Effect of Authentic Leadership Training Program of Head Nurses on Creativity and Motivation of Nurses Staff

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Abstract

Background*:* Leadership influences staff nurse's creativity and motivation thus, leaders play a critical role in enabling and supporting the awakening and fostering of creativity and motivation of staff nurses. Employees present high levels of creativity when they are motivated. **Aim**: To measure the effectiveness of the authentic leadership training program on nurses' staff creativity and motivation. **Subjects and Methods**: A quasi-experimental research design was utilized, including all head nurses (36) and staff nurses (246) who were worked in the same unit of Specialized Medical Hospital, Mansoura University, Egypt. A self-administered questionnaire including four scales for Authentic leadership style knowledge questionnaire, Authentic leadership self-assessment scale, Creativity scale, and Motivation scale. **Results**: there was an improved response related to the head nurse's authentic leadership post-program implemented, motivational and creativity levels increased after the program of authentic leadership style. This increase persists three months after the program. There is a highly statistically significant difference in the total score of three times the program implemented. **Conclusions**: Head Nurses, who had good knowledge about authentic leadership, showed an increased nurse's staff creativity and motivation, which enhance the organization's success. **Recommendations**: An authentic leadership educational program is recommended to be recognized and implemented for all head nurses who in a management position in the nursing field in other hospitals as needed.

Keywords*:* Staff nurses, head nurse, authentic leadership style, creativity and motivation.

Introduction

Leadership is a feature that empowers staff nurses to promote creativity and innovation with the proper feedback. The concepts of psychological security and inherent motivation help to support our claim that authentic leadership is linked to staff nurse's creativity, implying that authentic leaders boost employees' psychological security insights and built-in motivation, making them more unique. Because they are less prone to the modifications that employees' truthful and innovative ideas may suggest, authentic leaders also boost authenticity among their subordinates. They are more likely to accept their

creative suggestions **(Cheung & Wong, 2011, Muceldili, Turan, & Erbil, 2013).**

There is still a gap in our understanding of how leadership can influence more effective and sustainable nursing relationships, in that the courses accomplished of influencing more effective and sustainable consequences are unknown. Furthermore, no comprehensive nursing theory exists capable of directing optimal practices in nursing care and fostering a productive work environment. However, in the hospital setting, authentic leadership acquires traction in terms of team members' dedication, which is based on a clear knowledge of their role within the organization, creating an environment that is favorable to both leaders and team members. In relative to the authentic leadership course, two notable features are observed: the essential role of the authentic leader in the coherence of one's actions; and the influence of followers on proactive, ethical, and responsible behavior. Nonetheless, the necessity of creating a trust and integrity-based environment that supports knowledge management processes is emphasized (**Maziero, Bernardes, Righetti, Spiri, & Gabriel, 2020).**

The authentic leadership program teaches emerging leaders how to present themselves in the world with dignity, humility, honesty, and integrity, as well as how to create and facilitate shared experiences that channel their unique abilities into meaningful action and cultural change. This Authentic Leadership training programmed assists leaders in developing their sense of authenticity and confidence, as well as strong, trusting relationships with others, enhancing their ability to influence and motivate key individuals. It also emphasizes the importance of the leader in fostering ethical decision-making and enlisting key participants**(Goestjahjanti, Novitasari, Hutagalung, Asbari, &Supono, 2020).**

Leaders must be able to recognize their own motivations and emotions, as well as how their personal viewpoint influences how they respond to a given circumstance. Authentic leaders also have high levels of self-control, which allows them to (a) internalize their principles and values, (b) evaluate their own behavior within this internalized framework, and (c) discover discrepancies and formula actions needed to reconcile those discrepancies. This ability to self-regulate enables leaders to expand their self-awareness and digest both external and internal information in a balanced and unbiased manner. Furthermore, both directly and indirectly, honest leadership predicts staff innovation. In today's fast-paced workplace, innovation is critical for gaining a competitive advantage. Employees' creativity can be boosted by their boss satisfying job requirements, providing response on creative goal progress, and rewarding them. Staffs that are internally motivated for a task are more likely to be creative. As a result, experts suggest that intrinsic drive encourages followers to be more creative (**Muceldili, Turanc, &Erdilb, 2013, Hidayat, 2016).**

Significance of the study

A good leader sets the tone for the unit. in healthy work, environments are much more likely to have nurse leaders who fully embrace creating a culture of compassionate care for team members and patients. Authentic leadership also prepares nurses with the skills and encouragement they need to grow in their practice. The result is a more knowledgeable, cohesive unit that

consistently elevates patient care. Organizations now are far more concerned with assisting employees/workers in improving job performance rather than managing and dominating them. One of the most important related elements that influence creativity and novelty is leadership**(Mubarak & Noor, 2018).**

Leaders are critical in allowing and supporting the growth and nurturing of creativity and novelty. To promote a healthy organizational climate, it is critical to cultivating a sincere relationship between the leader and the employee. Authentic leadership has gotten a lot of attention recently as a result of a paradigm shift caused by numerous instances in various organizations. Leaders help followers discover meaning and affiliation at work, making a big influence in hospitals, and authentic leadership has conventional a lot of attention in this regard**.** consequently, our study aims to measure the effect of the authentic Leadership training program on staff nurses' creativity and motivation.

Research hypothesis

The knowledge score of a head nurse immediately after implementing the educational program and during the follow-up periods of the post-test will be higher than before implementing the educational program.

Self-assessment test scores of head nurses about authentic leadership style immediately after implementing the educational program and during the follow-up periods of testing will be higher than before implementing the educational program.

Staff nurse's test scores of creativities after implementing the educational program and during the follow-up periods will be higher than before implementing the educational program.

Staff nurse's test scores of motivations after implementing the educational program and during the follow-up periods will be higher than before implementing the educational program.

Methods

The study design:

A quasi-experimental research design was utilized in this study.

The study Subjects and setting:

All head nurses (36) working in the inpatient and outpatient unit and all staff nurses working in the same unit (n= 246) at Specialized Medical Hospital, Mansoura University, Egypt.

Tools of data collection:

A self-administered questionnaire was used to collect demographic and occupational data in addition to the following tools.

1.Authentic leadership style knowledge questionnaire.

This tool was designed to collect data from head nurses to assess their knowledge about authentic leadership, the questions were constructed in either form of true & false, multiple choices. The tool was produced by the researchers next reviewing of related works of literature **(Bamford, Wong &Laschinger, 2013, Hinojosa et al,**

2014, Semedo et al., 2017, Baquero et al, 2019.)

The tool contained (51) questions grouped under five headings as follows: authentic leadership, balanced processing, rational transparency, self-awareness, and internalized moral perspective. The questions scored as "1" for the true answer and "0" for the false answer. So, the scoring system represents varying levels of nurse's knowledge ranging from a low level of knowledge and a high level of knowledge for a higher score, the higher knowledge of the head nurse about the authentic leadership style.

2. Authentic Leadership Self-Assessment Scale:

This scale was developed by **Northouse, (1999).** It was used to assess nursing head nurses' authentic leadership behavior. It consisted of 16 items are grouped into four subscales. which include self-awareness "4" items, internalized moral perspective "4" items, balanced processing"3" items, and relational transparency "5" items. There are no right or wrong responses. The subject's responses were on five points Likert scale ranging (from " Strongly Disagree 1 to Strongly agree (5) ". You can understand your authentic leadership scores using the following guideline: high = 16–20 and low = 15 and below. Scores in the upper range indicate stronger authentic leadership, whereas scores in the lower range indicate weaker authentic leadership.

3. Creativity Scale of Nurses Staff:

This scale was developed by **Zhou, & George, (2001).** It is used to assess nurses' creativity has been provided by head nurses. The questionnaire consisted of 13 items. 3 items in the scale were adapted from Scott and Bruce (1994) and the other 10 items were developed by George and Zhou (2001). Responses rated of both scales have been measured by using a 5-point Likert type scale from 1 to 5 with 1 "Strongly Disagree", 2 "Disagree", 3 "Neutral", 4 "Agree", and 5 "Strongly Agree.

4. Motivation Scale of Nurses Staff

The scale was developed by **Mbindyo et al, (2009) (adapted from Bennet et al, 2001)** which was adopted and modified by the researchers to meet the purpose of assessing nurses' motivation provided by head nurses. The questionnaire included 23 questions (from 8 underlying motivation constructs) related to motivational outcomes, which include general motivation 3 items, burnout 2 items, job satisfaction 3 items, intrinsic job satisfaction 3 items, organizational commitment 3 items, whereas conscientiousness and self-efficacy 3 items, timeliness 3 items, and personal issue 3 items. The responses rated on 5 points Likert scale ranging from (1) strongly disagree (5) strongly agree. For the mentioned attributing factors of motivation, a mean score "above 3" was considered motivated, whereas a score of "3 and below" was considered unmotivated.

The tools validity and reliability:

The tool was interpreted by the researcher into Arabic and tested for its content validity and relevance by five experts in nursing administration from Mansoura and Alexandria faculties of nursing, and accordingly, the necessary modification was done. Also, tools were tested for their reliability using the Cronbach's alpha coefficient; Head nurse

internal consistency reliability for authentic leadership style knowledge questionnaire, and self-assessment scale(0.956& 0.895) respectively. Nurses staff internal consistency reliability for creativity scale (0.891) and Motivation scale (0.846).

The study was carried through the following stages: Assessment and planning, implementation, and evaluation phase.

The assessment and planning phase:

Official approval from the authoritative hospital personnel and ethical approval was got from the Research Ethics Committee of Faculty of Nursing, Mansoura University to conduct the study was got before starting the study. Verbal consent of participants was obtained and voluntary participated in the research

A pilot study was conducted on (10%) of the participants (6) head nurses and (25) nurses from different departments in specialized medical hospitals, that randomly selected the study sample, and excluded from the total sample. Based on the pilot study, a necessary modification was made**.**

Assess the staff nurses' perception of motivation and creativity before starting the head nurses' program. The time required to answer this sheet was 25-35 min, data obtained in one month from the beginning to the end of January 2021.

The implementing phase (implement authentic leadership style training program):

1- Actual fieldwork started at the end of January 2021 and was finished in the middle of February 2021. Data collected through meeting with head nurses and staff nurses and explains the purpose of the study to them. They were reassured that the information collected would be used for scientific research and that it would be used only for the study.

2-Authentic leadership knowledge questionnaire was administered to the head nurses as (pre-test) before the beginning of the program, and post-program as well as after three months of the program for all head nurses to collect data related to their level of knowledge regarding authentic leadership.

3-The training program was developed based on the results of the assessment and planning after the review of related literature as well as the teaching sessions and time schedules were developed. The program discussed other related topics include; description and importance of authentic leadership, the Theory of authentic leadership, successful authentic leaders, and the future of authentic leaders. In addition, explain Authentic leadership was described as the "glue" needed to hold together a healthy work environment. Now, the roles and relationships of authentic leaders in the healthy work environment are clarified as follows: An expanded definition of authentic leadership and its attributes (e.g., genuineness, trustworthiness, reliability, compassion, and believability) is presented. Mechanisms by which authentic leaders can create healthy work environments for practice (e.g., engaging employees in the work environment to promote positive behaviors) are described. A practical guide on how to become an authentic leader is advanced.

4-The program was carried out two times, the researcher was classifying

subjects into two groups, according to the working at departments, the first time; all those who work in quality, infection controls, and safety of all departments, and supervisors of four flours, the second time; one head nurse from each department working in all hospital departments, one head nurse another from each department working in all hospital departments. every one comprised of (15 - 17) head nurses, the program was implemented for 2 weeks. One working week for each group of head nurses. Each group was had three sessions per week and each session was had (2) hours.

5- The program was implemented for head nurses in room conferences on the third floor at the studied hospital. The following teaching methods were utilized: brainstorming, discussion, work in small groups, and lecture-discussion.

6- Different methods of teaching were used (lecture, discussion, role-play, group work, audiovisual material............ etc.).

Evaluation phase:

Head nurse's knowledge and self-assessment about authentic leadership style distributed again at the end and after three months of the program to comparison with the pre-test. Also, evaluating of the aim, mediate and after three months of the program effect of an authentic leadership training program on staff nurse's creativity and motivation were. The follow-up period was filled in a period in Mayo 2021.

Statistical analysis:

Data were computed and statistically analyzed using the SPSS software program Version 23.0. (IBM Corp. Released 2012, IBM SPSS Statistics for Windows; Armonk, NY, USA). Categorical variables were presented as numbers and %. Quantitative data were tested. They were presented as mean and SD. Repeated measure ANOVA with Bonferroni post hoc was used for comparison between different follow-ups. Pearson's correlation coefficient was used to calculate the correlation between variables. The difference was considered significant if $P \leq 0.05$.

Results

Table (1): All head nurses were married females and have a Bachelor of Nursing. Table 1 shows that the overall knowledge score of head nurses increased significantly in the post and late follow-up (50.4 and 50.3; respectively) compared to 5.6 in the pre-intervention. However, there is no significant difference between post and late intervention as revealed by post-hoc multiple comparisons. The same pattern persists in different age groups, work duration, and work units. The mean score shows no significant differences between categories of different variables at the three times.

Table (2): shows that the overall auth. A score of head nurses increased significantly in the post and late follow-up (79.5 and 77.6; respectively) compared to 58.3 in the pre-intervention. This significant difference persists between the post & late follow-up after intervention as revealed by post-hoc multiple comparisons in the overall scale and those with ≤10 years experience. The mean score shows no significant differences between categories of different variables at the three times, except in pre-intervention as the score is significantly higher in head nurses of critical care units than general units.

Table (3): shows that the overall creativity score of staff nurses increased significantly in a post and late follow-up (91.0 and 91.6; respectively) compared to 66.0 in the pre-intervention. This significant difference persists between the post & late follow-up after intervention as revealed by post-hoc multiple comparisons in the overall scale and different categories of different variables. The mean pre-intervention score is significantly higher in nurses aged ≤30 years, of ≤10 years experience, and those working in general units. The post-intervention score varies significantly with age, work duration, and work unit. The late intervention score varies significantly with qualification.

Table (4): All staff nurses are females. shows that the overall motivation score of motives of staff nurses increased significantly in the post and late follow-up (91.0 and 91.6; respectively) compared to 66.0 in the pre-intervention. This significant difference persists between the post & late follow-up after intervention as revealed by post-hoc multiple comparisons in the overall scale and most of the categories of different variables. The mean pre-intervention score is significantly higher in nurses aged ≤30 years, of ≤10 years experience, and those having Institute degrees. The post-intervention score varies significantly with work unit. The late intervention score varies significantly with marital status, qualification, and work unit.

Table (5): There are weak non-significant correlations between Knowledge and Auth of head nurses at different follow-up times. There were positive significant correlations between motivation and creativity of staff nurses the immediate and late follow-ups [r=0.25(P=0.04) & r=0.22 (≤0.001); respectively]. (table 5).

Table (1): Distribution of head nurses' total authentic leadership knowledge throughout the program at Specialized Medical Hospital (No =36)& its variation with participants' characteristics.

	Total	Pre Mean±SD	Post Mean±SD	Late Mean±SD	P of Repeated measure ANOVA
Overall	36(100)	5.6±2.3[A,B]	50.4±0.8[A]	50.3±1.1[B]	≤0.001
Age (years):	8(22.2)	6.8±1.7[A,B]	50.1±1.1 [A]	44.8±1.8 [B]	≤0.001
≤30	77(77.8)	5.2±2.4[A,B]	50.5±0.7 [A]	50.4±0.8 [B]	≤0.001
>30					
Significance (p of unpaired t)		0.1	0.3	0.1	
Duration of experience (years):	20(55.6)	6.0±2.5[A,B]	50.2±0.9 [A]	50.0±1.3[B]	≤0.001
≤10	16(44.4)	5.0±2.1[A,B]	50.8±0.6 [A]	50.7±0.6 [B]	≤0.001
>10					
Significance (p of unpaired t)		0.2	0.03	0.1	
Work unit:	15(41.7)	5.7±2.2[A,B]	50.6±0.5 [A]	50.1±1.5 [B]	≤0.001
General	21(58.3)	5.4±2.4[A,B]	50.3±1.0 [A]	50.5±0.7 [B]	≤0.001
Critical					
Significance (p of unpaired t)		0.7	0.3	0.3	

A,B,C significant difference between different times by Bonferroni 's post hoc multiple comparisons

Table (2): Distribution of head nurses' self-assessment authentic leadership throughout the program at Specialized Medical Hospital (No =36) & its variation with participants' characteristics.

	Total	Pre Mean ±SD	Post Mean ±SD	Late Mean ±SD	P of Repeated measure ANOVA
Overall	36(100)	58.3±9.8[A,B]	79.5±1.2[A,C]	77.6±3.4[B,C]	≤0.001
Age (years):	8(22.2)	56.9±6.9[A,B]	79.8±0.5[A]	76.3±4.4[B]	≤0.001
≤30	77(77.8)	58.7±10.6[A,B]	79.4±1.3[A]	78.0±3.0[B]	≤0.001
>30					
Significance (p of unpaired t)	0.7	0.5	0.2		
Experience (years):	20(55.6)	56.3±10.6[A,B]	79.4±1.1[A,C]	76.7±4.0[B,C]	≤0.001
≤10	16(44.4)	60.3±8.4[A,B]	79.6±1.3[A]	78.8±2.1[B]	≤0.001
>10					
Significance (p of unpaired t)	0.2	0.7	0.1		
Work unit:	15(41.7)	54.3±11.0[A,B]	79.5±1.1[A]	77.3±3.9[B]	≤0.001
General	21(58.3)	61.1±7.9[A,B]	79.5±1.2[A]	77.8±3.1[B]	≤0.001
Critical					
Significance (p of unpaired t)	0.04	0.98	0.7		

A,B,C significant difference between different times by Bonferroni 's post hoc multiple comparisons

Table (3): Distribution of nurses, motivation throughout the program at Specialized Medical Hospital (No =246) & its variation with participants' characteristics.

	Total	Pre Mean±SD	Post Mean±SD	Late Mean±SD	P of Repeated measure ANOVA
Overall	246(100)	26.3±3.5[A,B]	59.3±3.9[A,C]	57.4±5.7[B,C]	≤0.001
Age (years):	126(51.2)	26.9±2.8[A,B]	60.1±3.5[A,C]	58.0±6.1[B,C]	≤0.001
≤30	120(48.8)	25.6±4.0[A,B]	58.6±4.1[A,C]	56.6±5.2[B,C]	≤0.001
>30					
Significance (p of unpaired t)	0.004	0.002	0.051		
Experience (years):					
≤10	138(56.1)	26.8±3.0[A,B]	59.8±3.8[A,C]	57.7±6.2[B,C]	≤0.001
>10	108(43.9)	25.7±3.9[A,B]	58.7±4.0[A,C]	56.9±5.1[B,C]	≤0.001
Significance (p of unpaired t)	0.012	0.021	0.2		
Marital status: Single	29(11.8)	27.0±3.1[A,B]	60.2±2.6[A,C]	55.4±7.7[B,C]	≤0.001
Married	217(88.2)	26.2±3.5[A,B]	59.2±4.0[A,C]	57.6±5.4[B,C]	≤0.001
Significance (p of unpaired t)	0.2	0.2	0.048		
Qualification:	211(85.8)	26.1±3.6[A,B]	59.4±4.2[A,C]	57.7±5.9[B,C]	≤0.001
Institute	35(14.2)	27.2±1.8[A,B]	58.9±0.5[A,C]	55.0±4.1[B,C]	≤0.001
Nursing diploma					
Significance (p of unpaired t)	0..1	0.5	0.008		
Work unit:	188(76.4)	27.0±2.5[A,B]	60.1±3.0[A,C]	57.5±5.9[B,C]	≤0.001
General	58(23.6)	23.8±4.8[A,B]	56.8±5.1[A,C]	56.8±5.1[B,C]	≤0.001
Critical					
Significance (p of unpaired t)	≤0.001	≤0.001	0.4		

A,B,C significant difference between different times by Bonferroni 's post hoc multiple

Table (4): Distribution of nurses, motivation throughout the program at Specialized Medical Hospital (No =246)& its variation with participants' characteristics.

	Total	Pre Mean±SD	Post Mean±SD	Late Mean±SD	P of Repeated measure ANOVA
Overall	246(100)	66.0±3.5[A,B]	91.0±1.1[A,C]	91.6±2.1[B,C]	≤0.001
Age (years):	126(51.2)	66.7±3.2[A,B]	91.0±1.1[A]	91.5±2.0[B]	≤0.001
≤30	120(48.8)	65.4±3.7[A,B]	90.9±1.0[A,C]	91.7±2.1[B,C]	≤0.001
>30					
Significance (p of unpaired t)		0.003	0.4	0.6	
Experience (years):					
≤10	138(56.1)	66.7±3.1[A,B]	91.9±1.3[A]	91.5±2.0[B]	≤0.001
>10	108(43.9)	65.2±3.7[A,B]	90.9±1.0[A,C]	91.7±2.2[B,C]	≤0.001
Significance (p of unpaired t)		≤0.001	0.4	0.4	
Marital status: Single	29(11.8)	65.8±2.2[A,B]	91.1±1.4[A]	90.4±2.1[B]	≤0.001
Married	217(88.2)	66.1±3.6[A,B]	91.0±1.0[A,C]	91.7±2.0[B,C]	≤0.001
Significance (p of unpaired t)		0.7	0.5	≤0.001	
Qualification: Institute	211(85.8)	66.4±3.5[A,B]	91.0±1.1[A,C]	91.8±1.8[B,C]	≤0.001
Nursing diploma	35(14.2)	63.7±2.3[A,B]	90.8±0.9[A]	90.2±2.8[B]	≤0.001
Significance (p of unpaired t)		≤0.001	0.4	≤0.001	
Work unit:	188(76.4)	66.0±3.4[A,B]	90.9±1.1[A,C]	91.4±2.3[B,C]	≤0.001
General	58(23.6)	66.1±3.8[A,B]	91.3±1.1[A,C]	92.2±1.2[B,C]	≤0.001
Critical					
Significance (p of unpaired t)		0.9	0.008	0.013	

A,B,C significant difference between different times by Bonferroni 's post hoc multiple comparisons

Table (5): Correlation between head nurses, total knowledge, self-assessment about authentic leadership, nurses, creativity, and motivation during different times of testing at Specialized Medical Hospital.

Knowledge Head nurses			
	Knowledge pre r(P)	Knowledge post r(P)	Knowledge late r(P)
Auth. Pre	-0.1(0.6)		
Auth. Post		0.1(0.5)	
Auth. late			-0.1(0.4)
Staff nurses			
	Motivation pre r(P)	Motivation post r(P)	Motivation late r(P)
Creativity pre	0.25(0.04)		
Creativity post		0.1(0.2)	
Creativity late			0.22(≤0.001)

Discussion

The finding of the present study related to the personal characteristic of head nurses indicated that (77.8%) in the age group more than >30 years, more than half of them (55.6%) is less than 10 years of experience and (58.3%) of head nurses working in the critical unit, all of the head nurse (100%) were married and all of them (100%) have baccalaureate degree of nursing.

In the present study, regarding personal characteristics of staff nurses, that (51.2%) of staff nurses are in age group less than 30 years, more than half of them (56.1%) have less than 10 years of experience; the majority (88.2%) of them were married; also, the majority of staff nurses (85.8%) have technical institute of nursing and more than two-thirds (76.4%) of the sample work in the general department.

The result of the present study revealed that there were highly statistically significant differences in a total of head nurses about authentic leadership style knowledge at the three times of the program (pre-test, immediately and, three months after the program implemented). Head nurses were a low level of knowledge about authentic leadership style preprogram and significantly authentic leadership style improved to high immediately post and after three months of the program implementation. This may be attributed to the head nurse's misbehavior of authentic leadership before the program may be due to the fact that the head nurses have been performing their task without any strategies of authentic leadership all this leads to dissatisfaction with leadership behavior. Meanwhile, an improvement that happens for the greatest of head

nurses in authentic leadership behavior after the program can be related to that the most of head nurses have applied several authentic leadership strategies including (self-awareness, balanced processing, relational transparency, and an internalized moral perspective).

This result in accordance with the results of **Ali, Saad, &Alshammari, (2019)** study conducted at Benha University Hospital who have revealed that there is a statistically significant correlational improvement in both the studied head nurses' knowledge and attitude regarding authentic leadership after implementation of the program.

In addition, **Frasier, (2019)** added that a quantifiable rise in authentic leadership performances was established in both the self-assessments and head nurses' direct report assessments, with statistical significance achieved in self-awareness behavior. Managers apparent better self-awareness, and direct reports apparent positive modification in managers' use of authentic leadership performances.

Also, the assessment of the head nurse's knowledge regarding authentic leadership style before the program indicates that it was below the acceptable level. This finding might be attributed to the fact that the majority of head nurses did not attend a previous training program in authentic leadership style, so the head nurses in Specialized Medical Hospital who attended authentic leadership program did not have any information about authentic leadership strategies prior to this study. The lack of such a training program is due to a lack of concern from responsible authorities in the hospital. In addition, when the knowledge score of almost all participants improved after the program implementation, this indicated

that the participants were highly interested in the program contents, media, and methods of teaching which were employed successfully in simulating their enthusiasm. Moreover, the majority of head nurses were at a young age which showed more readiness and more capacity for learning as well as having easy knowledge retention. Also, all head nurses were willing to attend authentic leadership training programs to increase their knowledge.

These results agree with the result of **Elmawlael al., 2020** who showed that the knowledge of head nurses at two hospitals affiliated to Ministry of Health namely Elmenshawy General Hospital and Kafer El sheikh General Hospital was below the acceptable level before implementing the program and also, reported that Preprogram no one had a good level of total knowledge, changed to be all and 98.6% of head nurses got good level respectively. Immediate and three months post-program.

Also, the results of the present study were in agreement with **Rashed& Ali El-Said, (2020)** study was conducted at Minia governorate Hospital and which mentioned that the total knowledge score and levels of authentic leadership style among head nurses were low before the program implementation; after the program implementation, they had higher scores with statistically significant differences and added that this outcome might be assigned to the fact that the head nurses before program implementation don't recognize the importance of authentic leadership style. Also, the head nurses had low knowledge about authentic leadership style, because they studying leadership many years ago and there is no update or refreshment of their knowledge.

The finding of the present study reported that there is no significant difference between personal characteristics and authentic leadership except in pre-intervention as the score is significantly higher in head nurses of critical care units than general units. In 2005, the American Association of Critical-Care Nurses released a landmark publication specifying (6) standards (skilled communication, true collaboration, effective decision making, appropriate staffing, meaningful recognition, and authentic leadership) necessary to establish and sustain healthy work environments in healthcare.

This result agrees with **Smith, (2018)** reported no significant relationships found between age, years of experience in the organization, and years of experience in the unit, to any of the main study variables (authentic leadership). on the other hand, this result disagrees with **Ali, Saad, &Alshammari, (2019**) who revealed that there was a positive statistically significant correlation between ages, years of experience, educational and authentic leadership.

The result of the current study illustrated that staff nurse's motivation by (head nurses) increased immediately after program implementation and after three months of the program when to compare with pre-program implementation with highly statistically significant differences during different times of testing. This may be related to the effect of a training program on head nurses from authentic leadership style can be learned, and followers may respond to such learned behavior positively. Also, the head nurses gain new information, knowledge, and skills to be aware of themselves and others to be self-motivated and motivating others, indeed, motivation,

appointment, health, and happiness of staff nurses in an organization depend on the quality of the head nurses to a great extent. In addition, the head nurses need to be equipped with the skills and behaviors both to engage and to protect the health and wellbeing of their teams.

This result agrees with **Hidayat, (2016)** who established that authentic leaders foster motivation of staff nurses which increases staff nurse's work appointments as long-established. Also**, Yavuz, (2020)** added that leadership theories might help to improve positive psychological abilities and positive attitudes of both leaders and their followers, and how these leadership theories contribute to the development of the management-training programs.

The result of the current study revealed that there is a significant difference between the personal characteristic of staff nurses and motivation in the pre-intervention score is significantly higher in nurses aged ≤30 years, of ≤10 years experience, and those having Institute degree. The post-intervention score varies significantly with work unit. The late intervention score varies significantly with marital status, qualification, and work unit. It may be also attributed to younger age; nurses perceived more opportunities to gain more managerial skills to have access to challenging work. Also, enjoyed more opportunities, recognition, skills, and access to knowledge in younger staff nurses. This, in turn, gave them a sense of control over their work and high self-esteem which made them organize work in their organization.

Also, the result of the current study illustrated that staff nurse's creativity by (head nurses) increased immediately after the program and after

three months of program implementation when compare with pre-program implementation with highly statistically significant differences during different times of testing. This may be related to the leaders give good responses to staff nurses and authorize them to think independently which enhances their creativity.

This agrees with **Khan, Khan, &Rasheed, (2019)** who suggest that authentic leadership plays a significant role in creating a culture of knowledge sharing and creativity. Moreover, leaders are also concerned about the well-being of staff nurses. In addition, authentic leaders through knowledge sharing affect nurse's creativity. Also, **Rego, Sousa, Marques, & e Cunha, (2014)**showed that authentic leadership improves staff nurses' creativity, and provides valuable insights for both scholars and practitioners. By promoting authentic leadership, and staff nurses' confidence and positive effect, organizations may increase staff's creative performance, creativity being a significant trail to organizational performance.

In addition**, Mubarak, &Noor, (2018)** added that the creativity of staff nurses is strongly linked to authentic leadership, work assignment, and psychological empowerment. Furthermore, it was discovered that more engaged staff nurses at work were more creative and that a sense of empowerment mediates the relationship between authentic leadership and the creativity of staff nurses.

Research by Rego et al., (2014) found that Positive affect was shown to be partially mediating the association between supervisors' authentic leadership and staff creativity, indicating that authentic leadership has a spillover

impact. The spillover effect is a particularly important component of genuine leadership theory because related theories of leadership such as transformative, charismatic, or servant leadership do not explicitly mention this relationship between leader and follower. **(Smith, 2015).**

According to the findings, there were positive substantial relationships between nurse's staff creativity and motivation. This attributed to This is since good leaders can alter staff nurses' work attitudes and actions, which is the fundamental driver that organizes an engaged workplace. Authentic leaders also help their followers feel more psychologically, physically, and cognitively empowered, allowing them to feel more in control. This result agrees with **Choi, &Behm-Morawit (2020)** who reported that the significant between creativity and motivation. Also, this results in the same line with **Hahm, (2018)** who reported that motivation has a significant effect on creativity. While, this result disagrees with **Hassan, & Din, (2019)** who indicate that Authentic leadership had a considerable impact on faculty members' creativity, although intrinsic motivation had no bearing on creativity. Knowledge sharing mediated the association between employee creativity, however, there was no mediation impact for intrinsic motivation or authentic leadership with employee creativity, according to the findings.

Conclusions and recommendations:

Head Nurses, who had good knowledge about authentic leadership, showed an increased nurse's staff creativity and motivation, which enhance the organization's success.

The study recommended the following:

1. Authentic leadership and mindfulness educational training programs recommended to provided periodically for head nurses to keep them updating their essentials knowledge and practice regarding authentic leadership and mindfulness

2. An authentic leadership educational program is recommended to be recognized and implemented for all head nurses who in a management position in the nursing field in other hospitals as needed. Hospital and Nursing administrators should do their best for keeping and enhancing staff nurses' organizational commitment.

3. Use an authentic leadership style to foster a culture of knowledge sharing and allow employees more autonomy. Furthermore, genuine leaders are open to new ideas and accept personal and organizational criticism with open arms. This helps employees relieve job-related stress, which improves employee morale and gives the company a competitive advantage. Faculty should work with parents/guardians and high-achieving students to develop best practices for promoting internal locus of control and emotional management in high-achieving students.

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