



Effect of Physical Activity and Health Behavior on Staff Nurses' Job Performance

Sara Mostafa Mohamed¹, Ali Mostafa Ghalab²

¹ Administration Department Faculty of Nursing Tanta University –Tanta.

² Gymnastics, Exercises, Kinetics and Performance Show, Faculty of Physical Education, Tanta University –Tanta.

ABSTRACT

Background: Performing physical activity on a regular basis and having proper health behaviors can bring many benefits to staff nurses as improving their job performance with having more energy to complete the work allocated to them which affect positively on the quality of patient care. **Aim** of this study was to explore the effect of physical activity and health behavior on staff nurses' job performance. **Methods: Design:** Descriptive - cross sectional research design was used. **Subjects:** The study included representative sample (35%) from all staff nurses (314) working at Tanta Emergency Hospital and the total sample was (110) of staff nurses. **Tools:** Three tools for data collection were used. Tool (I): Physical Activity Questionnaire. Tool (II): Health Behavior Assessment Scale. Tool (III): Staff Nurses' Job Performance Observation Checklist. **Results:** High percent (77.3%) of staff nurses had low level of physical activity and 69.1% and 45.5% of them had moderate level of health behavior and job performance respectively. **Conclusion:** It was concluded that significant positive correlation between staff nurses' job performance with physical activity and health behavior. **Recommendations:** Hospital administrators need to hold in service education programs on healthy behaviors and physical activity to promote nurses' health and ensure raising level of their performance.

Key words: Physical Activity, Health Behavior, Job Performance, Staff Nurses.

Introduction

The nursing profession is a very demanding job which staff nurses are responsible for assessing and monitoring patients' changing conditions, coordinating their care, administering medications precisely and communicating with the patients and their families. Professional nursing work is characterized by physical activity involving stable motion inside the ward and hospital (Iyaoromi et al., 2016). Due to the nature of their job, staff nurses become at high risk for musculoskeletal injuries result from lifting, transport the patients or other postural requirements of their job (Hemed et al., 2017). These injuries not only impact their health, but also impact on their work performance

and productivity (Gotte et al., 2017). Nurses' job performance reflects the quality of delivered care and consequently patient outcomes and if staff nurses do not have enough physical fit or ignore their own health behavior, not only their health will be declined but also their performance will be affected (Wilkerson et al., 2017). Generally, job performance viewed as behaviors enacted by staff nurses that are designed to meet hospital objectives. It refers to nurses' effectiveness in carrying out their roles and responsibilities related to direct and indirect patient care (Hee & Kamaludin, 2016 & Mahmoud et al., 2020).

Staff nurses' job performance involves two domains: task and contextual performance. Task

performance includes activities that are performed as part of nurses' job and contributed directly to organizational productivity such as provision and coordination of care, while contextual performance refers to social environment in which activities must be performed such as interpersonal support and job-task support and there are multiple variables influence nurses' job performance e.g. management skills, achievement recognition, career competencies, nurses' age and educational level, work satisfaction, training, social support, supportive communication and feedback (Al-Makhaita et al., 2014 & Al-Homayan et al., 2013).

Hospitals cannot be successful without effective performance so, performance appraisal is necessary to provide information to higher authority about effectiveness of staff nurses when doing their job and to ensure that quality of care is met (Islam et al., 2019).

Therefore, the hospitals need to maintain safe environment and respect the rights, responsibilities and needs of all health professionals. Specifically, they need to consider the importance of staff nurses' health for good job performance like provision of appropriate information and training on health issues and the availability of health promoting practices (Mokhtar & Mohamed, 2019).

As physically fit nurses with proper health behaviors are necessary to promote their healthy living and tend to be more productive and healthier with sick less, less absenteeism and have more energy to complete the work allocated to them which positively effect on the quality of patient care and the effectiveness of the hospital (Almajwal, 2015).

Regular performing physical activity is an effective strategy for preventing numerous physical and mental health issues and improving work performance outcomes (Ryde et al., 2020). Physical activity is any

body movement produced by skeletal muscles resulting in a significant increase of energy above resting conditions. Physical activities are those that are performed in addition to usual activities such as occupational activity, carrying out household chores, doing activities of daily living (walking, dressing...etc.) or other recreational activities and these activities are planned and often done at leisure time Al-Loprinzi & Klainin-Yobas, 2015).

Engaging in regular physical activity is one of the best ways to improve general health, enhances physical fitness and health-related behavior, prolonging life, weight management and improves individuals body's immune system that allow them to carry out the requirements of life, whether in their work or life as well as lowering the risk of morbidity and mortality from diseases such as reduce the risk of hypertension, heart disease, diabetes, stroke in addition to reduce stress (Moshibah et al., 2015 & Mundwiler et al., 2017).

Performing physical activity makes nursing staff to obtain energy resources such as physical resources such as better cardiorespiratory capacity, cognitive resources such as good mental distractor from job demands and emotional resources such as regulate one's own feelings, understand the feelings of others and use that feeling knowledge to guide one' thoughts and actions (Beltrán et al., 2020).

In addition, physical activity lower nurses' sickness absence and increase retention to their workplace which the workplace is considered to be an ideal environment to promote physical activity that nurses spend the majority of their working hours at the workplace (Waksmańska et al. & Jirathananuwat & Pongpirul, 2017).

For assessing the physical activity of its type

(leisure-time activity, household or occupational) must include three components: frequency, duration and intensity. Frequency describes the number of times that the activity is undertaken in given period (e.g. two times / week). Duration involves the total time spent in activity during the same period (e.g. 20 min / week). Intensity informs the amount of energy expenditure by individual during the activity and classified into three levels: light, moderate or vigorous (Al-Tannir et al., 2017 & Hosseini et al., 2015).

Staff nurses who do not participate in physical activity with degree of sedentary behavior suffer from physical or psychological problems as heart disease, obesity and mental disorders such as anxiety (Bakhshi et al. & FitzGerald, 2015). The reasons for not engagement in physical activity may include personality factors such as lack of interest of physical activity, lack of self-motivation, too tired, lack of energy, lack of skills and abilities or work-related factors such as being exposed to job stressors, too many job responsibilities, busy learning schedule or busy work schedule which negatively affect physical activity participation after work (Blake et al., 2016 & Nebert et al., 2017).

On the other hand, being healthy is an important aspect in one's life and is a prerequisite for having long life. Health behavior is necessary for the overall performance of staff nurses at work. It affects not only nurses own health, but also the health of their future patients as they have responsibilities as role models to provide patients with health promotion advice. It refers to individuals' activities undertaken to prevent or detect possible illnesses and improve their well-being (Schneider et al., 2019). It includes health-promoting behavior such as regular physical activity, healthy diet, stress management, sleep hygiene, no smoking and alcohol consumption and maintaining healthy

relationships also, healthcare services utilization such as periodical health screening, vaccination and adherence to medical treatments such as dietary modification and medication regimen (Ross et al., 2017).

Among all the health behaviors nurses can increase their health potential through firstly, behaviors related to physical health such as taking care of their body, engage in physical activity, eating healthy diet and appropriate sleep duration. Secondly, behaviors related to psychosocial health such as avoiding excessive stress and dealing with problems and tensions. Thirdly, preventive behaviors like self-examination and taking safe behavior in everyday life and finally avoiding risky behaviors like no smoking, no use of alcohol, not abusing non-prescribed medicines or using other psychoactive substances (Chirico & Vossemer et al., 2018).

In fact, healthy nurses are able to face of stressful situations with positive emotions and have better work performance with economic or quality results. While, nurses with poor health behavior are likely to have physical or psychological problems that in turn leading to other problems e.g. nurses quit their profession and increase the problem of nursing shortage (Perry et al., 2018). Having poor health behavior may related to lack of time to prepare healthy meals due to long working hours and being overtired from work leading to increase consumption of fast food or pressure from colleagues to eat unhealthy food that in turn leading to changes in body weight also, occupational stress or occupational health problems such as musculoskeletal pain result from lifting heavy patients as well as and high work demands may negatively affect nurses' health (Almajwal, 2016). Therefore, the hospitals need to provide work environment that encourage physical activity and healthy lifestyles as means for enhancing

nurses' well-being which in turn have positive impact on job performance (e.g. less absenteeism) with more productive workforce (Mutz et al., 2020).

Significance of this study:

Performing physical activity and having proper healthy behavior are necessary for staff nurses' job performance to effectively carry out their role and provide the highest possible quality of patient care through having coping skills for work behavior without becoming stressed, feel more motivated and more effective in their responsibilities. Also, physical activity teaches them to work together as a team which team participation in the hospitals promotes the sharing of ideas and enhances creativity (Marques et al., 2018). As well as physically fit nurses are likely to be physically stronger, has greater endurance, and are less likely to feel fatigue or get sick leading to reduce absenteeism also, able to concentrate much better and responded faster to information relevant to the task in addition, improve ability to make decisions faster and more effectively, solve problems and improve time-management skills which in turn improved the ability to meet deadlines (Chin et al., 2016 & Saridi et al., 2019). Accordingly, this study aims to explore effect of physical activity and health behavior on nursing staff job performance.

Aim of the study

This study aimed to explore the effect of physical activity and health behavior on staff nurses' job performance.

Research questions:

1. What are the levels of physical activity, health behavior and job performance among staff nurses at Tanta Emergency Hospital?

2. Can physical activity and health behavior affect staff nurses' job performance at Tanta Emergency Hospital?

Subjects and method

Study design

Descriptive - cross section research design was used. This design is used to describe, and examine differences in variables in two or more groups that occur in a setting at one given point in time (Grove et al., 2015).

Study setting

The study was conducted at Tanta Emergency Hospital. This hospital lies near the agricultural road of transportation from the capital city Cairo to the main port at Alexandria. It has 450 beds with the following departments: internal medicine, neurosurgery, orthopedics, general surgery, burn care unit, toxicology, urology, radiology, intensive care units and recovery unit. This hospital receives cases of emergencies mainly injuries and road traffic accidents from Gharbia governorate and other nearby governorates in addition to different surgical and medical emergency conditions. The hospital is staffed by 314 nurses who work in different departments in rotating shifts, 78 head nurses in addition to nurses internship students, ancillary workers, and technicians.

Subjects

The study included representative sample (35%) from all available staff nurses (n=314) working at Tanta Emergency Hospital which they are selected randomly and the total sample was (110) of staff nurses.

Tools of data collection for study:

Three tools were used to collect data for this study.

Tool (1): Physical Activity Questionnaire

This tool was developed by researchers guided by Saridi et al. and Sánchez et al. (2019) to assess staff nurses level of physical activity. The tool included two parts: Part (1): personal characteristics including age, marital status, level of education and years of experience. Part (2): physical activity questionnaire to assess staff nurses level of physical activity through (24) items distributed into three domains related to leisure time activity (16 items), household activity (6 items), and work-related activity (2 items).

Tool (2): Health Behavior Assessment Scale

This tool was developed by the researchers guided by Sawicka et al. (2021), Ciupińska and Cypriak (2020) and Sayed and Hussien (2018) to assess level of staff nurses' health behavior through (30) items distributed into three subscales: nutrition (11 items), physical activity (7 items) and personal care (12 items). **Scoring system:** staff nurses' health behavior was measured on a four points Likert Scale, ranging from 4 to 1 as always= 4, sometimes= 3, rarely= 2 and never = 1. The total score was calculated and ranged from 30 to 120; it was categorized into three levels of health behavior as follows: low (30 - 60), moderate (61-90) and high (91-120).

Tool(3): Staff Nurses' Job Performance Observation Checklist

This tool was developed by the researchers guided by Kahya and Oral (2018) and Youssif et al. (2017) to assess level of staff nurses' job performance through (54) items distributed into eight subscales: work habits (7 items), staff relations and communication (8 items), communication with patients (7 items), nursing care plan activities (7 items), material planning and coordination (2 items), safety measures and patient safety (7 items), documentation (9 items) and keeping up-to-date technically (7 item).

Scoring system: staff nurses' job performance was measured on a three point Likert Scale, ranging from (0) for not done, (1) for incomplete done and (2) for done. Performance considered high if the percent score >75, moderate if the percent score 60%-75% and low performance if the percent score < 60%.

Method

Validity and Reliability

The tools were translated into Arabic and reviewed by two experts in nursing administration- Faculty of Nursing- Tanta University, one expert in community health - Faculty of Nursing- Tanta University and one expert in curriculum and teaching - Faculty of Physical Education – Damietta University. The tools were modified based on experts' comments. A pilot study was conducted on (11 staff nurses) were excluded from the actual study sample; to ensure the clarity of the tools and to estimate the required time for completing the tools. Reliability of the tools was tested using Cronbach's alpha coefficient test, its value was (0.87) for tool 1, (0.84) for tool 2 and (0.92) for tool 3 respectively.

Fieldwork

The data was collected by researchers started from the beginning of May 2021 to the end of July 2021. The researchers met the subjects during their work shifts to distribute the questionnaires. The subjects recorded the answer in the presence of the researchers to ascertain all questions were answered. The questionnaire sheets were taken 20-25 minutes for each nurse to be filled. As regards to the staff nurses' job performance observation checklist, the researchers observed each staff nurse during her work three times at different days during morning and afternoon shifts. Each nurse took from 60 to 90 minutes in each observation.

Ethical considerations

The researchers obtained an official permission from Tanta Emergency Hospital responsible authorities to carry out the study. Researchers met the participant staff nurses and explained the purpose of the study to them to gain their cooperation for participation in the study. Informed consent was obtained from each participant nurses. The confidentiality of their responses, and right to withdraw from the study at any time were emphasized.

Statistical analysis:

Statistical analysis is performed by statistical Package SPSS in general (version 20), also Microsoft Office Excel is used for data handling and graphical presentation. Data was collected, coded and organized into tables, and then analyzed using number and percent. Pearson's R was used to verify the correlation. Significance level is considered at $P \leq 0.05$.

Results:

Table (1): Shows the distribution of staff nurses according to their personal data. As regard to nursing staff age, more than half (56.4%) of them had age from 30 to 40 years old with mean scores 33.57 ± 5.8 with range from 24 to 47 years. More than half (57.3%) of staff nurses were married. As regard to education level, more than half (56.4%) of them had Technical Institute of nursing. 61.8% of staff nurses had from 10 to 20 years of experience with mean scores 9.77 ± 4.61 with range from 1-24 years.

Figure (1): Shows level of physical activity among staff nurses. High percent (77.3%) of staff nurses had low level of physical activity while, 14.5% and 8.2% of them had moderate and high level of physical activity respectively.

Table (2): Shows percentage distribution of staff nurses' perception regarding physical activity domains.

There was statically difference among staff nurses' perception regarding physical activity domains. The most (73.6%) of staff nurses were inactive physically at leisure time activity while, the highest level (65.5% and 40%) of them were active physically at household activity and work-related activity respectively.

Figure (2): Shows level of health behavior among staff nurses. The most (69.1%) of staff nurses had moderate level of health behavior while, 20.9% and 10% of them had high and low level of health behavior respectively.

Table (3): Illustrates level of staff nurses' perception of health behavior sub-dimensions. The table shows that there was a statistically significant difference between staff nurses perception of health behavior sub-dimensions. 71.8% and 44.5% of staff nurses had moderate level of health behavior related to personal care and nutrition respectively. But, more than half (54.5%) of staff nurses had low level of health behavior related to physical activity.

Figure (3): Shows level of staff nurses regarding total job performance. Nearly half (45.5%) of staff nurses had moderate level of total job performance while, 30.9%, 23.6% of them had low and high level of total job performance respectively.

Table (4): Illustrates percentage distribution of staff nurses according to their level of job performance. The table shows that there was a statistically significant difference between staff nurses according to their level of job performance. High percent (68.18%, 63.64%, 60% and 59.09%) of staff nurses had moderate level of job performance related to material planning and coordination, staff relations and communication, communication with patients and nursing care plan respectively while, 58.18% of them had low level of job performance related to keeping up-to-date

technically.

Table (5): Illustrates that overall physical activity and health behavior of staff nurses was a statistically significant positively correlated with their total job performance at ($p \leq 0.05$).

Table (6): Illustrates relation between staff nurses' personal data and their overall physical activity and health behavior. There was no a statistically significant correlation between staff nurses ' personal data and their physical activity at ($p \leq 0.05$). And there was a statistically significant positive correlation between staff nurses perceived health behavior and their age, level of education and experience at ($p \leq 0.05$).

Table (1): Distribution of staff nurses according to their personal data (n=110)

Tanta Emergency Hospital					
Staff nurses' personal data	N	%	Staff nurses' personal data	N	%
Age (years)			Experience (years)		
<30	36	32.7	<10	32	29.1
30 – 40	62	56.4	10 – 20	68	61.8
> 40	12	10.9	> 20	10	9.1
Mean±SD	33.57±5.8		Mean±SD	9.77±4.61	
Range	24-47		Range	1-24	
Marital status			Education level		
Single	25	22.7	Diploma in nursing	29	26.4
Married	63	57.3	Technical Institute of nursing	62	56.4
Divorced	8	7.3	Baccalaureate degree	19	17.2
Widow	14	12.7			

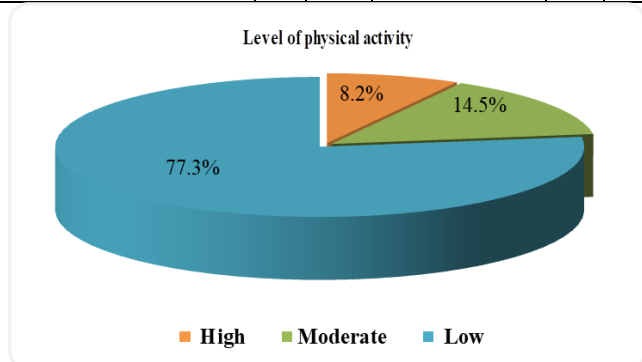


Figure (1): Level of physical activity among staff nurses (n=110)

Table (2): Percentage distribution of staff nurses' perception regarding physical activity domains (n=110)

Physical activity domains	Frequency	Percentage (%)	Chi-square	
			X ²	P-value
Leisure Time Activity			49.164	<0.001*
Active	29	26.4		
Inactive	81	73.6		
Household Activity			21.018	<0.001*
Active	72	65.5		
Inactive	38	34.5		
Work-Related Activity			8.800	0.003*
Active	66	60		
Inactive	44	40		

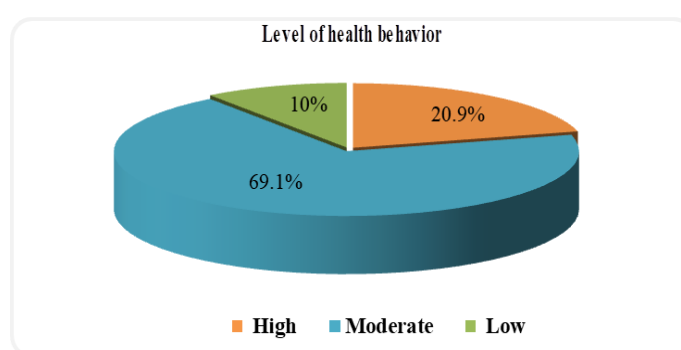


Figure (2): Level of health behavior among staff nurses (n=110)

Table (3): Level of staff nurses' perception of health behavior sub-dimensions

Health behavior scale	High		Moderate		Low		Chi-square	
	No.	%	No.	%	No.	%	X ²	P-value
Nutrition	32	29.1	49	44.5	29	26.4	9.518	0.009*
Physical activity	20	18.2	30	27.3	60	54.5	7.555	0.023*
Personal care	26	23.6	79	71.8	5	4.6	151.309	<0.001*

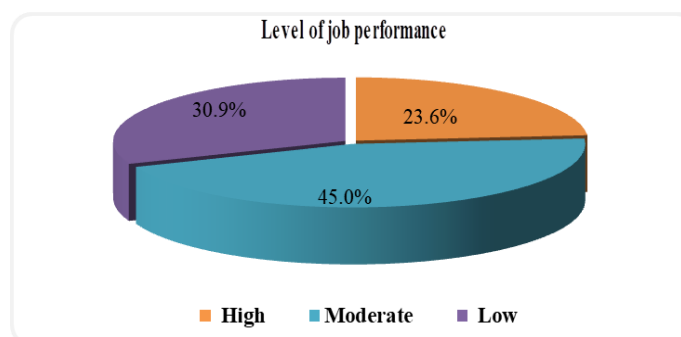


Figure (3): Level of staff nurses regarding total job performance (n=110)

Table (4): Percentage distribution staff nurses according to their level of job performance (n=110)

Nurses' job performance Observation Checklist	High		Moderate		Low		Chi-square	
	No.	%	No.	%	No.	%	X ²	P-value
Work habits	40	36.36	50	45.45	20	18.18	19.091	<0.001*
Staff relations and communication	31	28.18	70	63.64	9	8.18	78.082	<0.001*
Communication with patients	29	26.36	66	60	15	13.64	56.809	<0.001*
Nursing care plan	14	12.73	65	59.09	31	28.18	55.173	<0.001*
Material planning and Coordination	19	17.27	75	68.18	16	14.55	90.355	<0.001*
Safety measures and patient safety	20	18.18	49	44.55	41	37.27	18.355	<0.001*
Documentation	39	35.45	45	40.91	26	23.64	7.718	0.021*
Keeping up-to-date technically	7	6.36	39	35.45	64	58.18	66.791	<0.001*

Table (5): Correlation between staff nurses' overall physical activity and health behavior and their total job performance

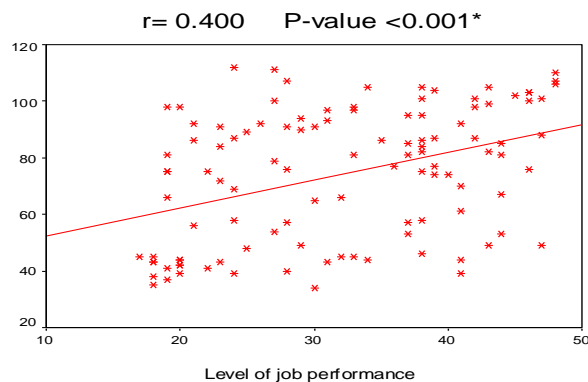
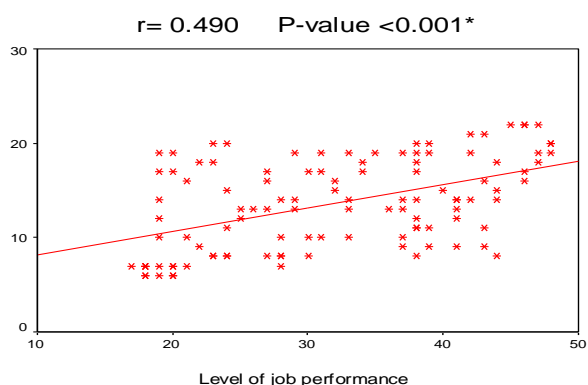


Table (6): Relation between staff nurses' personal data and their overall physical activity and health behavior (n=110)

Demographic characteristics	Physical activity	ANOVA		Health behavior	ANOVA	
		f	P-value		f	P-value
Age (years)						
<30	13.90±4.96	0.077	0.926	60.90±9.40	7.536	<0.001*
30 – 40	13.52±5.00			59.19±8.08		
> 40	13.46±4.16			67.15±8.96		
Marital status						
Single	13.64±4.57	0.252	0.860	65.24±7.83	2.402	0.072
Married	13.33±4.95			59.79±9.19		
Divorced	14.25±5.78			64.00±10.07		
Widow	14.43±3.90			61.36±9.43		
Education level						
Diploma in nursing	13.96±4.67	0.623	0.538	62.79±8.59	8.562	<0.001*
Technical Institute of nursing	13.11±4.88			58.36±8.25		
Baccalaureate degree	14.23±4.67			66.19±9.18		
Experience (years)						
<10	14.12±4.68	0.190	0.827	60.08±9.34	14.808	<0.001*
10 – 20	13.50±4.74			58.72±7.99		
> 20	13.37±5.03			68.93±7.44		

Discussion

Staff nurses play an important role in maintaining patient's health and nurses' job performance require both physical requirements such as handling, lifting and transporting patients and psychosocial and organizational requirements such as increase in working hours and work overload due to staff deficit (Alshahrani, 2020).

Therefore, nursing staff need to engage in healthy lifestyle behaviors such as eating a nutritious diet, engaging in regular physical activity, getting adequate sleep, reducing stress, and ensuring self-examination to enhance their optimal health and promote better job performance (Oliveira et al., 2017 & Hwang & Oh, 2020).

Staff nurses' level of physical activity

The present study points that the most of staff nurses had low level of physical activity. This result could be related to those staff nurses have more family responsibilities which negatively affect the leisure-time of physical activity participation beside, work related duties with too many job responsibilities and being exposed to job stressors make these nurses feel too tired to do some of things they would like to do. At the time most of them had personal problems which reduce the willingness to engage in physical activity. So, these nurses need to prepare them to cope with these challenges and hospital authorities must provide working environments that increase awareness about the benefits linked to physical activity with reducing conditions that interfere with health-related sporting activities in leisure time.

The current study result was in line with Saridi et al. (2019) who found that most of staff nurses had low level of physical exercise due to lack of free time, long working hours also, had lack of interest to participate in

the physical activity. At the same line, Chin et al. (2016) found that the most of nurses don't engage in regular aerobic physical activity. Also, Molina (2017) found that there were low levels of physical activity among healthcare professionals. This result was contraindicated with Bakhshi et al. (2015) found that high percent of registered nurses reported being physically active and Al-Tannir et al. (2017) indicated that 60.2% of nurses reported engaging in physical activity.

The present study results revealed that the most of staff nurses were inactive physically at leisure time activity while, the highest level of them were active physically at household activity and work-related activity. This result may be due to the professional nursing work in a hospital is usually a physically active job involving stable motion inside the hospital and the workplace is considered to be an ideal environment to promote physical activity that nurses spend the majority of their working hours at it but if the work combined with demanding household chores, it can reduce one's ability to engage in physical activities at leisure time. Confirming to our study results Lela and Frantz (2012) who found that the majority of the nurses didn't engage in leisure time physical activities with a high level of job-related physical activity. Also, Peplonska et al. (2014) showed that one-third of night shift and one quarter of day shift nurses reported no leisure-time of physical activity.

Staff Nurses level of health behavior

The current study also demonstrated that the most of staff nurses had moderate level of health behavior which the most of them had moderate level of health behavior related to personal care and nutrition and low level of health behavior related to physical activity. This result may be due to unhealthy workplace social eating practices due to lack of time to prepare healthy

meals due to long working hours and being overtired from work leading to increase consumption of fast food and changes in body weight also, inadequate engage in physical activity, not have regular checkups and occupational stress with high job demands may also, affect staff nurses' health. Therefore, health promotion strategies are urgently required within the workplace to safeguard nurses' health and retention of this workforce.

In agreement with these study findings, Perry et al. (2018) indicated that many nurses have lifestyle health behaviors that place them at high risk for developing non-communicable diseases as they had lower physical activity levels and higher levels of risky drinking across most gender and age groups. Blake and Patterson (2015) found that many nurses were more likely to be overweight or obese, and had poor diet and low levels of physical activity.

Staff Nurses level of job performance

Current study result revealed that nearly half of staff nurses had moderate level of total job performance. This result may be due to those nurses do not have enough physical fit and ignore their own health behavior so, not only their own health will be declined but also their performance will be affected. As they feel too tired and fatigue result from work related duties and too many job responsibilities. At the time most of them had personal problems which reduce ability to work and the results in low performance and productivity. It could be reduced by promoting nurses' health and improving the working conditions.

This result aligned with Hojat and Taheri, (2014) who found that the quality of nurses' performance was assessed as moderate level. While, this result disagreed with Mahmoud et al. (2020) and Safarpour et al. (2018) reported that nurses had high levels of job performance.

Also, Ibrahim et al. (2016) indicated that the performance scores among staff nurses were relatively low which all nurses' performance was incompetent and needs improvement and Morsi and Ebraheem (2020) who found that nearly half (49.80%) of nurses had a low level of performance.

The current study also demonstrated that the most of staff nurses had moderate level of job performance related to material planning and coordination, staff relations, communication, communication with patients and nursing care plan while, more than half of them had low level of job performance related to keeping up-to-date technically. This is due to those nurses respect the ethics of nursing profession, patients' rights and autonomy with adheres to work schedules and follow the applicable laws, rules, policies, and directives. Also, they can collect subjective and objective data about the patient, correct define nursing diagnosis based on assessment data and prescribe suitable intervention clearly. But, they work under system routines, so they do the same tasks every day without exhibit creativity in new methods.

This result aligned with Safarpour et al. (2018) found that highest level of job performance was related to communication and interpersonal relations. Ibrahim et al. (2016) who reported that no one of nurses had acceptable scores related to acquire knowledge in nursing practice, maintain self-learning, and develop abilities that ensure they are knowledgeable on recent developments in the nursing field.

Correlation between physical activity, health behavior and staff nurses' job performance

Current study result revealed that overall physical activity and health behavior of nursing staff was statistically significant positively correlated with their total job performance. This result may be due to regular

physical activity and proper health behavior can improve nurses' health status with having more energy to complete the work allocated to them, lower sickness absence and better retention which affect positively on nurses' job performance and productivity. Therefore, nurses manager of hospital need to stimulate regular physical exercise to all staff with concerning to their health behavior. Along with the present study, Muireann et al. (2017) who found that nurses' personal health behaviour influences their health promotion practice. Bakhshi et al. (2015) indicated that personal physical activity behaviour and body weight were significantly related to nurses' professional physical activity-related practices also, Vatan et al. (2017) found that physical activity had significant effect on the productivity of the staff subjects and stated that the managers that provide programs of physical activities for staff can have many benefits e.g. increase productivity and job performance, cost-effectiveness and reduce absenteeism, turnover, reduced sick leave, disability in addition to improving brand of the company.

Relation between staff nurses' personal data and their overall physical activity and health behavior

Current study result revealed that there was no a statistically significant correlation between staff nurses' personal data and their physical activity. This result may be related to any individual at any level of age groups with any level of education and experiences can engage in regular physical activity. This result aligned with Al-Tannir et al. (2017) found that no significant association between age and physical activity. Jun et al. (2019) found that there was no significant difference in the physical activity of workers in the hospital regarding marital status. Contrasting findings were reported by Almajwal (2015) ⁽⁹⁾ showed that nurses over the age of 50 reported engaging in low levels of

physical activity. Jirathananuwat (2017) reported that younger nurses engaged in significantly more work-related physical activity. Also, Chin et al. (2016) found that nurses with a higher level of education engaged in less physical activity than nurses with an undergraduate degree or high school diploma and showed that being married was negatively associated with leisure-time physical activity levels.

Results of the current study clarified that there was a statistically significant positive correlation between staff nurses perception of health behavior and their age, level of education and experience. This result may be due to high level of education and increase nurses' age increase their experience to have more knowledge and skills about how to maintain proper health behaviors that are essential in maintaining their optimal health and preventing chronic illnesses. It affects not only their own health, but also their performance at work place. In agreement with these study findings, Perry et al. (2018) who found that young female nurses with worse eating and physical activity behaviors. Brogan et al. (2021) found that new graduate nurses experience the same difficulties in maintaining healthy lifestyles as more experienced nurses.

Limitations of the study

Difficulty in data collection due to interruption of health worker team and client relatives.

Conclusion

Findings of the current study concluded that there is a low level of physical activity and moderate level of health behavior and job performance among staff nurses at Tanta Emergency Hospital. Also, there is a significant positive correlation between staff nurses' job performance with physical activity and health behavior. These findings should be used by hospitals leadership to develop interventions that enhancing nurses' physical

activity and health behavior to in turn promote their job performance.

Recommendation

The findings of the present study directed to recommend the following:

Healthcare organizations need to:

- Ensure safe working environment by providing proper and adequate facilities and psycho socio support to the nurses.
- Periodic and continuous in-service training for staff nurses about regular exercise to strengthen their back muscles to enhance their level of job performance.
- Health education programs for staff nurses are needed to disseminate information about common health behaviors such as simple healthy meals for work, engaging in regular physical activity and periodically measuring weight.
- Team sport within the workplace should be encouraged as it has positive impact on the work related behavior e.g. less absenteeism and performance.

Nurse supervisor need to

- Serve as role models for healthy lifestyles behaviors and support staff nurses' health by encouraging nurses' efforts to exercise, consume healthy diet, reduce stress and improve interpersonal relationships.
- Provide working environments that encourage physically active and healthy lifestyles and reduce conditions that interfere with health-related sporting activities in leisure time like equitable distribution of nursing work schedule.

Nurses need to

- Be aware of changing bad eating habits and adjusting their attitudes towards physical activity and

considering them as a lifestyle.

- Limit the amount of time spent in being sedentary and replacing sedentary time with physical activity of any intensity for health benefits.
- Start by doing small amounts of physical activity and gradually increase frequency, intensity and duration over time.
- Make regular checkups with follow the doctor's instructions when you are ill.
- Further research studies needed to confirm the current study results in different health care sectors such as private, governmental and health insurance hospitals.

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