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Conflict of interest: None declared

Funding: No funding sources

Abstract

Background: Background: Teamwork is an essential part of healthcare's organization for delivering quality care for patients, this reflects on staff nurses to have, responsibility to ensure patients safety. Nurse Leaders try to motivate their followers to construct engaged and exciting effective teams that go above and beyond the task's requirements in order to develop a high-quality, performance-oriented, committed, and attracted nursing staff. Aim: The aim of this study is to determine the effect of team building training program on teamwork effectiveness at Zagazig University Hospitals. Research Design: A quasi experimental design was utilized. Setting: the study was conducted at Zagazig University Hospitals. Which include two sectors El Salam sectors include four hospitals and the Emergency sectors include five hospitals. Sample: A simple random sample (94) from staff nurses who worked in the previously mentioned setting. Tools of data collection: A questionnaire sheet was used to collect data for this study that was composed of three parts; 1) a structured knowledge questionnaire, 2) Team building skills (observational checklist) and Team effectiveness questionnaire Results: there is a statistically significant difference between the studied nurses' total team building knowledge pre and post program intervention, staff nurses had a high level of agreement percentage toward skills regarding team building compared to preprogram phase and that majority of studied nurses had a high teamwork effectiveness level and there were statistical significant difference in all items of team effectiveness awareness Conclusion: there were statistical significant improvement in all types of team building knowledge and teamwork effectiveness after implementation of the program. Recommendations: hospital administration should conduct a training program for different levels of nurse managers to promote teamwork effectiveness in their organization.

Keywords: teambuilding, teamwork effectiveness and staff nurses

Tob Regul Sci. [™] 2023 ;9(1): 6906-6918

DOI: doi.org/10.18001 /TRS.9.1.487

Introduction:

As with professional healthcare providers, teamwork among staff nurses is critical for providing safe and high-quality nursing care. Team effectiveness, often known as group performance, is a team's ability to accomplish the goals of an approved staff or organization (Rosen, et al., 2018, Foster et al., 2019). It's also referred to as team performance, and it relates to a group's ability to achieve its goals. This ability to meet goals and objectives leads to better outcomes for team members (e.g., satisfaction and willingness to work together), as well as outcomes that are produced or influenced by the team. Effective teamwork may result from successful teamwork. It's much easier to say than it is to do. To be successful as a team, many factors must be in harmony. Any health care organization that wishes to foster high-performing work teams must ensure that employees are able to communicate effectively and help groups in resolving issues. Participants must also be motivated to reach work objectives and lead the team to success, which has a beneficial impact on their commitment and attraction (Jones & George, 2019).

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 team is important not only for gathering the right nurses but also for getting them to collaborate together for the benefit of work (Atia, 2018).

Effective nursing work team employs the practices of collaboration and enhances decisions works toward a common goal. 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. Nursing professionals have an important role in healthcare delivery and health standards, and they are a key foundation of society. The tendency of staff nurses to leave the organization and follow nonmedical activities or occupations outside of the hospital, as well as early retirement, has resulted in a loss in the nursing force in hospitals all over the world, particularly among young staff nurses. Because it affects their perceptions of the hospital and its job opportunities, as well as their commitments toward the hospital (Boone, et al., 2019).

Not just in terms of care quality, but also in terms of patient satisfaction, the commitment of staff nurses is crucial for healthcare organizations. The purpose of any form of commitment is to keep the hospital's nursing staff competent. So, in order to save and maintain their professional and skilled personnel, administrations are working to increase staff nurses' organizational commitment. Existing committed staff nurses improve the hospital's reputation in the community and provide an opportunity for growth and development. (Tamer, 2021).

Significant of the study:

Staff nurses spend more time directly with patients and have a variety of responsibilities, including constantly focusing on patients' needs, connecting with their families, and making critical decisions. As a result, they may take on more work than staff nurses on other wards, and their commitment to the hospital developed as a result of management's support, resulting in

Salwa Mohamed et. al

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increased job attraction. So, the current study was aimed to assess perspective of teamwork effectiveness among staff nurses.

Aim of the study:

The aim of this study is to determine the effect of team building training program on staff nurses' teamwork effectiveness at Zagazig University Hospitals.

Research question:

- 1- What is the level of team effectiveness among staff nurses?
- 2- Are knowledge and skills of staff nurses improving after implementing program?

Subjects and Methods

Research Design: A quasi experimental design was utilized to carry out this study.

The Study Setting:

This study e conducted at Zagazig University Hospitals. Which include two sectors, El Salam Sectors include four hospitals and the Emergency Sectors include five hospitals.

Subjects:

The convenience sample consisted of 94 staff nurses who worked in the previously mentioned setting.

Tools of Data Collection:

Data was collected through three main tools as the following:

Tool (I): Teambuilding knowledge questionnaire consisted of two parts:

The first Part: Personal characteristics data Sheet: developed by the researchers and included questions related to personal data of staff nurses: Unit, age, gender, marital status, educational qualification, years of experience in the nursing field, and attending training courses about teamwork.

The second part: Is a structured knowledge questionnaire was developed by Ahmed (2013) to assess staff nurses' knowledge regarding teambuilding and it consists of 45 questions , Multiple Choice Question (20items), True & False (15 items) & Matching (10 items) .

Scoring system: - The responses were scored as "1" for correct, and "zero" for incorrect so the total scores (45). The score of each participant was categorized into two categories, satisfactory that had score more than 70% and un satisfactory that had score 70% or less.

Tool II Team building skills (observational checklist) developed by Ahmed, (2013): to assess staff nurses 'skills regarding teambuilding, it consisted of 59 items subdivided into seven dimensions as following: commitment (8 items), contribution (12 items), communication (10 items), cooperation (5 items), connection (7 items), conflict management (7 items) and change management (10 items).

Scoring system: - The responses were scored as "done" for correct, and " not done " for incorrect answer so the total scores (59).. Scoring system divided into three categories, low level of staff nurse's opinions related to teambuilding skills less than 50%, moderate level of staff nurse's opinions related to teambuilding skills ranged from (50-70%) and high level of staff nurse's opinions related to teambuilding skills more than 70%

Tool (III): Team Effectiveness Questionnaire developed by Bateman et al., (2002) to measure staff nurses' effectiveness; it consists of 44 items grouped under six main components namely: team synergy (10items), Performance objectives (6 items), skills (8 items), use of resources (6 items), innovation (6 items), quality (8 items). Responses extremely will be measured on 5- point likert scale ranged from (1) strongly disagree to (5) strongly agree

Scoring system:

The responses were measured in five Likert Scale where “strongly agree” to “strongly disagree” were scored from 5 to 1, respectively. Total of each dimension and the total scale were calculated. For the categorical analysis of each dimension as well as for the total score, a score of 60% or higher was considered as high team effectiveness, while a score <60% was considered low team effectiveness.

Approval

After explaining the study's aim to the director of Zagazig University Hospital, the General Director and Nursing Director of Zagazig University Hospital provided official permission.

Preparatory phase

The preparatory phase lasted two months, from the beginning of May to the end of June 2023, and included the following activities: using journals, magazines, periodicals, textbooks, the internet, and theoretical understanding of the various elements of the study's area, as well as reviewing national and international relevant information.

Pilot study

A pilot study was carried out on (nine nurses) as 10% of study sample (n=9) to test the questionnaire feasibility, understandability and to estimate the time consumed for filling in the forms. They randomly selected and included in the total population, after the development of the tools and before starting data collection. A brief explanation

Fieldwork

The actual fieldwork took place across three months, from August to October 2023. The researchers gathered data by meeting with nurses on the shift and explaining the study's aim. Staff nurses were questioned during morning and evening working hours and according to their availability for three days per week; the daily number of staff nurses interviewed daily ranged from 10 to 12. The questionnaires took from 20 to 30 minutes to answer. Completed forms were gathered on time and double-checked for accuracy to avoid missing data.

The researchers adapted, modified, and translated the contents of the three instruments into Arabic, and the content validity was evaluated by five juries of experts in the field. Based on their recommendations, the necessary changes were made. The Cornbrash's Alpha test was also used to analyze the instruments' reliability in terms of internal consistency and homogeneity.

Ethical consideration

All participants interviewed to explain the study's objectives and methods, and they had the option to withdraw at any moment during the study. Furthermore, all data was coded to preserve the subjects' confidentiality and anonymity. Taking a page from a questionnaire implied verbal agreement to participate.

Results

Table 1: revealed that, the studied nurses' mean age was $\bar{x} \pm S.D$ (33.2±57.23), (45.7%) of them had ages ranging between (30 to less than 40 years old). Moreover, the majority of study sample (67%) were females and (69.1%) of them worked at the Emergency sector while (30.9%) of them worked at EL Salam sector.

Table 2: revealed that there is a highly statistically significant difference between the studied nurses' total team building knowledge pre and post program intervention at ($p < 0.00$).

Figure 1: revealed that (86.6%) of the studied nurses had total satisfactory knowledge posttest while only (37.2%) of them had total satisfactory knowledge pre-test

Table (3): illustrate the staff nurses skills regarding teambuilding awareness of total domains pre and post educational program. This table shows that during the post program phase, the studied staff nurses had a high level of agreement percentage toward total skills regarding team building compared to preprogram phase. The highest domain score of team building skills is contribution within the teamwork (20.76), the lowest domain is cooperation within the teamwork (8.76) mean score.

Figure (2) this figure illustrates that the highest percentage of nurses (41.5%) had a low level of teambuilding skills before implementation of the program, while (50%) of them had a high level after program implementation.

Table (4) revealed that there were statistical significant differences ($p < 0.05$) in all domains of team effectiveness after implementation program.

Figure (3) :illustrates that the highest percentage of nurses (43.6%) had a low level of team effectiveness before implementation of the program, while (47.9%) % of them had a high level after program implementation

Table (5): shows that there is a highly significant statistically positive correlation between the studied nurses' total knowledge and their total team building skills at ($p = 0.000$). Also, there is a significant statistically positive correlation between the studied nurses' total knowledge and their total team effectiveness at ($p=0.23$).

Demographic characteristics	N	%
Age		
20-<30	23	24.5%
30-<40	43	45.7%
40-<50	26	27.7%
50-<60	2	2.1%
\bar{x} S.D 33.2±7.23		
Gender		
Male	31	33.0%
Female	63	67.0%
Hospital name		
Emergency sector	65	69.1%
EL salam sector	29	30.9%
Marital status		
Single	16	17.0%
Married	68	72.3%
Divorced	6	6.4%
Widow	4	4.3%
Educational level		
Nursing diploma	22	23.4%
Technical institute of nursing	39	41.5%
Bachelor nursing degree	29	30.8%
Master nursing degree	3	3.2%
Doctorate degree	1	1.1%
Nursing experience years		
1- <5 years	19	20.2%
5- <10 years	36	38.3%

> 10 years	39	41.5%
\bar{x} S.D 12.53±1.68		
Attended training courses about team building		
Yes	19	20.2%
No	75	79.8%

Table 1: Percentage distribution of the studied nurses according to their demographic characteristics (n=94).

Table (2): Percentage distribution of the studied nurses according to their total Knowledge about the team building (n=94).

Total knowledge	Pre test		Post test		X ²	P
	N	%	N	%		
Satisfactory	35	37.2%	81	86.6%	9.846	0.00*
Unsatisfactory	59	62.8%	13	13.4	7.253	0.01*

Figure (1): Percentage distribution of the studied nurses according to their total Knowledge about team building (n=94).

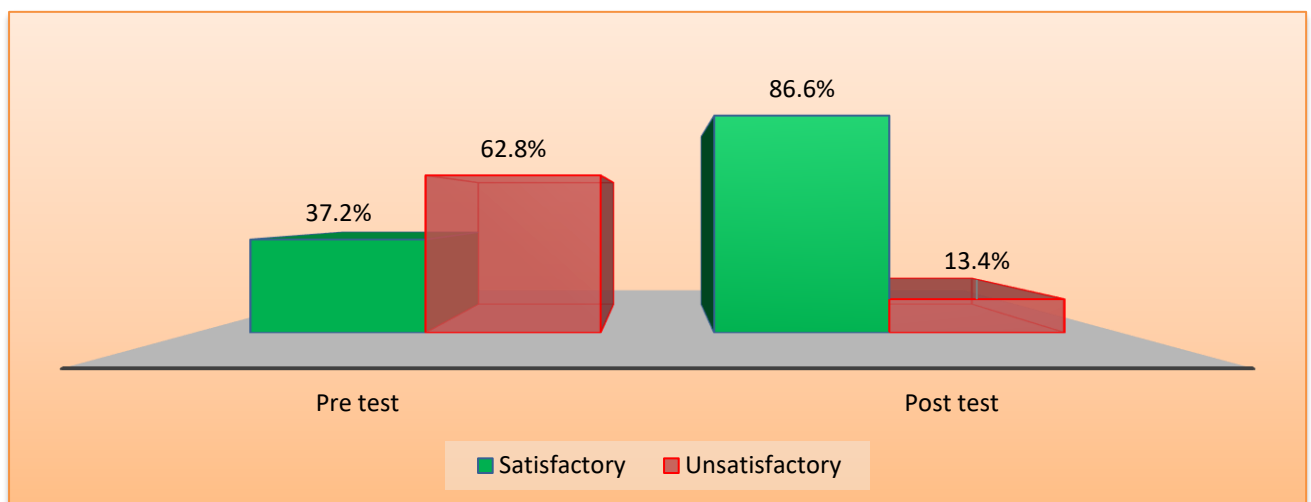


Table (3): Percentage distribution of the studied nurses according to their total compliance of team building skills domains pre and post program implementation (n=94).

Total skills	Pre test		Post test		X ²	P
	Mean	SD	Mean	SD		
1.Commitment within the teamwork	10.04	2.36	14.73	1.64	13.24	0.00**
2.Contribution within the teamwork	15.99	4.41	20.76	2.54	6.89	0.027*
3.Communication within the teamwork	11.38	3.26	15.53	2.21	9.87	0.02*
4.Cooperation within the teamwork	6.98	1.21	8.76	0.86	3.37	0.48
5.Conflict management within the teamwork	9.09	2.12	12.44	1.32	11.38	0.001**
6.Connection within the teamwork	10.42	2.45	13.14	1.24	5.25	0.041*
7.Change management within the teamwork	13.74	3.21	15.81	2.12	0.95	0.21
Total team-building skills	77.64	13.56	101.17	6.15	12.43	0.00**

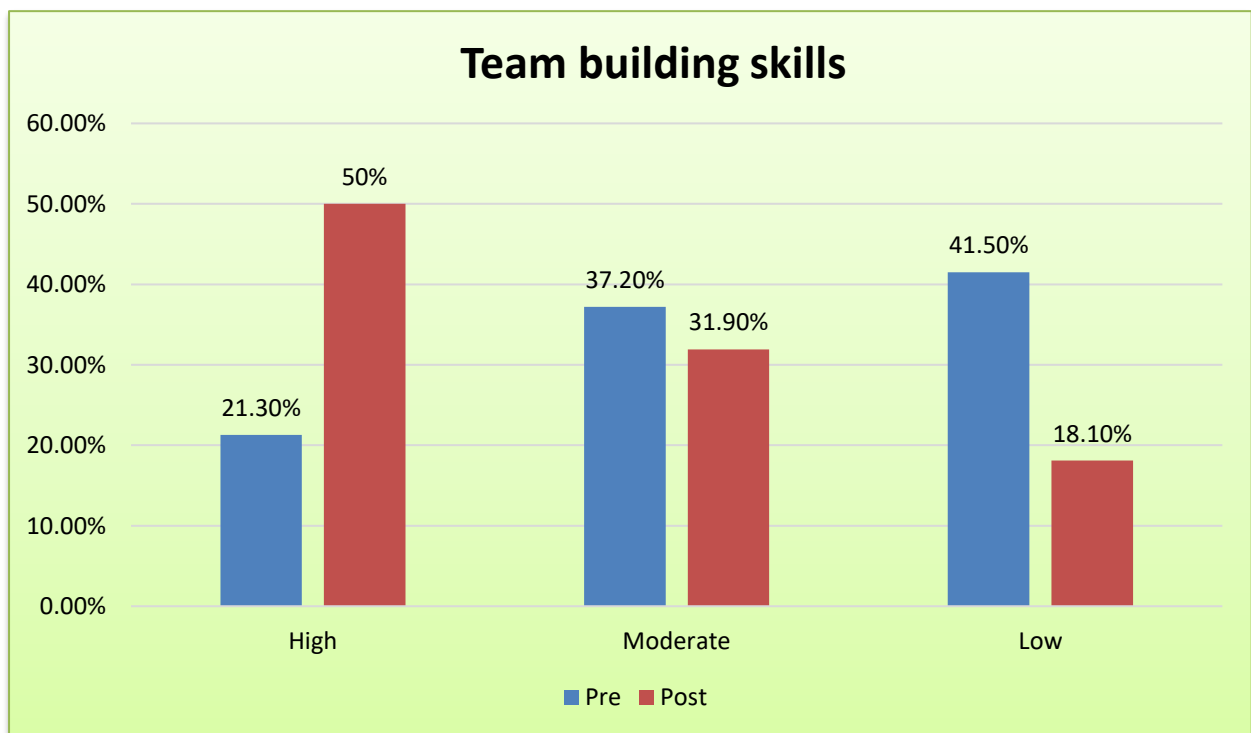
**Figure (2)** level of studied nurses according to their total compliance of team building skills (n=94).

Table 4; Percentage distribution of the studied nurses according to their total team effectiveness domains (n=94).

Total	Pre test		Post test		X ²	P
	Mean	SD	Mean	SD		
Team synergy	36.67	7.34	45.26	2.13	8.34	0.001**
Performance objectives	19.52	5.36	27.08	1.32	9.46	0.001*
Skills	26.42	6.56	32.38	3.26	6.97	0.03*
Use of resources	21.57	5.73	25.18	2.78	1.35	0.23
Innovation	20.98	5.86	25.22	2.65	5.78	0.05*
Quality	27.73	7.58	32.49	3.19	0.98	0.44
Total	152.89	28.64	187.61	13.42	9.76	.000**

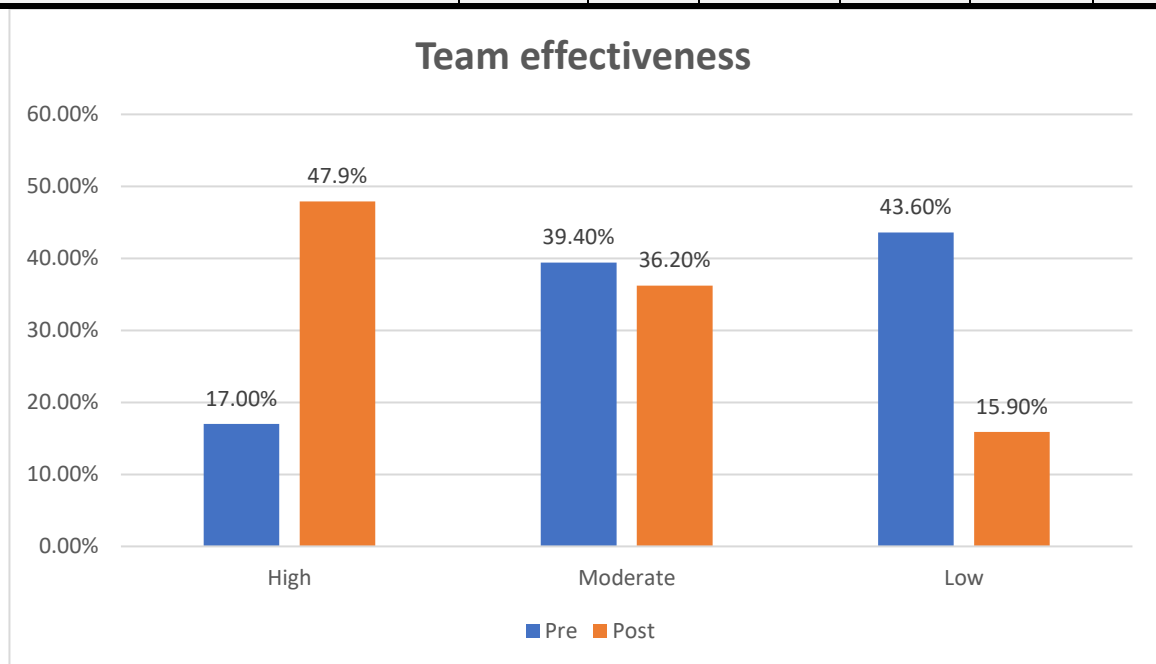


Figure (3) level of studied nurses according to their total team effectiveness (n=94).

Table (5): Correlation between the studied variable (n=94).

		1	2
1.	Total knowledge	r p	
2.	Total team building skills	r p	.864 .000**
3.	Total team effectiveness	r p	.434 .023* .675 .001**

Discussion:

Team building in health care provides opportunities for organizational improvements, increases employee and customer satisfaction, as well as improves patient outcomes. The implementation of an effective teams help to forge relationship among multiple disciplines to improve healthcare. Team building is essential in every existing to develop and enhance open and positive communication among members, team motivation, gives (Klainberg & Dirschel, 2020).

The findings of the current study revealed that The percent of female participants were greater than males; also the majority of participants of the staff nurses were 31-40 years old, were married and more of them had technical institute of nursing & nursing experience more than ten years .

This finding was in agreement with Sorour, et al., (2019) most of participants were females with an average age of worked more than 30 years and nursing staff not attended team building program.

The finding of the current study reveals that the highest percentage of the staff nurses were unsatisfactory level of knowledge about teambuilding before implementation of the program. After implementation of training program, the present study finding revealed that improvement in staff nurse knowledge level about teambuilding. Highest percentage of the staff nurses were satisfactory level of knowledge.

This finding was in agreement with by Ahmed, (2023) who studied Study the Effectiveness of Implementing Team Building Strategies Program for Nursing-Interns by Using Team- Based Learning at Benha University Hospitals. Revealed that there was a highly statistically significant improvement in total knowledge level of the nursing-interns about teambuilding knowledge throughout post immediate of program than the pre-program phase.

The present study revealed that, there was a highly statistically significant improvement in all opinions of staff nurses about teambuilding skills when comparing pre-program with immediately post program this improvement was due to the effect of the intervention program, attendance of the program affect positively on staff nurses' teambuilding skills in their work place.

These findings disagreed with a study conducted by El hosiny, (2019) who studied Utilization of Team Building Strategies among Nurses Working in Rural Health Units at El-Tal El-kebeer City stated that commonly used of commitment and connection.

The findings of the current study revealed that staff nurses had high team effectiveness level. This result was agreed with El Mosri, et al., (2020) who conducted study entitled "Team Work Effectiveness and its Relation with Transformational Leadership as Perceived by Nurses at Port Said General Hospitals" found that more than half of nurses had high team work effectiveness. And Also, Grubaugh and Flynn, (2018) which revealed more than half of studied nurses had high teamwork skills, less than half of them had moderate team work and about one quarter of them had low teamwork.

Conclusion: implementation of teambuilding training program was associated with improvement in staff nurses' teambuilding knowledge , skills and team effectiveness.

Recommendations: hospital administration should conduct training program for different levels of nurse managers to promote the teamwork effectiveness in their organization.

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