n=325; 83.3%). While, the mean age among physician is 34, the age 30-39 years old were recorded the highest percentage among physician (n=40; 37.4%). There were highly significant differences in age groups for nurses and physician ( $p < 0.01$ ). Respect to the gender, the female were predominated among nurses (n=312; 80%), compared with male among physician (n=56; 60.7%). There were highly significant differences in gender for nurses and physician ( $p < 0.01$ ). Years of experience related findings, both nurses and physician had been 5 to 10 years of experience (n=273; 70%, 49; 45.8%) respectively. There were significant differences in years of experience for nurses and physician ( $p < 0.05$ ). In regards with workplace, most of nurses work at words (n=312; 80%). While, most of physician work at emergency department (n=57; 53.3%). There were highly significant differences in workplace for nurses and physician ( $p < 0.01$ ).

Table 1: Distribution of Study Sample by their Characteristics

	Classification	Nurses		Physician		<i>p-value</i>
		Freq.	%	Freq.	%	
Age /years	20-29 years old	325	83.3	39	36.4	0.000
	30-39 years old	49	12.6	40	37.4	
	40-49 years old	10	2.6	19	17.8	
	50 and older	6	1.5	9	8.4	
	<i>Mean <math>\pm</math> SD</i>	<i>27 <math>\pm</math> 6.181</i>		<i>34 <math>\pm</math> 8.495</i>		
Gender	Male	78	20.0	65	60.7	0.000
	Female	312	80.0	42	39.3	
Years of experience	<5 years	0	0.0	3	2.8	0.013
	5-10 years	273	70.0	49	45.8	
	11-15 years	78	20.0	30	28.0	
	15-20 years	39	10.0	24	22.4	

	>20 years	0	0.0	1	0.9	
Workplace	Emergency	39	10.0	57	53.3	0.000
	Wards	312	80.0	25	23.4	
	Operating room	0	0.0	19	17.8	
	Intensive care unit	39	10.0	6	5.6	

Table 2: Differences between Nurses and Physician Perception in regard their Cooperation

Perception	Weighted	Mean	S.D	t-value	d.f	p≤ 0.05	Sig
	Nurses	2.175	0.1968	28.544	495	0.024	S
	Physician	1.573	0.1423				

M: Mean, SD: Standard deviation, t: t-test, d.f: Degree of freedom, Sig: Significance, p: Probability value, S: significant

Current findings is reveals that there is significant difference in perception towards cooperation with regard to nurses ( $M \pm SD = 2.175 \pm 0.1968$ ) and physician ( $M \pm SD = 1.573 \pm 0.1423$ ) at p-value <0.05.

Table 3: Significant Differences in Perception with Nurses and Physicians Age

Age Variables	Source of variance	Sum of Squares	d.f	Mean Square	F	p≤ 0.05
Nurses	Between Groups	.039	3	.013	.331	0.803
	Within Groups	15.028	386	.039		
	Total	15.066	389			
Physicians	Between Groups	.066	3	.022	1.080	0.361
	Within Groups	2.083	103	.020		
	Total	2.149	106			

Findings is displays that there is no-significant differences in perception with regard to nurses' and physicians age at p-value >0.05.

Table 4: Significant Differences in Perception with regard Nurses and Physicians Gender

Variable	Gender	Mean	S.D	t-value	d.f	p≤ 0.05	Sig
Nurses	Male	2.343	0.1874	9.327	388	0.118	No-sig.
	Female	2.133	0.1757				
Physicians	Male	1.574	0.1433	0.077	105	0.953	No-sig.
	Female	1.572	0.1425				

Findings is demonstrated that there is no-significant differences in perception with regard to nurses' and physicians gender at p-value >0.05.

Table 5: Significant Differences in Perception with regard Nurses and Physicians Years of Working in Hospital

Experience Variables	Source of variance	Sum of Squares	d.f	Mean Square	F	p≤ 0.05
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Nurses	Between Groups	.203	2	.102	2.648	0.052
	Within Groups	14.863	387	.038		
	Total	15.066	389			
Physicians	Between Groups	.196	4	.049	2.553	0.043
	Within Groups	1.953	102	.019		
	Total	2.149	106			

Findings is displays that there is significant differences in perception with regard to nurses' and physicians years of experience in hospitals at p-value <0.05.

Table 6:Significant Differences in Perception with regard Nurses and Physicians Workplace

Workplace Variables	Source of variance	Sum of Squares	d.f	Mean Square	F	p≤ 0.05
Nurses	Between Groups	4.545	2	2.273	83.59	0.001
	Within Groups	10.521	387	.027		
	Total	15.066	389			
Physicians	Between Groups	.110	3	.037	1.847	0.143
	Within Groups	2.039	103	.020		
	Total	2.149	106			

Findings is displays that there is significant differences in perception with regard to nurses' workplace at p-value <0.05; and there is no significant differences in perception with regard to physicians workplace at p-value >0.05.

## Discussion

### Socio-demographic characteristics

Findings of present study show participants age, the mean age for nurses is (M=27), the age 20-29 years old were recorded the highest percentage among nurses. While, the mean age among physicians is (M=34), the age 30-39 years old were recorded the highest percentage among physicians. There were highly significant differences in age groups for nurses and physicians (p<0.01). This findings come in line with Goda et al. (2018), who compared the perception among nurses and physicians. Their findings demonstrated that the mean age of nurses is less than the mean age of doctors (Mean ±SD= 29±8.41; 33±8.24) respectively <sup>(7)</sup>. Nurses and doctors, due to academic studies and career progression, there is a big difference. Where we find young nurses, because most of them are graduates of medical institutes, whose academic studies are two to four years, unlike a doctor, who has an academic study of at least six years.

Respect to the gender, the female were predominated among nurses, compared with male among physicians. There were highly significant differences in gender for nurses and physicians (p<0.01). The current results study were similar to the results from Siedlecki and Hixson (2015), who studied the relationships between nurses and physicians who reported that most of their physicians were males and female nurses <sup>(8)</sup>. The female more than male of studied nurses, may be due

to the fact that females are still the main gender in the nursing profession. This finding is consistent with Weller et al. (2011) who studied the attitude of nurses and physicians regarding collaboration in Mansoura University and revealed that most of studied nurses were females<sup>(9)</sup>. Especially in children's hospitals, and for the sake of motherhood, it is preferable that the nursing staff be female. In addition, male nurses are often in specialized centers that require more workload, so we find their in less number.

Years of experience related findings, both nurses and physicians had been 5 to 10 years of experience. There were significant differences in years of experience for nurses and physicians ( $p < 0.05$ ). This findings come in line with Hossny and Sabra (2021), who investigated the attitudes towards cooperation among nurses and physicians. Their findings illustrated that both nurses and physicians with less than 10 years of experience, and justifying that those who had this experience are more cooperative to participated in the study<sup>(10)</sup>. Also, in study of Hussein et al. (2018), recorded in their findings that one-third of study participants from nurses and physicians between 5 to 10 years of experience<sup>(11)</sup>. From researcher point of view, by virtue of the nurses' ages, as well as the years of academic study, nurses have years of uneasy experience, unlike doctors, due to their ages, as well as the years of academic study.

In regards with workplace, most of nurses work at wards. While, most of physicians work at emergency department. There were highly significant differences in workplace for nurses and physicians ( $p < 0.01$ ), this may be due to working in the emergency department requires a large number of doctors, at the same time those doctors have obligations in other places. With the same regards, findings of Amsalu et al. (2014), who reported in their study that the most of nurses work in medical wards and one third of physicians work in surgical wards and many department in same time<sup>(12)</sup>.

### **Nurses and Physicians Perception towards their Cooperation**

By the overall nurse-physicians perception towards their cooperation was demonstrate at ( $M \pm SD = 132.62 \pm 12.004$ ) among nurses and ( $M \pm SD = 96.00 \pm 8.684$ ) among physicians; and according to the study criteria, nurses express a neutral perception; and physicians express a negative perception towards nurse-physicians relationship. This findings come in line with Baggs et al. (1997), who mentioned that nurses and physicians reported similarly moderate amounts of collaboration, but nurses reported less satisfaction with roles than did physicians in all sites. Nurses and physicians express moderate perception, but more strongly for nurses<sup>(13)</sup>. The strength of the relationship for nurses was similar in all sites. Nurses' satisfaction with nursing roles did not predict their retention.

In disagreement with this result; the study of Hughes and Fitzpatrick (2010), who studied nurse/physicians collaboration in acute care community health hospital and revealed a positive attitudes from both nurses and physicians toward collaboration<sup>(14)</sup>. That disagreement could be due to the different cultures and different work setting, as in acute care facilities the collaboration is a must for the best interest of the patients care. Contradicted to this result, the study of Sollami et al. (2015), who conducted a meta-analysis investigation on nurse/physicians

collaboration and reported that physicians scored higher in perception than nurses, while nurses had more positive attitudes regarding collaboration than physicians. This study results revealed that while physicians think that collaboration already exist, nurses still desiring more and more collaboration and they are more open to the idea of collaboration than physicians do <sup>(15)</sup>. This opposition may be congruent with the current study with nurses' opinion, because they both had less perception regarding the nurse/physicians collaboration.

Furthermore, Hamed et al. (2019), stated that the majority of nurses and physicians had moderate level regarding physicians nurse relationship and its impact on their perception of nurse role there is no significant differences all domains except items nurse role ( $p>0.05$ ). The majority of nurses and physicians had moderate level regarding physicians nurse relationship, job performance and administration policies. The majority of nurses and physicians had highest level regarding work stress and nurse role <sup>(16)</sup>.

From point of view researcher, nurses and physicians extremely contribute to the patient care but often do not appreciate the role of each other. In previous studies, doctors and nurses viewed collaboration differently; doctors view collaboration as following the instructions and the orders, while nurses view it as a complementary role more significantly than physicians do.

### **Significant Differences between Perception with regard Nurses and Physicians Age**

Findings is displays that there is no-significant differences in perception with regard to nurses' and physicians age ( $p>0.05$ ). This findings consisting with Hansson et al.,(2010) who revealed that there was no difference between younger and older, male and female physicians and nurses regarding nurse-physicians collaboration. Also, there were negative correlation between attitudes towards cooperation and age groups of nurses and physicians <sup>(17)</sup>. A possible explanation could be that mentality, thinking, and acceptability of others' role within the complementary model of care practice are matured when age increases.

### **Significant Differences between Perception with regard Nurses and Physicians Gender**

Findings is demonstrated that there is no-significant differences in perception with regard to nurses' and physicians gender ( $p>0.05$ ). The result was come in agreement to Hussein (2014) who revealed that there was no significant difference in nurses' and physicians perception of male and female respondents as tested by independent sample t-test at p-value more than 0.05 <sup>(18)</sup>. Similar, out of 146 respondents which consist of 14 male respondents and 132 female respondents. The result of this study stated that male respondents have the higher mean score on nurses' perception compared to female respondents. Indeed, the male respondents have the higher mean score on nurses' perception compared to female respondents <sup>(19)</sup>.

### **Significant Differences between Perception with regard Nurses and Physicians Years of Working in Hospital**

Findings is displays that there is significant differences in perception with regard to nurses' and physicians years of experience in hospitals ( $p < 0.05$ ). We find from this that the more years of work, the less the expression of cooperation, and this is due to hospital policies, because it can lead to unwillingness to work and leave the job or search for work in another place to work. In agreement with study showed that, a highly significant relationship between levels of collaboration perception for nurses and their years of experience. The study of Falana et al. (2016), revealed a significant relationship between nurses experiences and their nurse/physicians collaboration perception. Results of Hussein (2014), illustrated that there were significant differences in nurses years of experience and their perception of nurses and physicians relationship; and there was no significant difference between working experience less than 10 years and working experience of more than 10 years and there is no significant difference between working experience and physicians perception toward the nurse-doctor relationship <sup>(18)</sup>. There is no significant difference between working experience and physicians perception toward the nurse-doctor relationship of fewer than 10 years and over 10 years <sup>(20)</sup>. A similar result was found in the previous study which neither was there any significant difference in perception detected in the length of service of the respondents <sup>(21)</sup>.

### **Significant Differences between Perception with regard Nurses and Physicians Workplace**

Findings is displays that there is significant differences in perception with regard to nurses' workplace ( $p < 0.05$ ). While, the physicians workplace had been no significant differences with their perception ( $p > 0.05$ ). This findings is supported by Elsous et al. (2017), revealed no differences in physicians' perception toward collaboration based on hospital workplace, and there were significant differences found among nurses with their perception <sup>(1)</sup>. Physicians and nurses of medical wards scored lower than their counterparts which indicated a more negative perception toward nurse-physicians collaboration. This means that nurses have to no coordinate their care with other care providers which may no enhance teamwork and collaboration. As well as, the workplace had been significant associated with nurses and physicians cooperation ( $p < 0.05$ ), as satisfaction with inter-professional co-operation was dependent on workplace situation variables. Some of them contribute differently to doctor and nurse satisfaction <sup>(22)</sup>. The study of Asghari et al. (2015) who investigated the relationship between communication and collaboration between nurses and physicians in Neyshabur and reported significant relationship between the different departments and collaboration among studied subjects <sup>(23)</sup>. This could be related to different working standards in different healthcare establishments. This could be due to the difference in working nature in different departments; some departments require more interaction and close relationship between healthcare staff members than others.

## Conclusions

Nurses and physicians held different perceptions of nurse-physician collaboration. Relationship, effect of work stress on their relationship, effect of job performance on their relationship, influence of administrative policies and norms on their relationship, and role effect on their relationship were reoccurring themes in reports of perceptions about nurse-physician collaboration.

## Recommendations

Giving rewards for well established inter-professional collaboration between nurses and physicians and emphasizing that the role of nurses is no less important than that of doctors and other workers in health institutions.

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