

Impact of Nursing Teamwork on Missed Nursing Care in Intensive Care Units at Zagazig University Hospitals

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Abstract:

Background: There is no doubt, that teamwork is a critical element in assuring patient safety and quality of nursing care and effectiveness of nursing performance, in addition reducing of missed nursing care. **Aim:** The aim this study was to examine the effect of nursing teamwork on missed nursing care. **Setting:** The present study was conducted in Emergency Sector affiliated to Zagazig University Hospitals which consists of three hospitals, namely New Surgical Hospital, which has one a surgical Intensive Care Unit, Internal Medicine Hospital, which has two medical ICUs, and Emergency hospital, which has an Intensive Care Casualty Unit. **Subjects:** Convenience sample of staff nurses (182), with minimum one year experience and have the responsibility for direct nursing care to patients. **Tools:** Two tools were used for data collection in the study; the first one was nursing teamwork questionnaire, this tool aimed to measure nurses' opinion about teamwork in ICU. The second was missed nursing care questionnaire, this tool aimed to identify how frequently the elements of missed nursing care were missed and its reasons from nurses' opinion. **Results:** Results revealed that the highest percentage of nurses perception about the total teamwork was low (86.8%), The majority of nurses perception about missed nursing care was low (83.3%), the highest percentage of nurses perception about reasons of missed nursing care was high (70.3%). **Conclusion:** It can be concluded that there was a negative correlation between nursing team work and missed nursing care ($r=-.298$ & $p=.000$). **Recommendation:** It is recommended that the need to invest in methods of enhancing teamwork in these settings such as teamwork training program for nurses to improve their knowledge, skills and attitude toward teamwork and promote their engagement.

Keywords: Teamwork – Missed nursing

Introduction:

Teamwork in nursing is the interaction or relationship of two or more nurses who work together to provide highest quality of care for patients. Today there is a growing movement toward teamwork in nursing. Team is a small number of people with complementary skills who are committed to a purpose, performance goals, and an approach for which they hold themselves mutually accountable.⁽¹⁾

Working in teams has many benefits such as, better quality in decisions, effective execution of those decisions, enhancement in commitment and motivation, and

innovative ideas, individual workloads can be reduced, nurses have an increased sense of fulfillment with their jobs, retention improves, patients receive better treatment, and less overall stress and less burnout among nurses and maximizes resources and facilities. However, teams may also pose some disadvantages including the possibility of wasting more time and energy, making bad decisions, being destructive through conflicts, frustrating other team members, and low productivity.⁽²⁾

The effectiveness of any team depends on the members of the group. Therefore, an important criterion in

forming teams is to find members willing to work and thrive within the teamwork concept. Along with having individual members who will contribute to the success of the team, an effective team has a clear understanding of its goals and the team's responsibility for achieving those goals. Additionally, an effective team has a system in place that allows for discussions and criticisms to improve the team. ⁽³⁾

Team development consists of five stages includes (Forming - Storming - Norming - Performing and Adjourning). The first stage is forming: In this stage conversation is polite; the goal is to create a safe environment and find common interests and areas of acceptance. ⁽⁴⁾ The second stage is storming: As work begins on the job at hand (group task) and the group tries to get organized, competition and conflict develop among personal relations (group process). ⁽⁵⁾ The third stage is norming: The next stage is called norming because, as the group becomes more cohesive and tolerant of differences, the group process becomes calmer. ⁽⁶⁾ The fourth stage is performing: Members feel secure, and the need for group approval is no longer an issue. Members have become highly task-oriented and people-oriented. Morale and group identity are strong group loyalty is intense. ⁽⁷⁾ The final stage is adjourning: The break-up of the group, hopefully when the task is completed successfully. ⁽⁸⁾

To develop positive outcomes and minimize errors of nursing care related to patients, and total hospital improvement it can be achieved through continual evaluation of the performance of staff nurses and working together in teams to achieve the quality of patient care and avoiding the missing of these care. ⁽⁹⁾

Missed nursing care is a newly defined concept and refers to any aspect of required patient care that is omitted (either in part or in whole) or delayed. It is an error of omission according to patient safety movement which identified that there are two major types of errors – acts of commission and acts of omission. ⁽¹⁰⁾

There are elements of regularly missed nursing care which include ambulation, turning, delayed or missed feedings, patient teaching, discharge planning, emotional support, hygiene, intake and output documentation and surveillance. The reasons of missing care may be due to inadequate staff nurses, poor use of existing material resources, time required for the nursing intervention, poor teamwork, ineffective delegation, habit and denial, communication breakdown either with patient or with medical or nursing staff. ⁽¹¹⁾

Significance of the study:

Teamwork is important component of the delivery of health care. Patient care always involves input from members of different professions who work together to coordinate care across multiple settings and during various stages of health and illness. ⁽¹⁾

Teamwork is a critical element in assuring patient safety and quality of care. In intensive care units the demands for patient's care vary from moment to moment in addition the environment in which nurses work is characterized by numerous interruptions and multitasking, the nurses will be not able to provide all required care by themselves. When teamwork is present, it is more likely that the care will not be missed. So the aim of the present study is to examine the impact of nursing teamwork on missed nursing care in intensive care units at Zagazig University Hospitals.

Aim of the study:

The aim of this study was to examine the impact of nursing teamwork on missed nursing care in intensive care units at Zagazig University Hospitals.

Research questions:

- What is the level of nursing teamwork among nurses in intensive care units at Zagazig University Hospitals?
- What is the level of missed nursing care from nurses' opinion?
- What are the reasons of missed nursing care from nurses' opinion?
- Is there a relationship between nursing teamwork and missed nursing care elements and reasons?
- Is there a relationship between nursing teamwork, missed nursing care, reasons of missed nursing care elements and personal characteristics of the nurses?

Subjects and methods:

Research design:

A descriptive correlational design was used for this study.

Setting:

The present study was conducted in Emergency Sector belonging to Zagazig University Hospitals which consists of three hospitals, namely New Surgical Hospital with a total capacity of 508 beds, which has one a surgical Intensive Care Unit with 24 beds, Internal Medicine Hospital with a total capacity of 273 beds, which has two medical ICUs with 76 beds, and Emergency hospital with a total capacity of 189 beds, which has an Intensive Care Casualty Unit with 15 beds.

Sample:

The study included a sample of convenience of nurses from the above mentioned settings (no = 182) nurses who agreed to participate in the study with an overall responsibility for provision of direct nursing care to patients and having at least one year of

experience. 59 nurses were from surgical ICU and 93 of them from two medical Intensive Care Units and 30 nurses from the Intensive Care Casualty Unit.

Tools of data collection:

Data were collected by using two tools:

Tool (I): Nursing Teamwork questionnaire: It was developed by Kalisch, Sales and Lee ⁽¹²⁾ to measure the opinion of nurses regarding team work in Intensive care units. It was composed of two parts:

- **Part one:** Covered personal characteristics of nurses e.g.: gender, age, educational qualification, years of experience, job title, work schedules (shift worked), number of hours worked per week.
- **Part two:** It consists of 33 items with response to five point Likert scale ranging from 1(never) to 5 (always), and grouped under five domains.
 1. Trust (7items) such as team members trust each other.
 2. Team orientation (9 items) such as team members spend extra time on breaks.
 3. Backup (6 items) such as team members frequently know when another team member needs assistance before that person asks for it.
 4. Shared mental model (7 items) such as team members understand the role and responsibilities of each other.
 5. Team leadership (4 items) such as the nurse who serve as a charge nurse or a team leader balance work load within the team.
 6. The respond to the questionnair use five point Likert scale ranging from rarely (1) to always (5).

Internal consistency was measured by Cronbach alpha. The alpha coefficient for the overall 33 items was 0.94, and the alpha coefficients for the

subscales ranged from 0.74 to 0.85. Reliability of the test was high ⁽¹²⁾.

Scoring system:

For team work items, the responses of the items use a five point Likert scale ranged from always, sometimes, rarely, often and never scored as 5,4,3,2,1 respectively for each items. For each domain of factors, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into percent score. The domain was considered to be high if the percent score was 60% or more, and low if less than 60%. ⁽¹²⁾

Tool (II): Missed Nursing Care Questionnaire: It was developed by Kalisch and William. ⁽¹³⁾ It consists of two parts:

- **Part one:** It was used to identify how frequently the elements of nursing care are missed from nurses' opinion. It includes 24 items with response to five point Likert scale ranged from 1(never missed) to 5 (always missed) grouped under 9 domains as follows:
 1. Patient assessment (6 items) such as vital signs assessed as ordered
 2. Medication administration (4 items) such as medication administered within the schedule time.
 3. Patient education (3 items) such as teaching patient about illness, tests and diagnostic studies.
 4. Feeding (2items) such as setting up meals for patient who feed by oral/Ryle.
 5. Hygiene (3items) such as mouth care for patient
 6. Mobilization (2items) such as turning patient every two hours.
 7. Response to patient needs (2items) such as response to patient need through call light or alarm within five minutes.

8. Attendance interdisciplinary conference.

9. Documentation of all necessary data for patients.

Internal consistency was measured by Cronbach alpha. The alpha coefficient for the overall 24 items of missed nursing care elements ranged from 0.76 to 0.93. ⁽¹³⁾

- **Part two:** It was used to assess the opinion of nurses regarding the reasons of missed nursing care. It includes 17 items with four point Likert scale ranged from 4 (significant reason) to 1 (not a reason for missed nursing care) grouped under 7 domains as follows:

1. Communication problems (4 items) such as tension or break down with the nursing team.
2. In adequate nursing staff (4 items) such as in adequate number of nurses.
3. Support staff (3 items) such as lack of back up support from team members.
4. Numbers and condition of patients (2 items) such as unexpected rise in patient volume or acuity on the unit.
5. Equipment and material resources (2 items) such as equipment and supplies not available when needed
6. Heavy admission and discharge activity.
7. Unavailability of medication when needed.

Internal consistency was measured by Cronbach alpha. The alpha coefficient for the overall 17 items of reasons of missed nursing care ranged from 0.79 to 0.96. Reliability of the test was high. ⁽¹³⁾

Scoring system:

For each domain of missed nursing care and its reasons, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent

score. The domain was considered to be high if the percent score was 60% or more, and low if less than 60 %.⁽¹³⁾

Content validity:

The validity of the tool was done by a panel of 9 experts (one professor and 8 assistant professors from nursing administration and medical surgical departments at the Faculty of Nursing, Zagazig and Ain Shams universities. They were requested to express their opinions and comments on the tool and provide any suggestion for any addition on or omission on the tools. The necessary modifications were done.

Pilot study:

A pilot study was carried out to test the questionnaire feasibility, clarity and to estimate the time consumed for filling in the forms. The study was carried on 10% of staff nurses from different ICUs (18 nurses) selected randomly. A brief explanation of the purpose of the study was provided to every participant in the pilot study and then she/he was provided with a copy of each of the study tools. The time consumed in answering the questionnaire was about 25 - 30 minutes. Data collected from the pilot study were reviewed and used after making minor modifications to some items prior to the final application on the study. These subjects were excluded from the main study sample.

Field work:

Field work of this study was executed in five months started in beginning of August, 2012 and completed by the end of December, 2012. The first phase of the work was the preparatory phase which took one month and included reviewing of literature related to the topic and theoretical knowledge of various aspect of the problem using national and international journals and text book, articles and different scientific web sites then the researcher made a meeting with staff nurses to clarify the aim of

the study and the applied methodology. The researcher met the nurses in each unit in the morning and afternoon shifts after finishing their work to distribute the questionnaire and each individual was given the time consumed to answer each questionnaire sheet ranged from 25 to 30 minutes.

Administrative and ethical considerations:

Before starting any step in the study an official letter was issued from the Dean of the Faculty of Nursing to the Director of Zagazig University Hospitals to request permission to conduct the study, and then oral permission had been obtained from the matron of the hospital and from units' head nurses to gain their cooperation. The researcher obtained lists of nurses number in all ICUs included in the study, after an explanation of study objectives, as well as an individual oral consent was obtained from each participant in the study.

Prior to the initial interview, verbal explanation of the nature and the aim of the study has been presented to the staff nurses who agreed to participate in the study. Clarification of the nature and purpose of the study was done in the initial interview with each subject individually. They were given an opportunity to refuse or to participate and to withdraw from the study at any time without giving any reason, and they were assured that the information would be utilized confidentially and used for the research purpose only.

Statistical design:

Data entry and statistical analysis were done using the Statistical Package for Social Science (SPSS) revision 16.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables. Quantitative continuous data were compared using the non-

parametric r- test as normal distribution of the data could not be assumed. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used instead. Pearson correlation analysis was used for assessment of the inter-relationships among quantitative variables, and Spearman rank correlation for ranked ones. In order to identify the independent predictors of missed opportunities multiple linear regression analysis was used after testing for normal distribution and homoscedasticity, and analysis of variance for the full regression models were done. Statistical significance was considered at p-value <0.05.

Results:

Table (1): shows personal characteristics of nurses in the study sample. The table shows that, 182 of nurses are participating in the study. The majority of them were female (89.6%), had nursing school diploma (83.0%), work as a nurse (97.8%), their ages ranged from 18 to 47 years, with a mean age of 29.6 ± 7.95 , working more than 30 hours/weekly (85.7%), had work schedule shift (80.8%). More than half of the participants had 2 - 10 years of experience (57.1%) with a range from 3 to 31 years of experience.

Table (2): shows total scores of nurses' opinion regarding team work. It is clear from the figure that the majority of nurses' opinion about the total teamwork was low (86.8%). The figure also reveals that the highest opinion of nurses about teamwork was related to team orientation (74.2%), while the lowest percentages was related to team leadership (53.8%).

Table (3): shows total scores of nurses' opinion regarding missed nursing care. It is clear from the figure that the majority of nurses reported a low number of missed nursing cares

(83.5%). The figure also illustrates that the opinion of nurses about missed nursing care was high in the element of attendance of interdisciplinary conference when ever held (77.5%). While it was low in the element of patient assessment (6%).

Table (4): Illustrates total scores of nurses' opinion regarding reasons of missed nursing care. It reveals that the majority of nurses' opinion about reasons of missed nursing care was high (70.3%). The figure also clears that the major reasons of missed nursing care reported by nurses are related to heavy admission and discharge activity, number and condition of patients, unavailability of material resources and medication when needed (80.2%, 79.7%, 77.5% & 75.3% respectively). However less than half of missed nursing care was related to inadequate nurses (45.1%).

Table (5): shows correlation matrix of the scores of nursing team work, missed nursing care and its reasons. It is demonstrates from the table that there was only a negative correlation between missed nursing care and nursing teamwork ($r = -.298$).

Table (6): shows correlation between the scores of nursing team work, missed nursing care, its reasons and personal characteristics of nurses. It is reveals from the table that there was only a positive correlation between working hours and reasons of missed nursing care ($r = .155$).

Table (7): shows best fitting multiple linear regression models for missed nursing care score. It reveals that working hours score and nursing teamwork are independent negative predictor of missed nursing care. However, the model explains 0.12 of the score as evident from the value of r-square.

Discussion:

Teamwork in nursing is a dynamic process involving two or more

healthcare professionals with complementary backgrounds and skills, sharing common health goals and exercising concerted physical and mental effort in assessing, planning, or evaluating patient care. Health care teamwork focus on providing the highest quality patient care and working together toward this common goal. Teamwork allows for the team to be pro-active in catching errors before they occur, cause of errors either omission or commission, and focus on the patient safety.⁽¹⁴⁾

The findings of the present study show that the majority of nurses' opinion about the teamwork was low. This may be due to that the importance of teamwork among nurse providers and the supervisors in ICUs has been little understood and largely ignored as results of lack of team training and support of the nurse manager. This result goes in line with a number of several studies.⁽¹⁵⁻¹⁸⁾ However, these results were in disagreement with the prior studies carried out by Rochman; Lepine et al; and Rheume⁽¹⁹⁻²¹⁾ who found that the opinion of nurses to teamwork was high.

Concerning factors of nursing teamwork, the results of the present study reveal that the opinion of nurses was highest in factor related to team orientation. This may be due to that the team member spend much time with each other on breaks and they are working together to achieve the total work of the team. These findings were in agreement with Finlason et al and Stefanov^(22,23) However in disagreement with Ann⁽²⁴⁾ who found that the nurses' opinion toward teamwork was highest in factor related to backup; and Castner⁽²⁵⁾ who found that the nurses' opinion toward teamwork was highest related to leadership.

The finding of the current study shows that the nurses' opinion toward

teamwork was lowest in factors related to team leadership. This may be due to lack of training of nurses who serve as charge nurse or team leaders on how to make plan and change it in the emergency cases, how to monitor the progress of the staff members throughout the shift and give clear and relevant directions that are roles of the team leaders, this contribute the results. These results were supported by those of Arthur⁽²⁶⁾, while they were in disagreement with Beaubien et al⁽²⁷⁾ who found that team work requires leadership and team leader coordinate individuals to achieve the work of the entire team as well as the guiding from the leader helps the staff members to achieve the best performance and accomplish the task in a simple time and facilitate the good communication and cooperation between staff members.

The finding of the current study reveals that the majority of nurses reported a low number of missed nursing care. This may be due to the curriculum of nursing that focus on role and responsibility of nurses toward patient and the importance of carrying out the nursing care in time to attain the quality of care or this may be due to they fear from criticize and punishment if they reported the reality. These findings disagree those of scallered previous study of Dessler & Phillips⁽²⁸⁾, who conducted a study on nursing working in Hemodialysis Units at USA Hospitals to describe RNs reports of unmet nursing care, found that the nurses reported a large number of missed nursing care at the United States Hospitals.

The finding of the current study shows that the highest area of missed nursing care reported by nurses was related to attendance of interdisciplinary care conference. This may be due to work overload and shortage of nurses, these hinder nurses

to attendance to the interdisciplinary care conference, in addition to, unexpected rise in patients' volume on the unit and acuity of patients' condition or worsening in their condition as well as lack of importance of attendance of interdisciplinary conferences among them and lack of support, motivation and engagement from their supervisor. These results agree with Dicenco ⁽²⁹⁾. However these results were in disagreement with several previous studies as those of Friese ⁽³⁰⁾ who conducted a study on nurses working in three Michigan Hospitals to examine the frequencies of missed nursing care and found that the highest areas of missed nursing care from nurses' perspective was related to mobilization and medication administration.

The results of the current study show that the lowest area of missed nursing care as reported by nurses was related to patient assessment. This may be due to nursing courses that the students study in secondary school of nursing focus on patient's assessment in every course and its importance in addition to training nurses how to assess the patients, as well as the task of patient assessment is considered as a routinely performed task to be done in every shift by nurses who put it on the top of their priorities of patient care. These findings are in accordance with Frobel; and Marchington. ⁽³¹⁾ However, the findings were incongruent with Hyatt and Ruddy ⁽³²⁾ who conducted a study in one hospital from USA Hospitals to compare RNs versus NAs opinion of missed nursing care, found that monitoring intake and output was always missed by NAs than RNs.

The finding of the current study shows that the major reasons of missed nursing care revealed by the participants included; heavy admission and discharge activity, number and condition of patients and unavailability of material resources and medication

when needed. This may be due to shortage of nurses in relation to an increases number of patients, suggesting that these nurses may not have strong connection to the nursing unit and the goal of care as well as lack of supplies and equipment and unavailability of medication when needed which contribute to more missed nursing care. These results agree with the findings as that of various studies. ⁽³³⁻³⁶⁾ However, these results were in disagreement with Simonton ⁽³⁷⁾, who mentioned that the major reasons of missed nursing care was related to nurses don't understand the patient's needs that result in the nurses' selection of the intervention.

Regarding to correlation between the study variables, the current study result reveals that there was a negative correlation between the total scores of nursing teamwork and the total scores of missed nursing care. This mean that the higher the overall teamwork and sub scales' scores, the less nursing care was missed. This may be due to that teamwork has been associated with a higher level of job staff satisfaction, provision of quality and safe nursing care, an increase in patient safety, minimizing of errors, greater patients' satisfaction with their care, more productivity and a decreased stress level, which offer a wider range of support to inexperienced staff that lead to less of missed nursing care. This result goes in line with a previous study carried out by Tommy. ⁽³⁸⁾

Regarding relation between nursing teamwork and personal characteristics of nurses, the results of the current study show that there are no statistically significant differences between nursing teamwork and personal characteristics of nurses. This may be due to that nursing teamwork depends on the nature of tasks to be performed and well defined team goals that are supported by the organizational culture

which supports and emphasizes the effectiveness of nursing teamwork in addition to the process of nursing teamwork was completed by the presence of its five core components (trust, team orientation, back up, shared mental model and leadership). This result is supported by the finding of Taggard and Brown.⁽³⁹⁾ while the results disagree with Valentin et al.,⁽⁴⁰⁾ who found that there were statistically significant differences between nursing teamwork and personal characteristics in terms of age and gender.

Concerning relation between missed nursing care and personal characteristics of nurses, the results of the current study clears that there are no statistically significant differences between missed nursing care and personal characteristics of nurses. This may be due to that missed nursing care was practiced by both male and female nurses and by either expertise or non expertise nurses at any shift and missing of such care results from lack of materials and labor resources, lack of communication and inadequate nursing staff. The finding of this study was supported by the results of Valentine and Ferdinande⁽⁴¹⁾ while it was in disagreement with Vangaal et al.,⁽⁴²⁾ who mentioned that nurses with more years of experience and education are more likely informants of higher level of missed nursing care.

Regarding relation between reasons of missed nursing care and personal characteristics of nurses, the findings of the current study show that there were statistically significant differences between reasons of missed nursing care and personal characteristics in terms of sex and weekly working hours. This is may be due to that the staff nurses who work 30 or more hours to overcome the shortage of nurses at the units, make them being more exhausted, tired, fatigued and have loss of concentration in providing patients' care which affect

on their performance. So, all required patient care is not provided and some of the care may be missed and errors can occur leading to patients' harm and even death. In addition female nurses constitute the majority, while male nurses represent the minority accounting result. These finding was supported by the study carried out by West et al; Wheelan et al and William et al⁽⁴³⁻⁴⁵⁾ who mentioned that working more than 30 hours may be contributing to fatigue, and a disrupted circadian rhythm of nursing staff is associated with an increased risk of errors as a result of decreased attentiveness. However these findings are incongruent with what is reported by Jane⁽⁴⁶⁾ who mentioned that there were no statistically significant differences between reasons of missed nursing care and personal characteristics of nurses.

Conclusion:

In the light of the current study findings, it was concluded that, there was a negative correlation between the total scores of nursing teamwork and the total scores of missed nursing care. Additionally the highest percentage of nurses' opinion about the total teamwork was low; the majority of nurses' opinion about missed nursing care was low. However the highest percentage of nurses' opinion about reasons of missed nursing care was high.

Recommendations:

Based on the findings of this study it is recommended that:

For nursing teamwork:

- Development of teamwork training program for the nurses to improve their knowledge, skills and attitude toward teamwork and promote their engagement.
- Team development program conducted for nurse managers to upgrade understanding of their work

roles and improve teamwork at the managerial level.

- Enhance teamwork through re-engineering the compensation system to reward teams versus individual outcomes.
- Incorporate the concept of nursing teamwork in nursing school curriculum.

For missed nursing care:

- The nurse manager and supervisor must encourage the nurses to be engaged in the collection and analysis of data relative to missed nursing care on their units.
- Creating a culture of quality and safety that ensures attention to detail and honest reporting of omissions of nursing care would foster reporting of missed nursing care.
- Providing adequate nurses' to patients' ratio to reduce missed nursing care.
- There should be a systematic supervision; follow up and guidance to the nurses which would be properly being matched to their work assignment nursing and duties to detect any missed nursing care.

Further studies are needed:

- To examine the impact of nursing teamwork on other factors and benefits such as fewer errors, greater staff nurses' satisfaction and intent to stay.

Table (1): Personal characteristics of the staff nurses (n=182)

Personal characteristics	No	%
Sex		
▪ Male	19	10.4
▪ Female	163	89.6
Job		
▪ Nurse	178	97.8
▪ Technician	4	2.2
Nursing qualification		
▪ Nursing school diploma	151	83.0
▪ Associated diploma of nursing	31	17.0
Age (years)		
▪ <25	86	47.3
▪ 25-	84	46.2
▪ >45	12	6.6
Mean ± SD	29.6±7.95	
Range	18-47	
Weekly working hours		
▪ <30	16	8.8
▪ 30-	10	5.5
▪ >30	156	85.7
Work schedule		
▪ No shift	35	19.2
▪ Shift	147	80.8
Years of experience		
▪ 2-10	104	57.1
▪ >10	78	42.9
Mean ± SD	9.49±4.98	
Range	3-31	

Table (2): Total scores of nurses' opinion regarding teamwork (n=182)

Team work	Low (<60%)		High (60%+)	
	No.	%	No.	%
▪ Trust	75	41.2	107	58.8
▪ Team orientation	47	41.8	135	74.2
▪ Backup	76	29.1	106	58.2
▪ Shared model	53	30.2	129	70.9
▪ Team leadership	84	46.2	98	53.3
▪ Total team work	125	86.8	57	13.2

Table (3): Total scores of nurses' opinion regarding missed nursing care (n=182)

Missed nursing care	Low (<60%)		High (60%+)	
	No.	%	No.	%
▪ Patient assessment	172	94	10	6
▪ Medication administration	133	74.2	49	25.8
▪ Patient education	122	67	60	33
▪ Feeding	74	40.7	108	59.3
▪ Hygiene	135	74.2	47	25.8
▪ Documentation of necessary data	145	79.7	37	20.3
▪ Mobilization	107	57.7	77	42.3
▪ Response to patient needs	127	69.8	55	30.2
▪ Attendance of interdisciplinary conference	40	22.5	142	77.5
<i>Total scores of missed nursing care</i>	152	83.5	30	16.5

Table (4): Total scores of nurses' opinion regarding reasons of missed nursing care (n=182)

Reasons of missed nursing care	Low (<60%)		High (60%+)	
	No.	%	No.	%
▪ Communication problems	80	44	102	56
▪ Un availability of medication when needed	45	24.7	137	75.3
▪ In adequate nursing staff	100	54.9	82	45.1
▪ Support staff	77	42.3	105	57.7
▪ Number and condition of patient	37	20.3	145	79.7
▪ Equipment and material resources	41	22.5	141	77.5
▪ Heavy admission and discharge activities	36	19.8	146	80.2
<i>Total causes</i>	54	29.7	128	70.3

Table (5): Correlation matrix of the scores of nursing team work, missed nursing care and its reasons

Variable	Pearson correlation coefficient		
	Nursing team work	Missed nursing care	Reasons of missed nursing care
▪ Nursing team work			
▪ Missed nursing care	-.298**		
▪ Reasons of missed nursing care	0.022	-0.116	

(**) Statistically significant at $p < 0.01$

Table (6): Correlation between the scores of nursing team work, missed nursing care, its reasons and personal characteristics of nurses

personal characteristics	Spearman rank correlation coefficient		
	Nursing team work	Missed nursing care	Reasons of missed nursing care
▪ Age	-0.05	-0.075	-0.013
▪ Working hours	0.083	-.095	.155*
▪ Years of experience	-0.027	-0.119	-0.009

(*) Statistically significant at $p < 0.05$

Table (7): Best fitting multiple linear regression model for missed nursing care Score

Variables	Un standardized Coefficients		Standardized Coefficients	t-test	p-value	95% Confidence Interval for B	
	B	Std. Error				Lower	Upper
	▪ Constant	67.356	9.164		7.35	0	49.272
▪ Job	13.465	5.991	0.158	2.247	0.026	1.642	25.289
▪ Working hours	-8.874	3.099	-0.201	-2.864	0.005	-14.989	-2.759
▪ Nursing teamwork score	-0.26	0.069	-0.264	-3.761	0	-0.397	-0.124

$r\text{-square} = 0.12$

Model ANOVA: $F=9.00, p < 0.001$

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