

## Management Program about Strategies of Building Effective Work Team on Nursing Staff Performance at Intensive Care Units

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### Abstract

**Background:** Team building includes wide range of activities and strategies designed for improving team performance. Its aim is to bring out the best in a team to ensure self - development, positive communication, conflict and change management skills and the ability to work closely together as a team. **Objective:** The aim of the study was to evaluate program about strategies of building effective work team on nursing staff performance at intensive care units. **Setting:** Study was conducted at five ICUs at El-Menshawy hospital affiliated to Ministry of Health, namely neurology, cardiology, medical, pediatric and neonatal. **Subjects:** All (n=210) nursing staff working at the five ICUs understudy divided into all (n=10) head nurses two in each ICU and all (n=200) nurses. **Tool:** Two tools were used; (1) nursing staff work team building knowledge questionnaire (2) nursing staff actual work team building strategies observation checklist. **Results:** majority of nursing staff (84.9%) had poor knowledge level for work team building, decreased to about one third had poor knowledge level post program. Preprogram majority of nursing staff (89.6%) showed either low or moderate total practice level for work team building seven strategies, changed post program to be (51.1%) of nursing staff showed high total practice level. Half of head nurses preprogram had moderate total management practice level for work team building; changed post program to equal (40%) percent of them had high and moderate total management practice level. **Conclusion:** Nursing staff of ICU at El-Menshawy hospital demanding for management program to develop their knowledge and practice about team building strategies. Implementing of the program actually develops their knowledge and practice. **Recommendations:** conducting pre-employment educational training workshops for novice nurses about effective work team building strategies. Maintain periodical orientation of nursing staff at ICU about strategies of building effective work team. **Key words:** Building work team, Strategies of effective work team, Nursing staff roles, Effective work team management practice, Intensive care units.

## Introduction

Intensive care unit (ICU) is a designated area offering facilities for the prevention, diagnosis and treatment of multiple organ failure<sup>(1)</sup>. So, 24-hour dedicated on-site cover by professional nursing team who have sufficient case skills and expertise, effective communication, adequate technical support, continuing education and training<sup>(2)</sup>. Nurse as a member of the health team in ICU has the role in establishing the goals of care, facilitating communication with critically ill patients and their families, proficient in clinical skills, using evidence-based knowledge related to disease trajectory and prognosis to advocate effectively for patients<sup>(3)</sup>.

Effective nursing work team employs the practices of collaboration and enhanced decisions works toward a common goal<sup>(4)</sup>. Nursing team building is a proven approach for helping nurses to become more respectful competitors and cooperative team nurses. It develops a supportive group atmosphere that encourages and values the contribution of group nurses, and helps them to work jointly on a task of mutual importance as a team<sup>(5)</sup>. Nursing team building function was better when nurses have a clear purpose and implement protocols and procedures effectively<sup>(6)</sup>.

Role of head nurses in building effective work team at intensive care unit is to develop a team plan for how nurses will act and work together, include effective use of communication technology to help nurses make better use of face-to-face time<sup>(7)</sup>. Also, they ensure constant supervision and continuous appraisals, enhance good understanding of team boundaries and the difference between nurses to rich their work team strengths and treat weakness points of nurses and maintain supportive work team environment<sup>(8)</sup>.

Developing effective nursing work team start by the forming stage where the group is just starting to come together and characterized with anxiety and uncertainty. Secondly, the storming stage where conflict and competition are at its greatest<sup>(9,10)</sup>. Thirdly, the norming stage where the group becomes a cohesive unit. Fourth stage is an important performing stage is marked by high productivity, loyalty, unified and supportive team consensus building and decisions are made to maintain effective team building strategies<sup>(11,12)</sup>.

In attempting to manage and improve teamwork skills in the ICU, seven strategies used: commitment, contribution,

communication, cooperation, conflict management, change management, and connection strategies<sup>(13-16)</sup>. Commitment is a willingness to exert considerable effort on behalf of the organization and a strong desire to maintain membership in the organization<sup>(13)</sup>. Contribution is a process that enables nurses to think, behave, take actions, make decisions about their work, and utilize their talents, skills, and inherent creativity which enable them for continuous improvement<sup>(14)</sup>.

Communication is a main vehicle for team interaction and exchanging information as words, tone of voice, and body language<sup>(15)</sup>. Cooperation is active participation and facilitation of team effectiveness, taking actions that demonstrate consideration for the feelings and the needs of others, and being aware of the effect of one's behaviors on others<sup>(16)</sup>. While, conflict management is the internal discord that results from difference in ideas, norms, values, or feelings of two or more member that lead to opposition or antagonistic interaction. Also, it is a basic psychological mechanism that centers on incompatible goals<sup>(17)</sup>.

Change management is the process of continually renewing an organization's

direction, structure, and capabilities to serve the ever-changing needs of external and internal customers<sup>(14)</sup>. Connection is the process of attraction of team nurses to the team and strength a forces on the nurse to remain in the team and resist to leave it. Nurses of a highly cohesive team value their relationship and are motivated to remain in the team<sup>(17)</sup>.

Due to a few studies have been done about the value of work team in Egypt, as effective elements of building nursing teamwork on performance of head nurses units<sup>(18)</sup>, it is hoped that this study will prepare nursing staff to be lifelong developing their knowledge and for practicing the strategies of building effective nursing work team through designing and implementing management program. Specified for head nurses and nurses at intensive care units<sup>(15)</sup>.

### **Aim of the study**

Evaluate program about strategies of building effective work team on nursing staff performance at intensive care units.

### **Research hypothesis:**

Nursing staff performance about work team building strategies expected to be improved after implementation of the designed program.

## Subjects and Method

### Study design

Quasi experimental research design was used to achieve the aim of the present research. Such design fits the nature of the problem under investigation. A quasi-experiment is an empirical interventional study used to estimate the causal impact of an intervention on its target population without random assignment<sup>(19)</sup>.

### Setting

The present study was conducted in five ICUs at El-Menshawy hospital affiliated to Ministry of Health and population, namely neurology, cardiology, medical, pediatric and neonatal. El-Menshawy General Hospital divided into three main big building A, B, and C which include nineteen inpatient and outpatient departments, with five ICUs with total 260 beds'capacity.

### Subjects

The study subject consisted of all (n=192) nursing staff working at the five ICUs under study namely neurology (n=10), cardiology (n=25), medical (n=53), pediatric (n=24) and neonatal (n=70). All head nurses (n=10) two head nurses in each ICU and all nurses (n=192). While limitation of the study were (n=17) from medical ICU refused to complete program

and one nurse at pediatric ICU at legal labor vacancy.

### Tools

The data of the study collected using two tools:

#### **Tool I: Nursing staff strategies for work team building knowledge questionnaire.**

This **tool** developed by the researcher guided by **Fwiong** et al., (2012)<sup>(13)</sup> Parmelee (2015)<sup>(14)</sup> and recent related literature to test nursing staff knowledge about strategies for work team building<sup>(15,16,20)</sup>, it include 2 parts as follows:

**Part (1):** Subject characteristics such as age, gender, marital status, residence, name of ICU, level of **education**, years of experience in nursing work with current head nurse of the unit, and number of educational program nurse attended related team building.

**Part (2):** Nursing staff knowledge about team building strategies, it consists of (64) questions, in the form of multiple choice (31 items), complete (10 items), true &false (18 items), and match (5 items). These questions were classified into 8 categories as follows:-

- Items related team building mission and vision and objectives, include (8) question.

- Items related effective nursing team stages include (8) question.
- Items related team building seven strategies include (8) question.
- Items related effective nursing team building principles include (8) question.
- Items related role of head nurse for building effective work team include (8) question. Items related role of staff nurse for building effective work team include (8) question. Items related practices situations about 4 strategies (commitment, contribution, communication, cooperation) include (8) question.
- Items related practices situations about 3 strategies (conflict management, change management, and connection) include (8) question.

### **Scoring system:**

Answers of participants were scored (64 degree), was allotted a score of (1) for correct answer and (0) for wrong answer. The level of nursing staff knowledge as follows:-

Good knowledge > 75% = more than 48

Fair knowledge > 60 - < 75 => 38.4 - < 48

Poor knowledge < 60% = < 38.4

### **Tool II: Nursing Staff Actual Work Team Building Strategies Observation Checklist.**

This tool developed by the researcher guided by Fwiong et al., (2012)<sup>(13)</sup> Parmelee (2015)<sup>(14)</sup>, Windermere (2010)<sup>(15)</sup>, Ostafiechuk (2015)<sup>(16)</sup> and the recent literature review<sup>(21,22,23,24)</sup>, it include three parts as follows :

**-Part one:** it included items related to subjects' identification data such as name, job position, name of ICU, level of education.

**-Part two:** Actual nursing staff work team building strategies practice, it included seven strategies subscales as follows:

- Commitment strategy (8 items).
- Contribution strategy (8 items).
- Communication strategy (8 items).
- Cooperation strategy (7 items).
- Conflict management strategy (8 items).
- Change management strategy (9 items).
- Connection strategy (8 items).

### **Scoring system:**

Staff nurses were scored by (168 degree) which observed on a three points Likert Scale 3= always done, 2= sometimes done and 1= never done as follows:

High work team practice level  $\geq 85\% = \geq 142.8$ .

Moderate work team practice level 60 - <85%  
= 100.8- < 142.8.

Low work team practice level < 60%  
= < 100.8

**-Part three:** Head nurse management practice, it included eight work team management subscales as follows:

- Developing work team plan (9 items).
- Using of communication techniques and technology (10 items).
- Maintaining supervision of work team relation (11 items).
- Understanding of team nurses boundaries (8 items).
- Maintaining supportive work team environment (8 items).
- Ensuring continuous appraisal for team nurses (9 items).
- Improving work team strengths points (9 items).
- Treating work team weakness points (8 items).

### **Scoring system:**

Head nurses were scored by (216 degree) which observed on a three points Likert Scale 3= always done, 2= sometimes done and 1= never done as follows:

High work team practice level  $\geq 85\% = \geq 183.6$ .

Moderate work team practice level  $60 - <85\% = 129.6 - < 142.8$ .

Low work team practice level  $< 60\% = < 129.6$ .

### **Method**

1. Official permission to conduct the study obtained from administrator of

El-Menshawy hospital to obtain their permission to conduct the study, approval and assistance to interview the nursing staff.

2. The purpose of the study was explained and made clear to the administrators of El-Menshawy hospital and nursing staff to gain their cooperation.
3. **Ethical consideration:** Nursing staff consent for participation in the study obtained after explanation of the nature and the purpose of the study, confidentiality of the information's obtained from them and the right to withdrawal.
4. After reviewing of the related literature and different studies in this field, the study tools were developed by the researcher based on recommended and relevant review.
5. The two tools (I, II) presented to a jury of seven experts in the area of specialty to check content validity of the tools. The seven experts were five assistant professor and two lecturer from Faculty of Nursing Tanta University (nursing service administration, med-surgery, community health nursing, and psychiatric nursing department).
6. The expert's responses were represented in four points rating score ranging from (4-1); 4 =strongly

relevant, 3 = relevant, 2= little relevant, and 1= not relevant. Necessary modifications were done including; clarification, omission of certain questions and adding others and simplifying work related words. **The content validity** was 94.85% for nursing staff team building strategies and 96.87% for head nurse work team management.

7. The aim of the study was explained to nursing staff to gain their cooperation, and obtain verbal consent for their participation in the study.
8. **A pilot study** was conducted on 21 nursing staff randomly selected to test the tools for clarity and applicability from outside the ICU, then needed correction were done. It was conducted two times to the same nursing staff after two weeks later (test - retest) to assess reliability of tools. The first time was implemented after the development of the tools and the second time was implemented before starting the actual data collection to test the clarity, applicability, and relevance of the questions.
9. **Reliability of tools** was tested using Cronbach's Alpha and coefficient test and take mean average of scores ,

which must not be less than 3 score. Its value 0.893 for nursing staff team building strategies, 0.976 for head nurse work team management, and 0.765 for nursing staff team building strategies knowledge.

- Actual practice of nursing staff observational checklist tool (II) was used pre, immediately post implementation of program. Every staff nurse and head nurse were observed 3 times for each of 3 assessments.
- Knowledge questionnaire about nursing staff work team building strategies, tool (II) was used before, after implementation of program.
- Nursing staff were divided into ten groups, each group (20 or 21 nurses) as available. The program time was 16 hours for each group. Every session 2 hour, and program was conducted for nursing staff at conference room of El-Menshawy hospital or ICU doctor room as available.
- The researcher was following nursing staff and give direction for duration of 6 months (start from February month until end of July month) at their ICU

doctor room or conference room of El-Menshawy hospital as available.

### **Construction of educational program**

The first step in the construction of this program was the statement of instructional objectives. These objectives were derived from the assessed need of the sample and literature review.

### **Instructional objectives**

The main objective of the program is to improve ICU nursing staff knowledge and performance regarding to work team building strategies.

### **Specific objectives**

At the end of the program the nursing staff should be knowledgeable about seven team building strategies and effectively practice them at El-Menshawy hospital five ICUs as follow:

- Understand team, ICU nursing team building, its mission, vision and objectives.
- Gain knowledge about effective ICU nursing team stages.
- Use ICU nursing staff seven Cs work team building strategies.
- Memorize principles of building effective work team.
- Understand role of ICU head nurse for effective work team.
- Enumerate role of ICU staff nurse for effective work team.

- Practices of ICU nursing staff on some situations about four strategies (commitment, contribution, communication, cooperation).
- Practices of ICU nursing staff on some situations about three strategies (conflict management, change management, and connection).

### **Program content**

- The content was designed to provide knowledge related to seven work team building strategies. The program includes 8 sessions as follows:-
  - Team, team building mission and vision and its objectives.
  - Effective nursing team stages.
  - Nursing staff using of seven Cs work team building strategies.
  - Principles of building effective work team.
  - Role of head nurses for effective work team.
  - Role of nurses for effective work team.
  - Practices situations about 4 strategies (commitment,contribution,communication , cooperation).
  - Practices situations about 3 strategies (conflict management, change management, and connection).

### **Selection of teaching methods**

Selection of teaching methods were governed by studying the subject



themselves and content of seven work team building strategies program. The methods used were lecture, group discussion, example from real life, and work situations.

### Teaching aids

The teaching aids used for attainment of program objectives were data show, handouts, flow sheets, pens, and papers.

### Implementation of program

- The study was carried on 192 nursing staff. The nurses were divided into ten groups. The program time was 16 hours for each group. Every session 2 hour, and program was conducted for nursing staff at conference room of El-Menshawy hospital or inside ICU doctor room as available . They preferred to start session at 10:30 a.m – 12:30 pm as it was the most suitable time for them after finishing first necessary work. The nursing staff were informed about objectives of program. The researcher built good relationship and motivated them to participate and share in program activities.

The program was implemented in the conference room of El-Menshawy hospital or inside ICU doctor room. The following flow sheets used to illustrate the session activities carried out.

### Statistical analysis

- Statistical presentation and analysis of the present study was conducted, using the mean, standard Deviation, paired student t-test, chi-square and Linear Correlation Coefficient [r]tests by SPSS V20.

### Results

- **Table (1)** shows subjects characteristics. The age, job position, residence, name of ICUs, level of education, years of experience in nursing in unit as well as attended educational program about team building were included. The age of nursing staff ranged from 18 -  $\geq$  41 years with mean  $35.5 \pm 4.68$ . Nursing staff 79.7% were female, and 66.7% were from urban areas. Equal percent 42.7% of nursing staff had bachelor degree and have  $< 5$  years of experience in the unit with mean experience  $4.4 \pm 2.19$  years. Nursing staff 67.7% not attended team building program. Nursing staff 37.5% and 28.6% were worked at neonate and medical ICU respectively, while, 14.1%, 13.5%, and 6.3% were worked at cardiology, pediatric, and neurology ICUs respectively.

**Figure 1:** shows levels of nursing staff total work team building knowledge pre and post program. Preprogram majority of nursing staff had poor knowledge level for

work team building, decreased to about one third had poor knowledge level post program.

**Table (2):** Nursing staff level of total knowledge of each item of work team building pre and post program. The table shows that there were highly statistically significant improvement of nursing staff total knowledge levels for each work team building item post program at ( $p < 0.001$ ).

Preprogram majority (91.1%, 89.1%) of nursing staff had poor knowledge level for effective nursing team stages and team building mission, vision and objectives items respectively. Also, equal percent (84.4%) had poor knowledge for effective nursing team building principles and role of nurses for building effective work team. Most (83.3% and 77.1%) of them had poor knowledge level for team building seven strategies and role of head nurses for building effective work team respectively

While, post program nursing staff 57.8%, 49.5%, and 47.9% had good knowledge level for team building mission, vision and objectives, effective nursing team building principles, and team building seven strategies respectively. Also, nursing staff 41.1%, 39.6%, and 38% had good knowledge level for effective nursing team stages, role of head nurses

for building effective work team, and role of nurses for building effective work team items respectively.

**Figure (2):** shows nursing staff practice levels about total work team building seven strategies pre and post program. Preprogram majority of nursing staff had either low or moderate total practice level for work team building seven strategies, changed post program to be above half of them had high total practice level.

**Table (3):** Nursing staff levels of total practice about work team building strategies pre and post program items. The table shows that there was highly statistical significant improvement of nursing staff practice of all items of work team building post than preprogram ( $p = < 0.001$ ). Preprogram nursing staff 54.4%, 52.2% and 46.7% of nursing staff showed low practice level for conflict management, connection, and change management strategies items changed to be 45.6%, 44.5%, and 50.5% showed high practice level post program. Also, more than half nursing staff (54.9%, 56%, 52.2%, and 53.8%) showed high practice level post program for commitment, communication, contribution and cooperation strategies items respectively.

**Figure (3)** shows head nurses level of total management practice for work team

building pre and post program. Half of head nurses preprogram had moderate total management practice level for work team building, changed post program to equal forty percent of them had high and moderate total management practice level.

**Table (4):** Head nurses total management practice for work team building pre and post program. The table shows that there wasn't statistically significant improvement of head nurses total management practice post than preprogram.

Preprogram head nurses ranged (70% - 60%) were sometimes understand team nurses boundaries, developing team plan, using communication techniques and technology, and treating team weakness points respectively. Also, head nurses ranged (50% - 40%) were sometimes maintain supervision of team relation, maintain supportive team environment, ensuring continuous appraisal for nurses, and improving team strengths points respectively.

While, post program head nurses ranged (60% - 40%) always using communication techniques and technology, developing team plan, understand team nurses boundaries, ensuring continuous appraisal for nurses, and treating team weakness points.

**Figure 4:** correlation between nursing staff total knowledge and practices about work team building strategies pre and post program. There was statistical significant positive correlation between nursing staff total knowledge and practices about work team building strategies preprogram at ( $P = 0.026$ ) and post program at ( $P = 0.012$ ).

**Table (1): Subjects characteristics (N= 192)**

<b>Variables</b>	<b>N=192</b>	<b>%</b>
<b>Age</b>		
18-25	75	39.0
25-30	56	29.2
31-40	34	17.7
≥41	27	14.1
<b>Mean±SD</b>	<b>35.5±4.68</b>	
<b>Job position</b>		
Staff nurse	182	94.8
Head nurse	10	5.2
<b>Gender</b>		
Male	39	20.3
Female	153	79.7
<b>Residence</b>		
Rural	64	33.3
Urban	128	66.7
<b>Name of nursing ICU</b>		
Neurology	12	6.3
Cardiology	27	14.1
Medical	55	28.6
Pediatric	26	13.5
Neonate	72	37.5
<b>Level of education</b>		
Associate Degree of Nursing	68	35.4
Bachelor Degree of Nursing	82	42.7
Post-graduate Degree of Nursing	42	21.9
<b>Years of experience</b>		
<5	82	42.7
5-<10	63	32.8
≥10	47	24.5
<b>Mean±SD</b>	<b>4.4 ± 2.19</b>	
<b>Program attended about team building</b>		
Not attended	130	67.7
Attended	62	32.3

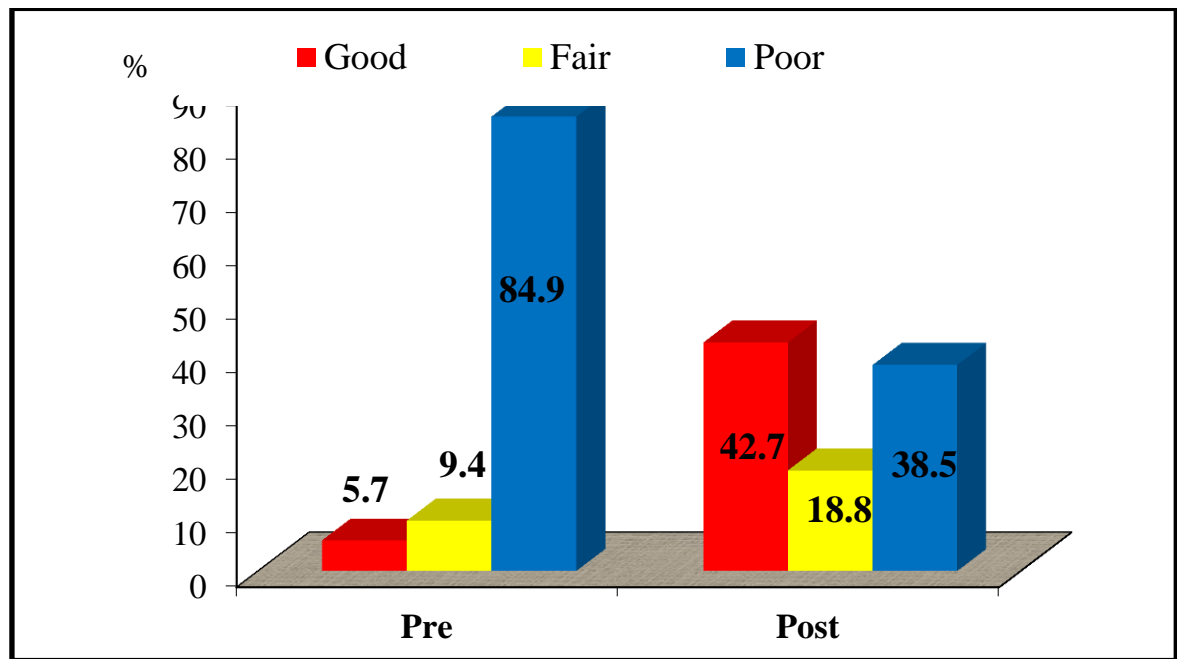


Figure (1): Levels of nursing staff total work team building knowledge pre and post program

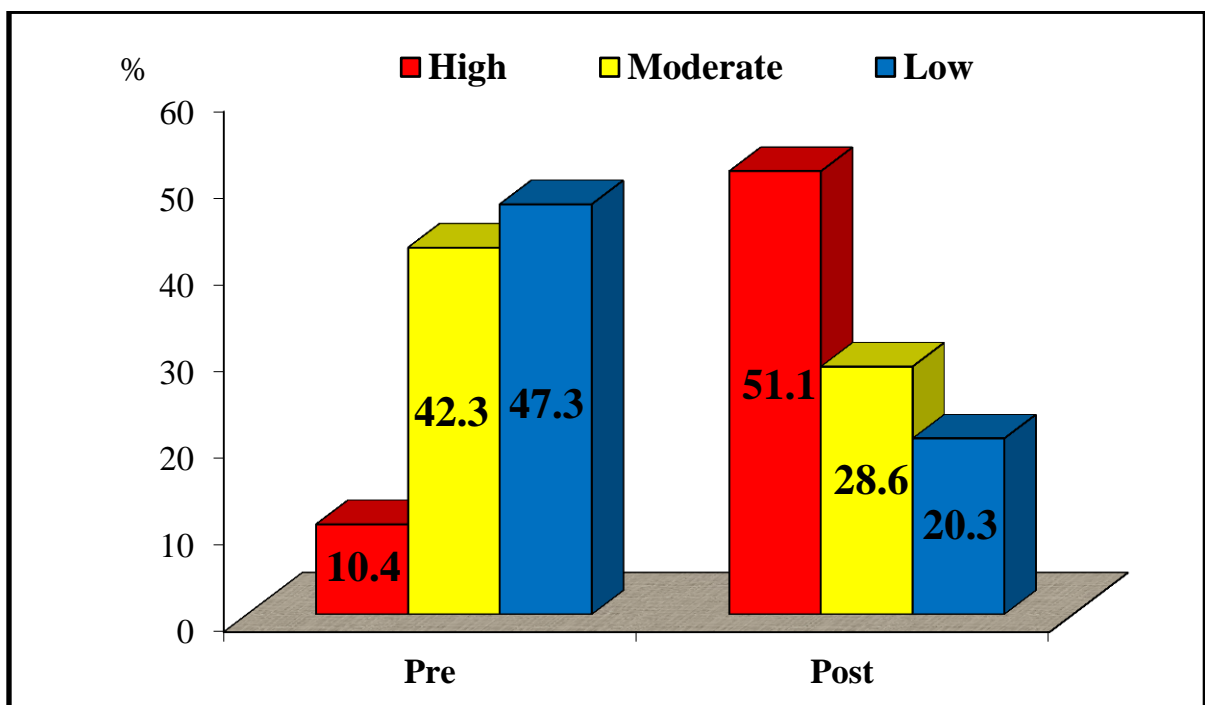


Figure (2): Nursing staff practice levels about total work team building seven strategies pre and post program

**Table (2): Nursing staff level of total knowledge of each item of work team building pre and post program (N=192)**

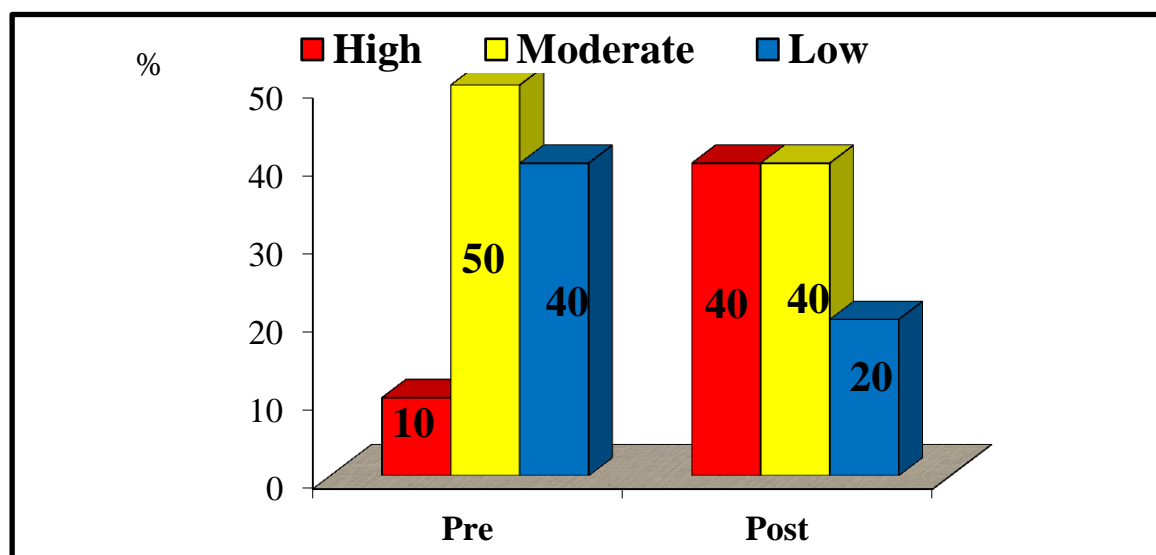
Items \ Levels		N=192						Chi-square	
		Good		Fair		Poor		X <sup>2</sup>	P-value
		N	%	N	%	N	%		
- Team building mission, vision and objectives	Pre	4	2.1	17	8.9	171	89.1	173.759	<0.001**
	Post	111	57.8	33	17.2	48	25.0		
- Effective nursing team stages	Pre	5	2.6	12	6.3	175	91.1	116.993	<0.001**
	Post	79	41.1	37	19.3	76	39.6		
- Team building seven strategies	Pre	8	4.2	24	12.5	160	83.3	112.722	<0.001**
	Post	92	47.9	35	18.2	65	33.9		
- Effective nursing team building principles	Pre	11	5.7	19	9.9	162	84.4	117.565	<0.001**
	Post	95	49.5	36	18.8	61	31.8		
- Role of head nurses for building effective work team	Pre	16	8.3	28	14.6	148	77.1	65.477	<0.001**
	Post	76	39.6	41	21.4	75	39.1		
- Role of nurses for building effective work team	Pre	14	7.3	16	8.3	162	84.4	85.015	<0.001**
	Post	73	38.0	44	22.9	75	39.1		

**\*\* High Significant at P < 0.005**

**Table (3): Nursing staff levels of total practice about work team building strategies items pre and post program (N=192)**

Practice items	program	High		Moderate		Low		Chi-square	
		N	%	N	%	N	%	X <sup>2</sup>	P-value
- Commitment	Pre	19	10.4	87	47.8	76	41.8	82.715	<0.001**
	Post	100	54.9	49	26.9	33	18.1		
- Contribution	Pre	25	13.7	78	42.9	79	43.4	63.525	<0.001**
	Post	95	52.2	53	29.1	34	18.7		
- Communication	Pre	20	11.0	82	45.1	80	44.0	84.160	<0.001**
	Post	102	56.0	47	25.8	33	18.1		
- Cooperation	Pre	19	10.4	78	42.9	85	46.7	80.797	<0.001**
	Post	98	53.8	49	26.9	35	19.2		
- Conflict management	Pre	11	6.0	72	39.6	99	54.4	79.936	<0.001**
	Post	83	45.6	57	31.3	42	23.1		
- Change management	Pre	22	12.1	75	41.2	85	46.7	64.182	<0.001**
	Post	92	50.5	50	27.5	40	22.0		
- Connection	Pre	19	10.4	68	37.4	95	52.2	58.120	<0.001**
	Post	81	44.5	57	31.3	44	24.2		

\*\* High Significant at P < 0.005

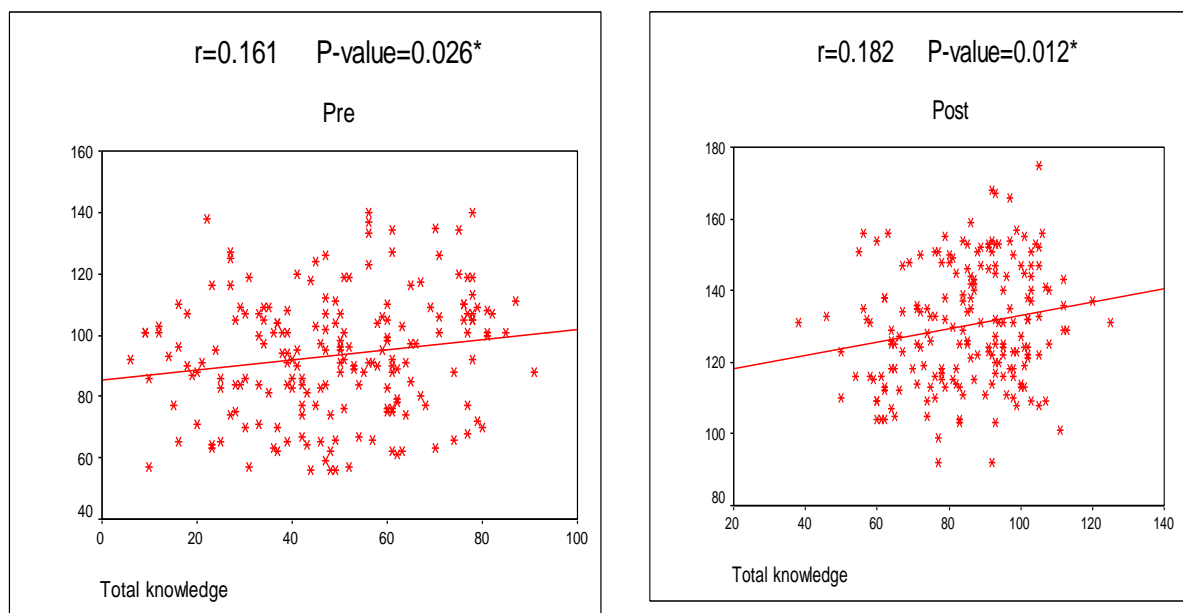


**Figure (3): Head nurses level of total management practice for work team building pre and post program**

**Table (4): Head nurses total management practice for work team building pre and post program (N= 10)**

Practice items	Program	Always done		Sometimes done		Never done		P-value	
		N	%	N	%	N	%	X <sup>2</sup>	P-value
- Developing team plan	Pre	1	10	6	60	3	30	4.067	0.131
	Post	5	50	4	40	1	10		
- Using communication techniques and technology	Pre	1	10	6	60	3	30	5.571	0.062
	Post	6	60	3	30	1	10		
- Maintain supervision of team relation	Pre	1	10	5	50	4	40	2.891	0.236
	Post	3	30	6	60	1	10		
- Understand team nurses boundaries	Pre	1	10	7	70	2	20	2.018	0.365
	Post	4	40	4	40	2	20		
- Maintain supportive team environment	Pre	1	10	5	50	4	40	1.091	0.580
	Post	2	20	6	60	2	20		
- Ensuring continuous appraisal for nurses	Pre	1	10	5	50	4	40	2.443	0.295
	Post	4	40	3	30	3	30		
- Improving team strengths points	Pre	0	0	4	40	6	60	4.000	0.135
	Post	3	30	4	40	3	30		
- Treating team weakness points	Pre	1	10	6	60	3	30	2.400	0.301
	Post	4	40	4	40	2	20		





**Figure 4: Correlation between nursing staff total knowledge and practices about work team building strategies pre and post program**

### Discussion

Nursing work team is a group of nurses have complementary skills, equally committed to common goals and working in harmony like a symphony to provide well-organized comprehensive patient care. It is important for nursing work team to share information, knowledge, and experience, take the initiative to keep other team members informed and work as a unit. Building strategies are important not only for gathering the right nurses but also for getting them to collaborate together for the benefit of work<sup>(31)</sup>. Effective nursing work team depends on nursing knowledge and ability to apply those seven team building strategies<sup>(100)</sup>.

But majority of present study nursing staff at preprogram showed poor level of knowledge about work team building. Most properly those nursing staff knowledge affected by limitation of their educational level as they hold associate degree, and not attend previous orientation or training program about team building. So, they were unequipped with enough knowledge about many aspects of team building, and gave incorrect answers for questions on mission, vision, objectives, principles, team stages and seven team building strategies. Unfortunately either

head nurses nor nurses knows their role for building effective work team.

Yet knowledge of most of them had significantly improved in majority of that items immediately post program due to their attendance of present program sessions which explained to them principles for working cooperatively and to contribute to groups with ideas and effort. The well designed program attracted their attention to recognize the giving and receiving of communication and evoked their sense of responsibility toward building effective work team. Really the program clarified to them the benefits and outcomes of appreciating different opinions, respect individual preferences and value participation in group decision-making.

**Suzanne et al., (2017)<sup>(25)</sup>** study about factors contributing to nursing team work in an acute care tertiary hospital, supported the present study and revealed that preprogram nursing staff at tertiary hospital had poor knowledge level about principles and factors affect building good team work and didn't know all stages of development an effective team work during acute care. But, post program they know how to contribute with each other to achieve hospital objectives.

Also, **Carla et al., (2018)<sup>(26)</sup>** study about comprehensive care of ICU survivors: development and implementation of an ICU recovery center team, support the present study result and stated that knowledge of head nurses of ICU were low preprogram and improved post program in forming recovery center work team through implementation of commitment, communication, cooperation, conflict management and change management practices effectively.

Preprogram about half of nursing staff showed either moderate or low level for practicing seven strategies of team building. Regarding commitment, the researcher observed that nursing staff didn't come work early, and not complete their assigned nursing tasks on time but, they delayed in achieving team goal and objectives. The fact is that El Menshawy Hospital training center gives education sessions only focus on needed nursing care activities, and overlook sessions on commitment, which can help evoking nursing staff enthusiasm in working together as nursing team. They need to be stimulated to make social frank discussions between them to improve their team commitment. Besides, they have to participate in making and be aware about vision, mission, and objectives of ICU, that will have impact on quality of their

performance as effective work team. **Tafreshi et al., (2017)<sup>(27)</sup>** supported the present study, and stated that preprogram nursing staff showed poor work team commitment implementation in healthcare organizations which caused by lack of senior management commitment, unclear mission statements, and short-term orientation of administrators. Also, **Lindesy (2012)<sup>(28)</sup>** study about best practices for hospital training and development programs, supported the study result and revealed that the insufficient training programs about commitment strategy for nurses affect directly on health services, nursing staff, and patient satisfaction.

Present study revealed that half of head nurses preprogram had low and the rest were at moderate level of total management practice for work team building. Apparently those head nurses not clever in developing work team plan or using communication techniques and technology for building effective work team. They can't maintain supervision or supportive team environment for work team relation. So, they have increasing need to understand nursing staff boundaries and to ensure continuous appraisal for nursing staff to improve their strength points and treating team weakness points.

**Yang- Bai et al.,(2017)** <sup>(29)</sup> revealed that preprogram there was confusion confronted by head nurses in Changsha include three aspects: managerial roles, managerial team training, and managerial tools. That management tools include team cooperative management model, evidence-based management training, and data-driven tools, will contribute to improving the financial management capacity of nurse managers. But, **Giles –Anne- Mette et al., (2018)** <sup>(30)</sup> study about the perceived and experienced role of the nurse unit manager in supporting the wellbeing of intensive care unit nurses, assumed that head nurses of ICU unit showed high level of awareness for playing a vital role in promoting and supporting ICU nurse wellbeing.

Equal forty percent of head nurses post program had high and moderate total management practice level because there was statistical significant positive correlation between their knowledge and practice. As well as there was statistical significant positive correlation between head nurses practice about work team management and staff nurses practice about work team building strategies.

Immediately post program head nurses start to maintain supportive work team environment through remain calm during nursing work and ensuring continuous

appraisal for team nurses. They start to be accountable for the outcome of nursing work team. Regularly they appraise nursing staff performance by measuring efficiency, effectiveness and determining the competency of nursing staff activities during render care. Apparently head nurse development of knowledge and practice reflected on their practice for improving work team strengths and treating weakness points. As well as they have power to turn their negative behavior to positive ones and maintain safe, satisfied, calm, and enthusiastic work team environment.

Also, nursing staff immediately post program committed to achieve and share their team its mission, vision and objectives, due to the program content stimulated nursing staff knowledge and practice about effective ICU nursing team stages and how to apply and use seven Cs work team building strategies. In additional, the program made them able to appreciate principles of building effective work team and understood role of ICU head nurse and staff nurses for effective work team. Plus, real life situations about seven strategies (commitment, contribution, communication, cooperation, conflict management, change management, and connection) which directed nursing staff for coping with any problems or conflict; even

techniques of communication and cooperation skills.

**Omeran (2018)** <sup>(31)</sup> and **Atyia (2018)** <sup>(32)</sup> supported present study and revealed that there was statistical significant positive correlation between head nurses practice about work team management and staff nurses practice about work team. **Also, El Sayed (2018)** <sup>(33)</sup> study about factors affecting nursing staff attendance in-service training program, supported the study and revealed that there was positive correlation between nursing staff total knowledge about attendance in-service training programs and their actual practice which affected positively on their real performance at work.

Administrative behavior have to be contributed to understand of team building strategies management through (1) the study of organizations in the context of their environment; (2) the study of managerial action in the context of an organization; and (3) the study and development of methods to improve the strategic team alignment between an organization's capabilities and its environment. These administrative behavior including problem solving, conflict management, change management, decision-making, relationships between members, and contributions performance

among their team. Team building strategies create the time to focus on the importance of team work and what is needed to make nurses a better team and learning how to work together effectively that creates efficiency and knowledge on how to manage each other's strengths and weaknesses. Also, structured team building activities identified leadership qualities in individuals and highlight areas where all staff can contribute as leaders.

Indeed, effective work team building strategies management program can ensure that head nurses are trained in the tools and methods required for continuous nursing work team improvement. Beside allowed them to competently participate in high quality care improvement initiatives and actually bring about their unit positive changes. Also allowed staff nurses to increase their team building skills and improve their services which will being improved work effectiveness and patient satisfaction. Adding to the increase number of training courses, body of knowledge, quality of care and administrative work. As the team evolved, head nurses learned to be effective team leader model by engaging and seeking each team member input and feedback to identify and solve problems, and as a result, team members became empowered to influence change.

### **Conclusion**

Nursing staff at five ICUs of El-Menshawy hospital showed low and moderate level of knowledge and practice on work team building subscales pre-program. There were moderate management practice level of head nurses about work team building. But, they significantly improved their knowledge and practice immediately after implementation of designed management program for work team building strategies. Head nurses and staff nurses needed to enforcement educational workshops and training program for improving team building management skills of head nurses and maintain regular using of seven team building strategies between staff nurses. Apparently nursing staff at each ICU need continuously follow up to the application of team building strategies skills to help them for dealing with any ICU different work overload situations..

### **Recommendations**

On the line of the findings of current study these recommendations are suggested:

- Enhancing of head nurses' experiences for effective work team building skills.
  - Orientation program for novice nurses about the principles of ICU work team.
  - Assessing nurses and patients' needs and make self and peer evaluation of work team performance.
  - Supervising nursing staff during training of their staff nurses at each ICU.
  - Provide a guidance book at each ICU about effective work team building strategies.
  - Participating in achievement of goals and objectives of nursing team.
  - Increasing feeling of commitment to organization mission and vision.
  - Being self –directed in giving nursing care and maintain mutual trust and cooperation between members.
- 
- Periodical orientation of nursing staff at ICU about importance and process of building effective work team
  - Enhancing regular programs to maximize work team building skills.

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