- *Basic Research*

First-Line Nurse Managers' Span of Control Knowledge and Self-awareness: Effect on Patient Safety Standard Implementation

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Abstract

Background: The duties of first line nurse manager (FLM) in healthcare has developed significantly over the last decade, which has expanded role responsibilities such as staff supervision across multiple areas. **The study aimed to** measuring the first line nursing managers (FLNMs) span of control and its effect on patient safety standards implementation among staff nurses. **Research design:** Qualitative correlational research design was applied. **Setting:** The study was operated in, Ain-Shams and Pediatrics University hospitals, Egypt. **Sample:** Included of a convenient sampling technique was used to select participants of this study. Consists of head nurses and their assistants (57n) and staff nurses (131n) who were working in the previous setting. **Instruments**: two tools were equipped and applied to gather the needed data. First Tool: Model of Nursing Clinical Practice Staff Mix Guide tool. The second was developed tool by the researchers based on WHO patient safety book **The results:** The study revealed that, a statistically significance difference (P= 0.033*) was found related to knowledge, self-awareness among the studied subjects, by regard to total table shows that span of control among head nurses is appropriate level (50.9%), span of control among head nurses is at appropriate level, a positive significance correlation between self-awareness and years of experience in addition between the span of control and years of experience. **Conclusion:** The study concluded that, there a positive significance correlation between self-awareness and years of experience, also, span of control and years of experience, no statistically significance relations between staff nurses' knowledge, view of own knowledge (self-awareness) and of implementation of IPSGs and head nurses' span of control among neither head nurses nor staff nurses is found. **Recommendations:** The study recommended that, first line nurse managers should have training programs on span of control and safety standards at work place, Span of control should be reviewed periodically and be part of routine organization activities.

Keywords: First line nurse manager, span of control, international patient safety goals.

1. Introduction:

First-Line Nursing Managers (FLNMs) plays an essential role in creating a professional environment and fostering safety culture regardless of whether there is an increase or decrease in the number of nursing. According to **American Organization of Nurse Executives (2015),** the (FLNMs) is accountable and responsible for direct care unit and for creating safe, healthy environments that support the work of the health care team and contribute to patient engagement.

First-Line Nursing Managers (FLNMs) are in charge of managing the work of non-managerial workers as well as the day-to-day activities of a specific work unit. Head nurses are in responsibility of clinical nursing practice, patient care delivery, the use of human, fiscal, and other resources, personnel development, regulatory and professional standards compliance, establishing interdisciplinary, collaborative relationships, and strategic planning. Given that nurses work in complex situations, the purpose, amount, context, and effects of managerial action, in addition to the number of direct report workers, should be considered. **(Rashed et al., 2015).**

In order for the (FLNMs) to provide satisfactory level of service determined by their job description, a practical span of control is necessary. Some literature suggests that organizational strategies to create manageable spans of control for frontline managers are essential to ensure they are able to achieve exemplary job and unit outcomes while having the necessary time and energy to facilitate staff work engagement **(Wong et al., 2015).**

Ain shams University Hospital consider as one of the most hospitals which have corporation and therefore are overseen by board of directors, it may include both structures wide and narrow span of control. A wide range of control are theorized to be appropriate when workers are highly skilled or specialized, because their extensive knowledge of the work process requires less supervision Wide spans may also indicate increased managerial job complexity due larger subunit size necessitates greater division of labor within the group and hence greater coordination of interdependent tasks within and between subunits. **(Meyer, 2010).** A wide range of control has a negative impact on employee performance by increasing the occurrence of risky behaviors. Larger spans of control for nurse managers are connected with lower levels of satisfaction and performance from their employees. **(Simpson, Dearman, & Graves, 2017).**

Furthermore, Narrow spans of control are theorized to facilitate horizontal communication when coordination of the main work processes occurs horizontally meanwhile overly wide spans may hinder access to the manager, delay communication by staff, and overextend the manager so that, a narrower span of control allows for more opportunity for successful leadership. At the extreme end, overly narrow spans, which may suppress worker autonomy through increased supervision and reduced delegation, may contribute to lower worker autonomy and morale **(Meyer, 2010).**

According to some research, organizational techniques that enable manageable spans of responsibility for frontline managers are critical to ensuring they can achieve excellent job and unit outcomes while also having the time and energy to support employee work engagement. (**Kendall. 2018**).

Rubino et al., (2020) ensure that the increase in (FLNMs) support, also allowed them to dedicate time to coaching, enforce nurses for more engagement within the organization to reduce compassion fatigue, burnout, and turnover while improving nurses' knowledge, self-awareness and practice to ensure patients safety goal. The provision of safe patient care is significantly impacted by the attitude, expertise, and practice of the health profession toward patient safety. Accordingly, patients' safety is a vital component in the quality of patient care where health care has become more multifaceted with greater application of new technologies and advancements.

The simplest definition of patients' safety is the prevention of mistakes, side effects and harms to patients during the provision of care (**Montgomery et al., 2020).** In order to attain the appropriate patients' safety at hospitals and health care facilities, Joint Commission International (JCI) has been established a set of typical standards and criteria in 2006 which are known as the international patients' safety goals (IPSGs) The most component of patient safety measures are; patient identification, effective communication, prevention of infection, fall prevention, bed sores prevention, high alert medication precaution, administration of medication and blood transfusion,. (**Donaldson et al., 2021).**

The application of IPSGs has a vast impact on most hospital's services in all hospital units with a strong positive effect on patients' safety condition (**Dawood et al., 2021**). Nursing staff has a crucial role in understanding and applying the six international patients' safety goals to minimize hazards and errors; in addition, they participate in almost every aspect of health care delivery and perceive patients' safety as their primary responsibility (**Tahoun et al., 2021**).

Aim of the study:
The study aims at measuring the first line nursing managers (FLNMs) span of control and its effect on patient safety standards implementation among staff nurses.
 through:
   1- Assessing the span of control levels among nurse managers.
   2- measuring patient safety knowledge and attitude of studied nurses.
   3- Examining relationship between span of control and implementation of patient safety standards.

Research questions:
   The researchers had suggested the following questions to direct the research study:

1- What is span of control level as perceived by nurse managers?
2- What is patient safety knowledge and attitude of nurses?
3- Is there a relationship between nurse manager's span of control and implementation of patient safety standards among staff nurses?

Magnitude of the research:

One of First line nursing managers' responsibility is assuring that, staff nurses' role applied aiming to preserve patient safety and prevent harm during the provision of care in both short-term and long-term care settings. patient safety is required for the prevention of practice errors and to achieve sustainable and safer healthcare systems. first line nursing managers' span of control is factor that can limit their ability to support employee capabilities and the necessary safety management, causing lower employee job satisfaction and higher turnover rates, besides the effect on the organizational safety concerns. Most nursing research on the topic of span of control indicates that as the number of staff who report to a manager increases, employee engagement and nursing and patient satisfaction decrease, while nursing turnover increases. Despite the lack of study in this field, the importance of the problem has been highlighted once more in the literature, reports, and in the workplace. Accordingly, the researchers' thoughts that, is there a direct relation between first line nursing managers' span of control and the implementation of patient safety standards implementation.

Subjects and Methods:

Research design:

A qualitative descriptive correlational of research design was used to attain the aims of this study.

Research settings:

The study was operated in, Ain-Shams University Hospital, Egypt with total bed capacity (700) beds which includes multi-specialty departments, Pediatrics University hospital with total bed capacity (150) beds which includes different department as inpatient. Outpatient, operating rooms, ICU departments specialized in Pediatrics in Egypt, selection of these hospitals was done as the high patients' flow would reach to 95% annual occupancy rate, beside that these hospitals are provided medical services for many sectors in community as university hospitals so, nurses' high work load in shifts presented.

Sample:

A convenient sampling technique was used when select head nurses and their assistants (57n) and staff nurses (131n) who were working in the previous setting. The total population of Ain shams hospital consisted of 450 nurses, from which a sample size of (38) head nurses and their assistant, and (101) staff nurses while Pediatrics Hospital The total population of Ain shams Hospital consisted of (200) nurses, from which a sample size of (19) head nurses and their assistant, and (30) staff nurses who were available was chosen.

Tools of data collection:

To attain the aim of the existing study, two tools were equipped and applied to gather the needed data. First Tool: Model of Nursing Clinical Practice Staff Mix Guide tool. A structured self-administrative questionnaire was constructed based on **Morash Robin., Brintnell Janet and Rodger Ginette Lemire, (2005)**, and had modified by the researchers to assess the span of control among nurse managers, which consists of two parts: **Part 1** Included data related to personal characteristics such as age, position, experience in general, educational, experience in management, and work place.

Parts 2 aimed to assess the level of span control which enfolds 16 items covered three main domains were: unit-focused indicators (6 items) employees focused indicators :(6) items, program focused indicators (4 items). Using three point Likert scale ranged from (Excessive, Appropriate, and below acceptable) respectively for each items. Scoring: The total score is out of a possible 130 points, accordingly, the level of head nurses' perception toward span of control; the respondents score started (0–60) it is considered below acceptable, it is Appropriate span of control whenever the score (61–90) and ending with (91–130) be excessive span of control and requires assistance.

Additional Tool: aimed to measuring patient safety knowledge and attitude of studied nurses. based on the literature review and **WHO patient safety (2019)** the researchers had developed the additional tool which include (33) items covered five domains: Personal influence on safety (7 items), Healthcare system safety (6items), attitudes towards patient safety (11), and Workplace safety (9). **Scoring**: the responses were scored for patient safety questionnaires items was distributed by using a five point Likert scale ranged from (strongly disagree, strongly agree disagree, natural, agree) and scored as (5,4,3,2,1) respectively for each items, the scores of the items were summed up and the total divided by the number of the items giving a mean score for the part. the level is high while the percentage score is 60% or more, and low level if less than 60%, based on the cut-off point was done at 60%.

Validity of the tools:

Tools of data collection were translated into the Arabic language by the researchers. Translation-back translation was conducted by a bilingual professional person. Tools were give in to five Experts in nursing administration (two professors from faculty of nursing Ain shams university and two assistant professors of faculty of nursing, Fayoum university, one assistant professors of faculty of nursing, Modern university) to check face and content validity. Comments were taken into consideration and some items were re-phrased.

Pilot Study:

A pilot study was carried out on 10 nurses (10% of the study sample) of nurses from Ain shams hospital to check the clarity of the tools and to estimate the time needed to fill in the questionnaire sheets by each participant. Required modifications were done. The time

consumed in answering the questionnaires was about 20-30 minutes, no modifications was needed so, and the subjects who participated in the pilot study were included from the main study sample.

Reliability:

The pilot study assisted the reliability of the scales utilized in the data collection tool. Cronbach Alpha coefficient was calculated to assess the reliability through measuring their internal consistency. The results showed ranged from 0.872 to 0.963. Reliability of the test was high.

Data collection technique:

The study was carried out since the beginning of August 2021 to the end of December 2021, distribution of the questionnaires to each study subject during work hours. The researchers had met the studied subjects to explain and clarify the aim and tools of data collection to facilitate their participation according to their units' needs and activities, gave instructions about how they fill the instruments, and presented with them at the previously mentioned settings three days weekly (Monday, Thursday and Wednesday) during data collection for any clarification, the average number collected was 3-4 head nurses and 5 staff nurses per day. The filling time needed for span of control tool was about 15–20 minutes, while patient safety tool took about 10–15 minutes.

Ethical considerations

Ethical approval for directing the current study was obtained with careful attention to the ethical standards of research and the rights of the participants after obtaining approval from the research committee of the Faculty of Nursing, Modern University for Technology and Information, and the study settings for data collection. Confidentiality was assured to all participants and their information was used for scientific purposes only. Each participant right to withdraw within any study stage was given. The purpose of the study and the method of completing the questionnaires were obviously explained to the study samples.

Statistical Design:

The Statistical Package for Social Sciences (SPSS) was used for data entry and statistical analysis. Descriptive statistics were applied as needed, numbers and percentage were used. To determine the relationship between the variables, the Chi-square test was used and r (correlation) was used to determine the relationship between the variables tested. Pearson correlation analysis was performed to examine the correlations between quantitative variables. P-values less than 0.05 and less than 0.001 were judged statistically significant and highly significant, respectively.

Results:

Table 1 shows that 47% of FLNMs group and 61.1 % of staff nurses were from Ain shams university hospital, the median of age group for head nurses is 38 and 35 for staff nurses, the most of head nurses and staff nurses were female, 70% of the head nurses have bachelor degree while 84 % of the staff nurses have diploma degree. The median of years of experience for head nurses was 3 years in management and 10 years in total while years of experience was 15 for staff nurses

Table 2 demonstrates that, the total knowledge of the studied sample was in satisfactory level, while there is a statistically significance difference between the studied subjects in goal 1(Identify Patients Correctly P= 0.003*), and goal VI (Reduce the Risk of Patient Harm Resulting from Falls P= (0.045*), the table also shows a statistically significance difference (P= 0.033*) among the studied subjects about the views of knowledge about human error and patient safety.

Table 3 clarified the agreement about the implementation of IPSG among both studied subjects, that, a highly statistically significance difference(P=0.009*) related to healthcare system safety also, there is a statistically significance difference in agreements for work place safety (P=0.009*).

Table 4 Shows the levels of span of control among head nurses which clarifies that, regarding to excessive level the highest percentage is related to program (21.1%) is related to employees (12.3%), about appropriate level the highest percentage is related to program (78.9%) is related to employees (36.8%), while below acceptable level the highest percentage is related to employees (50.9%) is related to program (0.0%), and by regard to total table shows that span of control among head nurses is appropriate level (50.9%).

Table 5 indicates the span of control among head nurses was inappropriate (63.2%) regarding employees and (78.9 %) appropriate regarding program, with total appropriateness (50.9%).

Table (6) demonstrates a positive statistically significance correlation between self-awareness and years of experience (P=0.372**), in addition between the span of control and years of experience (P= 0.388**), the table also shows that there is negative correlation between view point of own knowledge and span of control.

Table 7 shows a statistically significance correlation between self-awareness and view point of implementation and age (P=0.355, and P=0.349 respectively). Also, shows a statistically significance correlation between self-awareness and view point with total years of experience (P=0.341, and P= 0.352 respectively).

Concerning correlations between staff nurses' knowledge, view of own knowledge (self-awareness) and of implementation of IPSGs and head nurses' span of control, no statistically significance relations between staff nurses' knowledge, view of own knowledge (self-awareness) and of implementation of IPSGs and head nurses' span of control among neither head nurses nor staff nurses is found.

Table 1: Demographic characteristics of FLNMs and staff nurses in the study samples

	Head nurses (n=57)		Staff nurses (n=131)	
	No.	%	No.	%
Hospital:				
Ain-Shams University Hospital	38	66.7	101	77.1
Pediatrics hospital	19	33.3	30	22.9
Age:				
< 30			31	23.6
30-39			42	32.1
40-49	33	57.9	58	44.3
> 50	24	42.1		
Gender:				
Male	12	21.1	32	24.4
Female	45	78.9	99	75.6
Nursing qualification:				
Diploma and Technical institute	17	29.8	110	84.0
Bachelor and post graduate	40	70.2	21	16.0
Experience years (total):				
<10	21	36.8	32	24.4
> 10	36	63.2	99	75.6
Experience years (management):				
<1	21	36.8		
> 1	36	63.2		
Had training in patient safety	47	82.5	120	91.6
Had training in quality	43	75.4	108	82.4
Worked in accredited hospital	52	91.2	108	82.4

Table 2: Knowledge and (self-awareness) of IPSGs among FLNMs and staff nurses in the study samples

Satisfactory (60%+) Knowledge of IPSGs:	Head nurses (n=57)		Staff nurses (n=131)		X^2 Test	p-value
	No.	%	No.	%		
Purpose	52	91.2	115	87.8	0.474	0.491
Goal I: Identify Patients Correctly	24	42.1	86	65.6	9.069	0.003*
Goal II: Improve Effective Communication	50	87.7	115	87.8	0.000	0.990
Goal III: Improve the Safety of High-Alert Medications	22	38.6	61	46.6	1.023	0.312
Goal IV: Ensure Correct-Site, Correct Procedure, Correct Patient Surgery.	19	33.3	56	42.7	1.468	0.226
Goal V: Reduce the Risk of Health Care-Associated Infections	27	47.4	74	56.5	1.329	0.249
Goal VI: Reduce the Risk of Patient Harm Resulting from Falls	27	47.4	42	32.1	4.006	0.045*
Total knowledge:						
Satisfactory	45	78.9	102	77.9		
Unsatisfactory	12	21.1	29	22.1	0.027	0.869
View of own knowledge about human error and patient safety:						
High (60%+)	34	59.6	56	42.7		
Low (<60%)	23	40.4	75	57.3	4.546	0.033*

(*) Statistically significant at p<0.05

Table 3: Views about implementation of IPSGs among FLNMs and staff nurses in the study samples (n=57)

High agree (60%+) view about implementation of IPSGs	FLNMs (n=57)		Staff nurses (n=131)		X^2 Test	p-value
	No.	%	No.	%		
Healthcare system safety	19	33.3	79	60.3	11.579	0.001*
Personal influence on safety	48	84.2	110	84.0	0.002	0.967
Attitudes towards patient safety	50	87.7	119	90.8	0.426	0.514
Workplace safety	42	73.7	70	53.4	6.762	0.009*
Total view						
High (60%+)	44	77.2	104	79.4		
Low (<60%)	13	22.8	27	20.6	0.114	0.735

(*) Statistically significant at p<0.05

Table 4: Levels of span of control among FLNMs in the study samples (n=57)

Span of control towards	Span of control					
	Excessive (91-130)		Appropriate (61-90)		Below acceptable (0-60)	
	No.	%	No.	%	No.	%
Unit	9	15.8	24	42.1	24	42.1
Employees	7	12.3	21	36.8	29	50.9
Program	12	21.1	45	78.9	0	0.0
Total	**8**	**14.0**	**29**	**50.9**	**20**	**35.1**

Table 5: Appropriateness of span of control among FLNMs in the study samples (n=57)

Span of control towards	Span of control			
	Inappropriate		Appropriate (61-90)	
	No.	%	No.	%
Unit	33	57.9	24	42.1
Employees	36	63.2	21	36.8
Program	12	21.1	45	78.9
Total	**28**	**49.1**	**29**	**50.9**

Table 6: Correlation of FLNMs scores of knowledge, (self-awareness), implementation of IPSGs, span of control and their characteristics

	Spearman's rank correlation coefficient			
	Knowledge	Self-awareness	Viewpoint	Span of control
Age	-.099	.224	.120	.233
Qualification level	-.048	-.209	-.200	.079
Experience years (total)	-.108	.190	-.017	.388**
Experience years (management)	-.117	.372**	.249	-.194

(*) Statistically significant at p<0.05   (**) Statistically significant at p<0.01

Table 7: Correlation of staff nurses' scores of knowledge [Age, knowledge, (self-awareness) and of implementation of IPSGs and their characteristics

	Spearman's rank correlation coefficient		
	Knowledge	Self-awareness	Viewpoint
Age	.165	.355**	.349**
Qualification level	-.083	-.060	-.109
Experience years (total)	.142	.341**	.352**

Discussion:

Span of control is the number of people directly supervised by a manager and maximizing the patient safety means reducing medical errors and minimizing the risk of undesired events so, to provide optimal care and services the lower span of control is enhanced. Therefore, the aim of this study was to measure the Span of Control and its effect on patient safety standards implementation among nurses at Ain shams university hospitals.

Regarding demographic data of the studied first line managers sample, the findings of the present study revealed that less than half of first line managers were from Ain-Shams University, more than half were in age group 40-49 years old, according to researchers point of view the greater the age, the greater the experience, especially if the work is in accredited hospitals that apply all systems to conduct work according to the standards agreed upon in Egypt, this result is conversely to **Asamani et al. (2020)** who inferred that the majority of participants brackets between 25–40 years, as for gender the majority were female, this explained that the nursing profession in Egypt is represented by female despite the

admission of male to the profession in recent years, and this illuminate that men will soon occupy administrative positions. Moreover, more than two third had bachelor of nursing and post graduate study, **Ofei et al. (2020) and Paarima et al. (2020),** asserted that the educational level of FLNMs can greatly affect their appreciation of leadership at the unit level, in addition to the years of experiences the highest percent of them is more than ten years' experience and more than one year practicing managerial role.

Concerning demographic data of the studied staff nurses sample more than half of them were from Ain-Shams University Hospital, one third of them were in age group 40-49, this result is conversely with **Afifi et al. (2016)** in their study titled "The health care safety environment: Egyptian health practitioners' attitude to medical errors" who stated that the majority of the participants nurses' ages ranged from 25 to 40 years, more than two third were diploma and technical institute with more than 10 years' experience. This study finding is in congruence with **Abousallah, (2018)** who noted that the majority of study group ranged from 6-10 years. Although most of the nurses had training, their level was low, to ensure the safety of the patients at hospitals, standards and criteria should be implemented, international patients' safety goals (IPSGs) are crucial for foundation of patients' safety approach at hospital level. Result of this study revealed that more than two third of FLNMs and staff nurses had knowledge about the purpose and importance of IPSGs, in addition to same result regarding goal (II) which is improve effective communication, this could be attributed to the effective role of staff nurses in listening and understanding issues that happen on a daily basis relating to patients so that it can be escalated to FLNMs in case of its inability to solve problems that are difficult for her to solve, and thus effective communication between the head nurses and the nurses increases the effectiveness of performance among patients. Although there was a statistically significant difference between the study sample regarding goal (I) Identify patient correctly and goal (VI) Reduce the risk of patient harm resulting from falls, this indicates the effective role of the FLNMs and their knowledge about the principles of evaluation work place safety and prevent patients' fall by performing assessment of fall risk.

This result is in contrast with **KARS, (2018)** who show in his study that nurses make periodic assessment in case of changing medication for patients and observe any sign that lead to fall risk. The pivotal role of nurses is to identify patient correctly, it is a routine activity in all care settings as it prevents exposing the patient to the risks of wrong treatment and intervention. This result is consistent with **Mamdouh et al. (2020)** who stated that two thirds of the nurses had satisfactory perception regarding patient's identification. It was also noted that there was satisfactory score regarding total knowledge about IPSGs, this can indicate that improving patient safety consider as an international priority in most of healthcare facility. Also there was a statistically significant difference among head nurses and staff nurse in view of knowledge about human error and patient safety.

Concerning the views about implementation of IPSGs among FLNMs and staff nurses, result showed that both study groups had high agreement about implementation of IPSGs, it could be seen in the dimensions of personal influence on safety and attitudes towards patient safety, this can be inferred to nurses' knowledge level and attitude of focusing on causes of errors that are likely to affect patient safety rather than blaming people on their mistakes. Their ability to ensure that the safety of the patient is not endangered also consider as an indicator of the application of patient safety standards. this result is supported by **Tahoun et al. (2021)** who reported that the majority of studied staff nurses competently applied international patients' safety goals. In other hand there was a statistically significant difference in agreements for work place safety, this might be due to many managers in the health care system make it easy to report human errors that employees make, that can in turn affect professional status and employee satisfaction

As regard to levels of span of control and its appropriateness among FLNMs nurses, finding revealed that more than more than two third of study sample implied that the span of control over the program indicator is appropriate in terms of the number of managers to whom the FLNMs of the units reports to them, number of assigned services such as regular meetings to study problems and find solutions can help and lead to the appropriateness, this is in same line with **(Naruse et al., 2016)** who mentioned that managers' relational coordination was found to be positively associated with staff nurse work engagement when span of control is appropriate.

Concerning span of control and employees, study revealed that more than half of sample was below acceptable, this may be due to the huge workload that is exist in educational hospital such Ain Shams University and in most hospitals there are high turnover of nurses that leads to an increase in the burden on head nurses to bridge the nursing shortage gap in some cases and achieve patient safety, which consider the first goal. Furthermore, results showed general appropriateness in all items.

Furthermore, it was observed from the current study that there was a statistical correlation between variables among FLNMs and their characteristics, result revealed that there was positive statistically significance correlation between self-awareness and years of experience in addition between the span of control and years of experience, this finding can be explained by the more years of practice with the diversity of activities and positions, the greater the experience and independence at work, also finding of demographic data illustrated that attending training courses related to patient safety and quality, made a high effect on their attitude. This finding is consistent with the **(Han & Kim, 2016; Younas et al., 2019)** who pinpoint on the importance of that clinical experiences and the application of learning gained from previous experiences which enhances the self-awareness of healthcare workers. As for the correlation between span of control and experience, despite finding that revealed unacceptable number of nurses however, the FLNMs was used her experience and education to manage these deficiency, adding to that, the experience which

they gained throughout the work period, which made her overcome the problem of disproportionate nursing numbers in the units, this finding is in sale line with There are also the competence of the head employee, the personality of the subordinates and their experience, knowledge **(Schyns et al., 2010),** motivation and degree of engagement, innovation in the team **(Peltokorpi and Merv, 2014).**

Concerning staff nurses' scores of knowledge, self-awareness and implementation of IPSGs and their characteristics, there was a statistically significance correlation between self-awareness and view point of implementation and age. This is due to attitudes help nurse to understand how people perceive issues and processes in care and determine what they deem important, good, relevant and appropriate for their safety. Also, in the researcher point of view, the increase in age does not necessarily modify behavior, but it is most often an indicator of maturity and behavior modification. This is supported by study conducted by **(Dunstan & Coyer, 2020)** who reported that younger nurses' attitude scores were lower than those of their counterparts who had more experience. Also, finding shows a statistically significance correlation between self-awareness and view point with total years of experience, this is differing from those reported by **Bahar and Onler (2020),** that years of job experience did not affect attitudes to patient safety.

Conclusion:

The study finding had answered the research questions and had concluded that, a satisfactory level of knowledge related to certain safety goals was found, span of control among head nurses was at appropriate level. A positive significance correlation between self-awareness, the span of control and years of experience, there is negative correlation between view point of own knowledge and span of control. A statistically significance correlation between self-awareness and view point of implementation and age, total years of experience, finally no statistically significance relations between staff nurses' knowledge, view of own knowledge (self-awareness) and of implementation of IPSGs and head nurses' span of control among neither head nurses nor staff nurses was found.

Recommendation:

Grounded on study results the researchers recommended the following:

1- First line nurse managers should have sufficient hours of training programs on span of control and safety standards in details at work place to increase self-awareness and help in implementation of safety standards commitment.

2- Span of control should be reviewed periodically and be part of routine organization activities.

3- Organizational factors should be studied, reviewed and resolved in order to overcome the problem of span of control over a small number of nursing staff.

4- Studies should be conducted on different types of organizational structure to give better overview about the proper methods of span of control used in Egypt.

Additionally, further research should be conducted to:

1. Investigate the efficacy of targeted measures in enhancing the professional quality of work life for nurses.
2. Evaluate the correlation among organizational pride, job crafting, and performance quality.
3. Assess the relationship between job demands and resources for improving nurses' productivity.

Conflict of interest:

The authors affirm no conflicts of interest.

Authors' contributions

The research was a collaborative effort by all authors, covering the ideas suggestion, script drafting, methodology development, implementation, article contribution, and final approval of the submitted version.

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الملخص العربى

نطاق معرفة مديري الخط الأول للممرضات والوعي الذاتي: التأثير على تنفيذ معايير سلامة المرضى

مقدمة : تطورت واجبات مديرى التمريض للخطوط الأمامية في مجال الرعاية الصحية بشكل كبير خلال العقد الماضي ، مما أدى إلى توسيع مسؤولياته و الأدوار التى يقومون بها مثل الإشراف على الممرضات العاملات عبر مجالات متعددة . **هدف الدراسة :** إلى قياس مدى سيطرة مديري التمريض من الخط الأول وتأثيرها على تطبيق معايير سلامة المرضى بين الممرضات . **تصميم البحث:** تم تطبيق تصميم البحث الإرتباطي النوعي. **مكان الدراسة :** تم إجراء الدراسة في مستشفيات جامعة عين شمس و مستشفى طب الأطفال بمصر . **عينة الدراسة:** تم إستعمال تقنية العينة المتاحة المناسبة لاختيار المشاركين في هذه الدراسة والتى تكونت من جميع رئيسات الممرضات ومساعديهم (57 ممرضة) و عدد (131 ممرضة) من الممرضات العاملات فى المستشفيات السابق ذكرها. **أدوات الدراسة :** تم تجهيز أداتين وتطبيقهما لجمع البيانات اللازمة. الأداة الأولى: هو نموذج دليل لأداء موظفي الممارسة السريرية للتمريض. . تم تطوير الأداة الثانية من قبل الباحثين بناء على كتاب منظمة الصحة العالمية لسلامة المرضى لسنة 2019. **نتائج الدراسة:** وكشفت الدراسة أنه تم العثور على وجود فرق ذو دلالة إحصائية ($P = 0.033*$)يتعلق بالمعرفة والوعي الذاتي لدى الأشخاص الذين شملتهم الدراسة، ففيما يتعلق بالمجموع الكلي يبين أن مدى السيطرة لدى رؤساء الممرضات هو مستوى مناسب (50.9٪)، ووجود علاقة ذات دلالة موجبة بين الوعي الذاتي وسنوات الخبرة بالإضافة إلى مدى السيطرة وسنوات الخبرة. **خلاصة الدراسة :** خلصت الدراسة إلى أن هناك علاقة ذات دلالة إحصائية إيجابية بين الوعي الذاتي وسنوات الخبرة ، وكذلك مدى السيطرة وسنوات الخبرة ، ولا توجد علاقات ذات دلالة إحصائية بين معرفة ممرضات الموظفين ، ووجهة نظر المعرفة الخاصة (الوعي الذاتي) وتنفيذ معايير الأمان الدولية للمرضى ونطاق سيطرة الممرضات الرئيسيات لكلا من الممرضات الرئيسيات أو الممرضات العاملات. **التوصيات:** أوصت الدراسة بأن يكون لدى مديري التمريض من الخط الأول برامج تدريبية حول مدى معايير التحكم والسلامة في مكان العمل ، ويجب مراجعة نطاق التحكم بشكل دوري وأن يكون جزءا من أنشطة المنظمة الروتينية.

الكلمات الدالة: رئيسات الممرضات الخط الأول ، مدى السيطرة ، معايير الأمان الدولية للمرضى