

Nursing Manpower at Ministry of Health Hospitals in Beni-Suef Governorate: utilization and problems

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ABSTRACT

Background: The growing need for better utilization of nursing manpower in the delivery of health care is a significant aspect of the national concern. So, nursing manpower should be well managed to improve health services efficiently. **Aim:** The current study aimed to explore utilization and problems of nursing manpower at Ministry of Health hospitals in Beni-Suef governorate. **Subject and Methods:** A descriptive exploratory design was used. The study was conducted at ten hospitals which provide both inpatient and out-patient services. The hospitals included in the study were affiliated to the Ministry of Health at Beni-Suef governorate. Sample of this study included; a simple random sample of 495 nurses was selected to assess their opinion about nature of the work and its problems, and nurses' personal records of the total (2024) nurses were retrospectively audited. Data were collected using two tools; Nurses opinionnaire about nature of the work and its problems, and auditing checklist to review nurses personal records retrospectively for one year. **Results:** The results showed that the highest moderate utilization was at the Rural Hospitals (53.6%), and the highest low utilization levels were at Beni-Suef General Hospital and Specialty Hospitals (67.4% & 65.8% respectively). Also, the highest total percentage of all studied nurses sees lack of supply and facilities lack of training programs as a work problem (39.3% & 38.7% respectively). **Conclusion:** The study concluded that lack of supplies and training were the main problems, and utilization level ranged from 20% to 59% for Beni-Suef governorate hospitals. **Recommendations:** The study recommends designing nursing manpower plan based on relevant data and estimated future needs, continues training programs, empowering nursing administrators with adequate authority.

Keywords: Nursing Manpower, Work Problems, Utilization of Nurses

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Introduction

Nursing manpower refers to the number and mixture of personnel assigned to work in nursing units at a given time. In staffing, the leader-manager recruits, selects, places, instruct, and promotes personnel development to accomplish the goals of the organization resources (Huston, 2010). According to (Howard and Beatrice, 2009), staffing can be affected by several variables that include the characteristics of staff, the

mix of skill levels, and the level of educational and experiential preparation. During the last several decades, the human resource has gained new recognition. The importance of viewing personnel as a critical resource is essential to meet challenges faced in a rapidly changing healthcare environment (Russel & Laurel, 2011).

Nursing manpower for health should be well managed to improve health services efficiently. Human resources for health depend on the availability of information

regarding the country's work force and its needs and resources (Elvidge, 2011).

The growing need for better utilization of manpower in the delivery of health care is a significant aspect of the national concern for improving the health care delivery system. This need is apparent in all types of delivery settings; hospitals, community health centers, and private practices and is also of major concern to teaching institutions (Hem, 2010).

Nursing manpower utilization is an administrative concept that describes how effectively health care organizations use its nursing manpower (Ansari, 2012). Manpower utilization is commonly used to evaluate output in relation to labor costs (Aiken, 2011).

Effective utilization of manpower has the following advantages: 1) Reduction in cost, 2) Clarity in performing tasks, 3) Saves money and time, 4) Less wastage in case of resources, 5) Organizational goals can be achieved faster. Effectiveness in nursing manpower utilization helps the employees to find the opportunities and to perform accordingly. Thus effective utilization of nursing manpower in the hospitals leads to easier achievement of the organizational goals (Donovan & Jackson, 2011).

The growing gap between the supply of health care professionals and the demand for their services is recognized as a key issue for health and development worldwide. Policy-makers, planners and managers continue to seek effective means to recruit and retain staff. One way to achieve this is to estimate the level of nursing manpower utilization in our hospitals (Donovan & Jackson, 2011). The current study will be conducted to evaluate the effectiveness in the utilization of nursing manpower and estimate the role of nursing manpower in achieving organizational objectives.

Significance of the Study

The nurse to population ratio was estimated to be 2.67 nurses per 1000 population in 2007 (Ministry of Health, 2007), the ratio was estimated by Sakr and Heiba to be 1.33 per 1000 population in 2006. Egypt's nurse to population ratio of 1.33 - 2.67 nurses per 1000 population compares to 6.17 in Qatar and 3.3 in Jordan. There is no "right" nurse to population ratio since nurses represent one of the inputs used with other resources to produce health services (Sakr and Heiba, 2006). Staffing survey was conducted at El-Fayoum governorate by (Ali, Abdou, and El-Wahab 2007) that explored the characteristics of nursing staff in the studied governorate. However, Beni-Suef general hospital was suffering from nursing shortage that reflected on high nurse patient's ratios which consequently affects the quality of patient care.

Also, there is a serious phenomenon that will maximize problem of nursing shortage which is escaping of nurses from nursing career to other careers. Therefore, this study has a significant importance as it will review the nursing manpower utilization at Beni-Suef governorate hospitals that facilitate studying and analyzing rates, causes of nurses' shortage, and its pattern or any misdistribution of nursing manpower. Data will be helpful in predicting future nursing manpower needed and to plan creative retention and recruitment strategies of high qualities of nurses to achieve organization goal.

Aim of the study

The aim of this study is to explore utilization and problems of nursing manpower at Ministry of Health hospitals in Beni-Suef governorate.

RESEARCH QUESTIONS

1. What is the most common nursing manpower problems at Ministry of Health (MOH) hospitals in Beni-Suef governorate?
2. What is the nursing manpower utilization at Ministry of Health (MOH) hospitals in Beni-Suef governorate?

SUBJECT AND METHODS

Research design:

A descriptive exploratory design was used to achieve the aim of the current study.

Setting:

The study was conducted at ten MOH hospitals which provide both inpatient and out-patient services. The hospitals included in the study were affiliated to the Ministry of Health at Beni-Suef governorate and include one general hospital, three specialty hospitals, and six rural hospitals. The public health units which provide only ambulatory health services were excluded from the study. The total bed capacity of Beni-Suef Governorate Hospitals affiliated to MOH were 1517 beds and the total nurses' number were 2024 nurses.

Subjects

Sample of this study were included:
a) a simple random sample of nurses was selected from the previously described hospitals. Sample size was 30 % (495 nurses) of the total population with Proportional allocation of each hospital, and b) nurses' personal records of the total (1615) nurses working at Beni-Suef Governorate Hospitals were retrospectively audited.

Data collection tools

Two types of data collection tools were used for data collection: a) Auditing checklist, to review retrospectively nurses personal records for one year. It consists of eleven items such as age, gender, qualification, job title ...etc. b) Nurses opinionnaire about nature of the work and its problems adapted from Ali (2007) and modified. It consisted of three main parts; the first part was related to demographic characteristics of the participants that include seven items which are: age, gender, marital status, qualification ... etc.

The second part contains items related to nurses' opinions about some work aspects and its nursing problems and includes seventeen items such as attending training programs, the suitable age for retirement, types of vacations, disappointment, job satisfaction, nurse-doctor relationship, ... etc. Responses were "Yes" or "No" with rational. Scoring system for this part was +1 score for the "Yes" response and zero for the "No" response, and the third part was a 5-points Likert scale to assess nursing manpower utilization level of the participants. It consists of 20 items that includes hospital workforce, staffing promotions, matching of qualities with the assigned tasks, identifying job description at the beginning of employment, adequate nurses' number hired each year, presence of training programs, ... etc. Scores were ranged from (+5) for strongly agree to (+1) for strongly disagree.

Validity and Reliability

Validity is a judgment that the inference resulting from an instrument measurement is appropriate for what the instrument represents to measure (Mcmillan, 2004). The content validity was examined by five experts. The instrument was examined for content coverage, clarity, relevance, applicability, wording, length, and overall appearance. Based on experts' comments and

recommendations minor modifications had been done. **Reliability:** according to reliability the instrument was tested and demonstrated good internal reliability with Cronbach's Alpha = 0.792.

Data collection procedure:

A written approval was obtained from the ethics and research committee of the faculty of nursing, Cairo University. A letter was sent to the Undersecretary of the Ministry of Health in Beni-Suef seeking his approval for conducting the study, then data about the hospital such as number, names, and the addresses were obtained from statistical department at Directorate of health at Beni-Suef, after that the Undersecretary of the Ministry of Health in Beni-Suef directed the letters to the directors of the studied hospitals. The investigator conducted the medical and nursing directors of each hospital with the approval letter and explained the nature and purpose of the study to facilitate and control data collection process, and then each participant signed a written informed consent.

To assess nurse's opinions about nature of their work and its problems, the investigator met the nurses in each hospital in groups in their units and distributed the opinionnaire after clarifying the nature and purpose of the study. The answered opinionnaire sheets had been collected either in the same day or after two days. Measures were taken to protect subjects' ethical right. Each potential subject signed an informed consent. Voluntary participation, confidentiality and anonymity were assured. Revision of nurses' personal records against auditing checklist was done using attendance records, vacation records, and nurses' records of the nursing office. Data were collected three times a week by assistance of some colleague who well trained by the researcher to use data collection tools accurately. Data collection lasted for six months from May 2014 till October 2014.

Results:

Table 1 shows that the majority of the participants (95.4%) were females, while the remaining 4.6% of them were male. 81.6% of the participants their ages were between 20: 40 years. The majority of the participants (67.9%) had a diploma in nursing. The majority of the participants (80.4%) were staff nurses. The majority of the participants (86.7%) have less than five years of experience.

Table 2 indicates that the highest percentage (37.5%) of the nurses attended both CPR and infection control programs, most of them were from the Beni-Suef General hospitals (51.4%), and 35.4% of the nurses attended CPR programs, most of them were from the Rural hospitals (41.5%), while 44.2% of the nurses attended infection control program in the specialized hospitals. The minority (2.5%) of all nurses attended Quality programs. There was a significant statistically significant difference ($X^2 = 0.000$, $P < 0.001$) between attendance of training programs and type of hospital.

Table 3 shows that more than half of the participants were working eight hours shift (51.7%) and 38% of nurses were working twelve hours shift and the least percentage were attended only morning shift pattern. The difference between Hospital by shift pattern was highly significant ($X^2 = 0.000$ at $p < 0.001$).

Table 4 shows that the highest percentage (43%) of the nurses agreed on 55 years old is the retirement age compared to 30.9% who agreed on 50 years old is appropriate age for retirement age, and only 25.2% of the nurses considered that 60 years old is the suitable retirement age. A statistically insignificant difference in responses by hospitals type was detected ($X^2 = 0.127$ at $p < 0.05$).

Table 5 shows that the highest percentage (74.7%) of the nurses who got maternity leave was at Beni-Suef General Hospital compared to 73.5% at the Rural Hospitals and 22.2% at the specialized hospitals. There were no statistically significance difference ($X^2 = 0.304$, $P < 0.05$) between nurses who got sick leave and hospital type.

Table 6 shows that the highest percentage (41.8%) of the nurses disappointed due to place of residence compared to 36.1% at disappointed due to health status and 22.1% disappointed due to scheduling problems. There were no statistically significance difference ($X^2 = 0.417$, $P < 0.05$) between causes of disappointed and hospital type.

Table 7 shows that 56% of nurses at Beni-Suef General hospital are satisfied with nursing profession compared to 48.7% at the specialized Hospitals and 34.5% at the rural hospitals. There was a statistically significant difference between nurses satisfaction with nursing profession and hospital type ($X^2 = 0.000$ at $P < 0.001$).

Table 8 shows that 40.2% of all the participants saw that shortage of nursing staff was the reason of their dissatisfaction compared to 30.3% of them saw that shift time was the reason of their dissatisfaction, and only 29.5 of them saw that down seeing to nurses was the reason of their dissatisfaction. There was a statistically significant difference between reason of dissatisfaction and hospital type ($X^2 = 0.000$, $P < 0.001$).

Table 9 shows that 37.8% of the nurses agreed that weak personality of the nursing administrator might be a reason for inadequacy of nursing administrator's authority. There was a statistically significant difference between reason of inadequacy of nurse administrator's authority and hospital type ($X^2 = 65.21$, 0.026 , $P < 0.05$).

Table 10 shows that 98% of all the participants reported that decentralized scheduling system was used. All of the participants (100%) in the specialized hospitals reported that the decentralized system was utilized. There was insignificant difference between systems developing time scheduling and hospital type ($X^2 = 12.312$, 0.196 , $P < 0.05$).

Table 11 shows that more than 75% of all the participants reported using help from other departments to compensate shortage of nurses and less than 25% of them reported using on call method, while there is no one participant reported using float staff method.

Table 12 shows that more than half of the participants (54.7%) agreed that the relation with doctors is good. while, 45.83% see this relation is bad, there were statistically significant differences between both opinions and hospital type ($X^2 = 24.11$, 0.04 , $p < 0.05$).

Table 13 indicates that the highest total percentage (46.2%) of the nurses agreed that the involvement of physicians in nursing assignment is the cause of bad nurse doctor relationship, followed by 28.2% of nurses who agreed that it was due to involvement in scheduling plan, and 25.6% agreed that asking un-nursing tasks is the cause of bad nurse doctor relation. There is a statistically significant differences were detected by hospital type ($X^2 = 34.86$, 0.042 , at $p < 0.05$).

Table 14 shows that the highest total percentage (39.3%) of all studied nurses sees lack of supply and facilities as a work problem, and also 38.7 of them see that lack of training programs as a problem. There were statistically significant differences between perceived work problems and hospital type ($X^2 = 43.937$, 0.000 , $p < 0.05$).

The Table 15 shows suggestions of the participants to increase effectiveness of nursing manpower utilization, the highest

total percentage (40%) of the nurses suggested that respecting nursing staff can enhance their utilization, 32.1% suggested to increase nursing number, and 27.9% suggested to provide appropriate training programs. There is a statistically significant difference between these suggestions and hospital type ($X^2 = 7.89, 0.043, p < 0.05$)

Table 16 illustrate the percentage distribution of nurses' manpower utilization level by hospital type, the highest moderate utilization was at the Rural Hospitals (53.6%), and the highest low utilization levels were at Beni-Suef General Hospital and Specialty Hospitals (67.4% & 65.8% respectively). The utilization level for all the participants ranged from 20 to 59, i.e. from low to moderate utilization level.

Table 1 Demographic Characteristics of participants Working at Beni-Suef Governorate Hospitals.

Demographic Characteristics \ Hospital type	Beni-Suef General Hospital (n=689)		Rural Hospital (n= 1065)		Specialized Hospital (n=270)		Total (n= 2024)	
	No	%	No	%	No	%	No	%
Gender								
Male	4	2.8	15	5.4	4	5.3	23	4.6
Female	137	97.2	263	94.6	72	94.7	472	95.4
Age Group								
<20	6	4.3	6	2.2	1	1.3	13	2.6
20 : <40	117	83	237	85.3	50	65.8	404	81.6
40 : <50	14	9.9	30	10.8	17	22.4	61	12.3
50 and above	4	2.8	5	1.8	8	10.5	17	3.4
Educational Level								
Diploma Nurse	108	76.6	171	61.5	57	75	336	67.9
Technical institute Nurse	28	19.9	89	32	13	17.1	130	26.3
Baccalaureate	5	3.5	18	6.5	6	7.9	29	5.9
Positions								
Staff Nurse	116	82.3	225	80.9	57	75	398	80.4
Head Nurse	19	13.5	38	13.7	14	18.4	71	14.3
Assistant Nursing director	5	3.5	13	4.7	4	5.3	22	4.4
Nursing director	1	0.7	2	0.7	1	1.3	4	0.8
Years of experience								
<5 years	128	90.8	248	89.2	53	69.7	429	86.7
5-10 years	12	8.5	30	10.8	23	30.3	65	13.1
>10 years	1	0.7	0	0	0	0	1	0.2

Table 2 Nurses Distribution by Types of Training Program Attended and Hospital Type.

Type Hospital type \ Training Program	CPR		Infection control		Quality		CPR and Infection control	
	No	%	No	%	No	%	No	%
Beni-Suef General Hospital (n= 78)	21	26.9	14	17.9	3	3.8	40	51.4
Rural Hospitals (n=164)	68	41.5	37	22.5	3	1.8	56	34.2
Specialized Hospitals (n= 43)	11	25.6	19	44.2	1	2.3	12	27.4
Total (n=285)	101	35.4	70	24.6	7	2.5	107	37.5

$X^2 = 67.607$ df. (36) sig. = 0. 000 $P > 0.001$

Table 3 Distribution of nurses work shift pattern by hospital type.

Hospital Type \ Shift Pattern	Morning Only		Eight Hours Shifts		Twelve hours shift		Total Sample	
	No	%	No	%	No	%	No	%
Beni-Suef General Hospital	21	14.9	87	61.7	33	23.4	141	100
Rural Hospitals	2	0.7	141	50.7	135	48.6	278	100
Specialized Hospitals	28	36.8	28	36.8	20	26.3	76	100
Total	51	10.3	256	51.7	188	38	495	100

$X^2 = 129.89$ df. (18) Sig. = 0.000, $P < 0.001$

Table 4 Nurse's Opinion about Desirable Retirement Age by Hospital Type.

Hospital type \ Recommended Age	50		55		60		Total Sample	
	No	%	No	%	No	%	No	%
Beni-Suef General Hospital	41	29.1	58	41.1	42	29.8	141	100
Rural Hospitals	484	30.2	124	44.6	69	24.8	278	100
Specialized Hospitals	28	36.8	31	40.8	17	22.4	76	100
Total	153	30.9	213	43	129	25.2	495	100

$X^2 = 35.49$ df (27) Sig. = 0.127 at $P < 0.05$

Table 5 Distribution of Nurses by Type of Work Leave and Hospital Type.

Hospital type \ Work Leave Type	Maternity Leave		Husband Companion Leave		Family Care	
	No	%	No	%	No	%
Bani-Suef General Hospital (n= 75)	56	74.7	15	20	4	5.3
Rural Hospitals (n=113)	83	73.5	25	22.1	5	4.4
Specialized Hospitals (n= 36)	26	72.2	9	25.1	1	2.7
Total (n= 224)	165	73.6	49	21.9	10	4.5

$X^2 = 39.82$ df (36) Sig. = 0.304 at $P < 0.05$

Table 6 Distribution of Nurses by Causes of Disappointment by Hospital Type.

Hospital type \ Causes of Disappointment	Health Status		Place of Residence		Time Scheduling	
	No	%	No	%	No	%
Bani-Suef General Hospital (n=34)	9	26.5	15	44.1	10	29.4
Rural Hospitals (n=42)	17	40.5	17	47.5	8	19
Specialized Hospitals (n=10)	5	50	4	40	1	10
Total (n=86)	31	36.1	36	41.8	19	22.1

$X^2 = 27.89$ df (27) Sig. = 0.417 at $P < 0.05$

Table 7 Nurses Satisfaction and Dissatisfaction with Nursing profession by Hospital Type.

Hospital Type	Satisfied		Dissatisfied		Total Sample	
	No	%	No	%	No	%
Beni-Suef General Hospital	79	56	62	44	141	100
Rural Hospitals	96	34.5	182	65.5	278	100
Specialized Hospitals	37	48.7	39	51.3	76	100
Total	212	42.8	283	57.2	495	100

$X^2 = 42.734$ df (18) Sig. = 0.000 at $P < 0.001$

Table 8 Distribution of Nurses by Reason of Dissatisfaction and Hospital Type.

Reason of Dissatisfaction Hospital type	Nursing Shortage		Shift Time		Down seeing to Nurses	
	No	%	No	%	No	%
Beni-Suef General Hospital (n= 60)	16	26.6	27	45.1	17	28.3
Rural Hospitals (n=182)	80	43.9	46	25.3	56	30.8
Specialized Hospitals (n= 39)	17	43.6	12	30.7	10	25.7
Total (n=281)	113	40.2	85	30.3	83	29.5

$X^2 = 61.53$ df (27) Sig. = 0.000 at $P < 0.001$

Table 9 Distribution of Opinions about Reason of Inadequate Nursing Administrator Authority by Hospital Type.

Reason Hospital Type	Involving Physicians in Nursing management		Increased Nursing Problems		Weak Personality	
	No	%	No	%	No	%
Beni-Suef General Hospital (n=57)	19	33.3	18	31.5	20	35.2
Rural Hospitals (n=170)	41	24.1	65	38.2	64	37.7
Specialized Hospitals (n=43)	11	25.6	14	32.5	18	41.9
Total (n= 270)	71	26.3	97	35.9	102	37.8

$X^2 = 65.21$ df (45) Sig. = 0.026 at $P < 0.05$

Table 10 Distribution of systems developing time Scheduling by Hospital Type as perceived by participants.

Developing Systems Hospital type	Centralized		Decentralized		Total	
	No	%	No	%	No	%
Beni-Suef General Hospital	7	5	134	95	141	100
Rural Hospitals	3	1.1	275	98.9	278	100
Specialized Hospitals	0	0	76	100	76	100
Total	10	2	485	98	495	100

$X^2 = 12.312$ df (9) Sig. = 0.196 at $P < 0.05$

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Table11 Nurses' Opinion about methods used to compensate the Shortage of nursing Staff.

Compensation Method	Help		Float Nurses		On call Nurses	
	No	%	No	%	No	%
Hospital type						
Beni-Suef General Hospital	106	75.2	0	0	35	24.8
Rural Hospitals	191	68.7	0	0	87	31.3
Specialized Hospitals	57	75	0	0	19	25
Total	374	75.5	0	0	121	24.4

Table 12 Distribution of Nurses' Opinion about Nurse-Doctor Relationship by Hospital Type.

Relationship	Good		Bad		Total	
	No	%	No	%	No	%
Hospital Type						
Beni-Suef General Hospital	97	68.8	44	31.2	141	100
Rural Hospitals	140	50.4	138	49.6	278	100
Specialized Hospitals	34	44.7	42	55.3	76	100
Total	271	54.7	224	45.83	495	100

$X^2 = 24.11$ df (9) Sig. = 0.004 at $P < 0.05$

Reason	Involvement in Nursing Schedule		Involvement in Nursing Assignment		Asking Unnursing Tasks	
	No	%	No	%	No	%
Hospital type						
Beni-Suef General Hospital (n=45)	9	20	28	62.2	8	17.8
Rural Hospitals (n=140)	44	31.5	56	40	40	28.5
Specialized Hospitals (n=42)	11	26.2	21	50	10	23.8
Total (n=227)	64	28.2	105	46.2	58	25.6

$X^2 = 34.86$ df (27) Sig. = 0.042 at $P < 0.05$

Table 14 Distribution of Nurse's Perceived Work Problem as Expressed by Nurses.

Work problem	Lack of Nurse Experience		Lack of Supply and Facility		Lack of Training Program		Inflexible Administration	
	No	%	No	%	No	%	No	%
Hospital type								
Beni-Suef General Hospital	9	6.4	43	30.3	72	51.1	17	12.2
Rural Hospitals	39	14.1	117	42.1	94	33.7	28	10.1
Specialized Hospitals	9	11.8	34	44.7	26	34.3	7	9.2
Total	57	11.5	194	39.3	192	38.7	52	10.5

$X^2 = 43.937$ df (2) Sig. = 0.000 at $P < 0.001$

Table 15 Distribution of Nurses' Suggestions To increase Nursing Manpower Utilization.

Suggestions	Appropriate Training		Respecting of Nurses		Increase Nurses' Numbers	
	No	%	No	%	No	%
Hospital type						
Bani-Suef General Hospital (n=141)	40	28.4	55	39	46	32.6
Rural Hospitals (n=278)	74	26.6	112	40.3	92	33.1
Specialized Hospitals (n= 76)	24	31.6	31	40.8	21	27.6
Total (n=495)	138	27.9	198	40	159	32.1

$X^2 = 7.89$ df (2) Sig. = 0.043 at $P < 0.05$

Table 16 Percentage Distribution of Nurses' Manpower Utilization Level by Hospital Type.

Utilization Level Hospital Type	Too Low (< 20%)		Low (20-39)		Moderate (40-59)		High (60-79)		Maximum (80-100)	
	No	%	No	%	No	%	No	%		
Beni-Suef General Hospital	--	--	95	67.4	46	32.6	--	--	--	--
Rural Hospitals	--	--	121	43.5	149	53.6	--	--	--	--
Specialty Hospitals	--	--	50	65.8	26	34.2	--	--	--	--
Total	--	--	266	52.9	221	44.6	--	--	--	--

DISCUSSION

Regarding demographic characteristics of nurses working at Beni-Suef governorate hospitals affiliated to MOH revealed that the majority of the nurses were females. Similar demographics were reported by Ali et al., (2007) who found that the majority of the nurses were females among El-Fayoum Governorate hospitals. Similarly, Lucas (2003) revealed that men are now a minority in the nursing profession. Also, Canace (2000) reported that more than 90% of women still dominate the nursing profession.

Regarding nurses' age, the majority of nurses' ages were between 20: 50 years. This findings might be due to that the majority of nurses were in their middle age with diploma nurses were entering the work at 18 years. Similar findings reported by Ali et al., (2007) who found that the mean age of the nurses was 35.8+11.2 years. According to Buerhours, Staiger, and Auerboch (2002) finding, the mean age of nurses ranged from 40.3 years to 44.2 years. Williams (2000) found that, the older nurse is shorter hours the working hours, nurses who are over 45 /years old can work 36 hours/week but still get paid for 38 hours (a standard hours for work/week). Similarly, nurses at 55 years old work 32 hours a week and get paid for 38 hours.

Regarding nurses' qualification and their position at work, the present study revealed that almost all the nursing manpower at Beni-Suef Governorate Hospitals had a diploma in nursing and working as a staff nurses. A minority of

nurses had a baccalaureate degree and allocated in managerial positions as head nurse, in charge nurse, and nursing director at each hospital. This result might be due to the direction of Bachelorette nurses to the private hospitals to gain much salary and more benefits. The same result reported by Ali et al., (2007) who found that the majority of the nurses had a diploma in nursing. Malone (2004) found that one third of nurses had a baccalaureate degree as their highest education and two thirds of them had less than baccalaureate degree.

The study revealed that the highest total percentage of the nurses had less than 5 years of experience. The highest mean years of experience were at the specialty hospitals compared to Beni-Suef General Hospital and the rural Hospitals. These findings might be due to increased number of nurses hired in the last five years Ali et al., (2007) reported that nurses having more than 10 years of experience, in middle age (26-33years), are working in the specialty hospitals.

Regarding to the nurses opinion about some aspects of their work, the current study revealed that more than two fifths of nurses did not attend any training programs at Beni-Suef governorate hospitals, but the higher percentages of nurses who receive training programs were at rural hospitals where more than half received training programs, and least percentages of the nurses at specialty hospital and Beni-Suef General Hospital. These findings reflected that more attention should be given for these hospitals toward continuing education and training programs, since absence of training affects negatively

the level of knowledge and experience of nurses as well as the quality of care offered.

Bennett and Weale (2011) reported that training had significantly positive impact on staff knowledge. The same result reported by **Ali et al., (2007)** who stated that almost half of the nurses did not attend any training programs, except the nurses working in the specialty hospitals, where more than half received training programs.

Regarding to the type of training programs, Cardio-Pulmonary Resuscitation (CPR) and infection control programs had the highest percentage, but a few nurses attended Quality programs in all studied hospitals at Beni-Suef Governorate that might be because of these programs require higher cost and expertise in quality. There was a significant statistically significant difference between attendance of training programs and type of hospital. This result is congruent with the National Health Plan on the Primary Health Care, which focuses on improving healthcare through implementing programs for increasing the number of recovery and reduces the number of mortality in Egypt (**MOH, 2007**).

These findings were also consistent with Mincer (2013), who stated that the employer and supervisor have more responsibility for knowing the needs of employees and prioritizing training required. **Trace (2008)** also stated that the management training may take the form of the third item of total quality management principles although the type of training depends on the need for the particular company.

Considering CPR training programs, the study finding revealed that the highest percentages of programs were offered in the rural hospitals. This might be related to presence of volunteers for training this program of highly active emergency care team. **Howery (2009)** concluded that there

were a number of factors which barrier or hinder rural nurses from planning and preceding further education; unavailable educational institutions, increased costs of educational programs, and an increasing withdrawal of management and employer support for continuing education that meet the need of the rural hospitals.

The present study findings indicated that the highest percentage of programs were offered in specialized hospitals for infection control training to meet the health care needs and to protect health care providers, clients and the community from risk. The finding is consistent with **Premlata (2012)**, who stated that if the infection passes to the providers and then back to the client it is vicious practice. They are necessary for the client, the service provider and the community so, there is a need for infection prevention control activities. **Ali et al., (2007)** founded that maternity and childcare had the highest percentage compared to infection control, and nursing administration and leadership ability programs. In all studied hospitals at El-Fayoum Governorate, there were statistically significant differences in all types of training programs.

Regarding nurses' shift pattern, the study finding revealed that more than half of the participants were working eight hours shift (three shifts a day). **Ali et al., (2007)** reported that the majority of nurses are working three shifts, morning (6/hours), evening (6/hours) and night (12 hours). Rural hospitals had the highest percentage of nurses working 3 shifts.

Regarding retirement age, the current study revealed that nearly half of the participants agreed on 55 years old is the suitable retirement age compared to one quadrant of the participants agreed on 60 years old is appropriate age for retirement age. There was a statistically insignificant difference in nurses' preference of the retirement age and hospital type. These

findings might be due to that nursing is a difficult job with high exposure to risks, and it disturbed their social life. Also, it might be due to low commitment of nurses to their hospitals. **Ali et al., (2007)** reported that age of retirement was recommended to be 55 years old by almost nearly half of the nurses who agreed that 55 years old is a retirement age for all the nurses with getting all rights.

Regarding causes of disappointment of nurses, the current study revealed that the nearly three quadrants of the nurses disappointed due to maternity causes at Beni-Suef governorate hospitals. There were no statistically significance difference between nurses who got sick leave and hospital type. These results might be due to increased number of female nurses. The highest percentages disappointed nurses were founded at specialized & rural hospitals due to health status and place of residence but the lowest percentage of disappointment was founded at Beni-Suef general hospital.

Cathryn (2008) reported that maternity leave and sick leave were the main causes of shortage of nursing staff that needs more attention from the hospitals administrators. Also, **Ali et al., (2007)** founded that the highest percentage of total nurses had no leave and nearly half of them in El-Fayoum General Hospital, with a statistically significant difference between the nurses who had no leave and hospital type. The highest percentage of the nurses who got sick leave was at the rural hospitals compared to least percentage at the specialized hospitals. There were no statistically significance difference between nurses who got sick leave and hospital type.

Regarding to nurses satisfaction to nursing profession, the study results revealed that nearly half of the participants were not satisfied with nursing profession. At Beni-Suef general hospital had the highest percentage of nurses' dissatisfaction because of shift time compared to other types of

hospitals. At the rural & specialty hospitals shortage of nursing staff was the reason of their dissatisfaction, and the least percentage of them saw that down seeing to nurses was the reason of their dissatisfaction. Regarding job satisfaction of nurses of Beni-Suef Governorate hospitals, more than half of nurses in Beni-Suef general hospital were satisfied compared to the other two types of hospitals. This findings might be due to the location of the hospital at Beni-Suef city (urban area).

Ali, et al., (2007) reported that the majority of nurses were satisfied with nursing profession. Rational for their satisfaction was because it is a humanitarian job and becoming nursing graduates give this opportunity. As for job satisfaction of nurses of El-Fayoum Governorate hospitals, the majority of nurses were satisfied. However, all nurses of the specialized hospitals were satisfied compared to the other two types of hospitals.

Regarding systems developing time scheduling, the current study revealed that the majority of the participants reported that decentralized scheduling system was used. All of the participants (100%) in the specialized hospitals reported that the decentralized system was utilized. There was insignificant difference between systems developing time scheduling and hospital type. These findings might be related to the presence of Bachelor degree nurses in the head nurses' position. The same results reported by **Ali, et al., (2007)** who stated that more than three quarters of the participants reported using decentralized scheduling method in their hospitals.

Regarding methods of compensating shortage of nurses, the current study revealed that more than four fifths of the participants reported using help from other departments to compensate shortage of nurses and less than one fifth of them reported using on call method, while there is no one participant

reported using float staff method. This finding indicated more attention should be directed for using the other compensation methods that might be more effective. **Ali, et al., (2007)** stated that all hospitals at El-Fayoum governorate hospitals using only help from other departments to compensate nursing staff shortage.

Regarding nurse-doctor relationship, the current study revealed that nearly half of the participants agreed that the relation with doctors is bad. The mainly cause of this bad relation was the involvement of physicians in nursing assignment followed by involvement of physicians in scheduling plan, and then asking un-nursing tasks is another cause for bad nurse-doctor relation. These findings might be due to weak personality of nursing administrator compared with more power of medical staff.

Abd El Motleb (2004) studied nurse-doctor relationship at El-Manial Cairo University Hospital and found that both medical and nursing staff agrees about nurses performance level affected by their relationship and also highly perceived that physicians trust in the quality of nurses' performance reflected on their relation.

According to **Gillies (2012)** adequate recognition can play a critical role in the building or destroying of trust in the work place, staff should expect that their achievement will be acknowledged. They should be encouraged to respect the accomplishments of their peers, and should be afforded opportunities to participate in public celebration of those contributions.

Regarding to nurses work problems, the present study result revealed the main four nurses' work problems among all hospitals of Beni-Suef Governorate were lack of supplies and facilities, lack of training programs, inflexible administration, then lack of nurses experience respectively. According to **UMass Memorial Medical Center (2008)** nurses

were concerned about a chronic lack of appropriate basic equipment and supplies needed to take care of patients. There is insufficient equipment and supplies on a unit, requiring nurses to spend precious time tracking down and borrowing the necessary items.

Lack of training program was the second work problem that was apparent mainly at Beni-Suef general hospitals. This finding was supported by **Albany (2007)**, who stated that most nursing staff had an extensive clinical and technical background but little or no training in business or in managing people, most learn the hard way, by trial and error.

In the same vein, **Ali, et al (2007)** reported that the main five nurses' work problems among all hospitals of El-Fayoum Governorate, as lack of nurses experience, young age of employed nurses lack of supplies and facilities, lack of training programs, and inflexible administration. The highest percentage was for inflexible administration mainly at the specialized hospitals and El-Fayoum General hospital. Lack of supply and facility was the second work problem that was apparent mainly at rural hospitals.

Regarding nursing manpower utilization level by hospital types, the current study revealed that the highest utilization level was at the Rural Hospitals. These findings might be due to low bed occupancy rate in the rural hospitals than urban hospitals that can affect work overload of nurses. In contrary, the lowest utilization levels were at Beni-Suef General Hospital and Specialty Hospitals. This findings might be due to large number of patients attend the urban hospitals from the rural areas that increase overload of nurses and harden management of nursing staff.

Jonathan and Ever (2008) stated that work environment is associated with task and

job responsibility that staffs should get an appropriate work tasks meaning that they are not happy when employer giving them too much tasks or they will feel enjoy when employer finding something new to stimulate them. Sakr and Heiba (2008) stated that to create a fit environment for everyone is difficult. To choose the right person for the right job human resource department should then set a complete or appropriate job description to attract the right person for the available position. The more accurate human resource department can portray the job, the possibility of the hiring or obtaining the right person will be higher.

CONCLUSION

The study concluded that, the highest moderate utilization level of nursing manpower at ministry of health hospitals in Beni-Suef governorate was at the Rural Hospitals. The highest low utilization levels were at Beni-Suef General Hospital and Specialty Hospitals. The utilization level for all the participants ranged from 20% to 59%. The main problems reported by the participants were lack of supply and facilities and lack of raining programs. There were statistically significant differences between perceived work problems and hospital type.

RECOMMENDATIONS

In the light of the findings of the present study, the following are recommended:

- Hospital administration should empower nursing administrators with adequate authority for decision making.
- Improve nurses' education and training through:
 - Developing an orientation program for newly appointed nursing staff.
 - Developing regular in-services training program based on nurses' educational needs.
- More attention should be directed toward quality training.
- Encouraging other methods for compensation of nursing shortage such as float and on-call staff.
- Shortage of supplies and facilities should be studied to decrease nurses' suffering.
- Improve nurse-doctor relationship through shared conferences, seminars and decision making.
- Determining the early retirement age of nurses on the national level and implementing it if possible.
- Replication of the current study on different governorates to develop and/or update nursing manpower data base.

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