Indicators of Head Nurses' Span of Control and Its Relation to Staff Nurses' Job Involvement

Doaa El Araby Seleem[1], Reda Abdel Fatah Abo Gad[2], Karima Ahmed El-Sayed[3], Marwa Sameer Sorour[4]

[1] Master student at Nursing administration, Faculty of Nursing, Tanta University

[2]Nursing specialist in El Santa Central Hospital.

[3,4]Professor of Nursing Administration, Faculty of Nursing, Tanta University.

[5]Lecturer of Nursing Administration, Faculty of Nursing, Tanta University.

Corresponding author: Doaa El Araby Seleem
Email: slym63604@gmail.com

Abstract

Background: Span of control indicates that the head nurses need to meet the aims of the healthcare organization through controlling nurses' behaviors in the efforts to forecast nurses' productivity, resignation rates, and job involvement. **Aim**: to assess the indicators of head nurses' span of control and its relation to staff nurses' job involvement. **Subjects and Method: Research design**: A descriptive-correlational research design was utilized to conduct this study. **Setting**: The study was conducted at all departments of El Santa Central Hospital. **Subjects:** All head nurses and 510 nurses working full time at El Santa Central Hospital. **Tools:** Tool I: Span of Control Indicators Structured Questionnaire and Tool II: Staff Nurses' Job Involvement Scale. **Results:** Related to overall span characteristics. More than half (57.9%) of head nurses and about three-quarters (72.5%) of staff nurses reported a narrow span of control. While, overall span of control indicators over two-thirds (67.1%- 68.6 %) of head nurses and staff nurses reported A low level of span of control that meant head nurses were capable of growth. More than two-thirds (69.8%) of staff nurses had a high level of overall job involvement. **Conclusion:** There was a highly significant positive correlation between indicators of head nurses' span of control and staff nurses' job involvement. **Recommendation**: Head nurses can use these findings to motivate staff nurses to express their opinion and enhance their leadership competencies, provide ongoing monitoring for staff nurses and evaluate their strengths and areas needing improvement.

Keywords: Head nurses, Job involvement, Staff nurses, Span of control.

Introduction

Head nurses are the primary link between patients, nursing staff, medical staff, other clinical and ancillary staff, and hospital administration. Head nurses are leaders within the nursing unit and set a role model for the staff nurses. Overall, their role is to oversee and direct the activities of nurses within a specific unit of a hospital or medical facility and establish a vital link between the strategic plan for administration and the point of care **(Counsell et al., 2023)**.

Effective management of nursing units depends on the relationship between staff nurses and head nurses. For head nurses to be successful in their role, it is essential to have an optimal span of control that allows them sufficient time to build relationships with their staff nurses that enable effective communication, and support leading to better job satisfaction, improved performance, and ultimately, enhanced patients' care and satisfaction **(Waltz et al., 2020)**.

Span of control is defined as the number of subordinates who can be effectively supervised. A general definition of span of control refers to the extent to which one person can extend his or her supervisory powers over other individuals or administrative units in an effective way **(Hechanova & Beehr, 2021)**. Determining the optimal span of control for head nurses is one of the most important tasks in organizing healthcare organizations to achieve the growth they need. Establishing the optimal span involves weighing between advantages and disadvantages of maintaining responsibility for decisions and delegation those decisions **(Hattrup & Kleiner, 2021)**.

When determining an optimal span of control in healthcare organizations, depend on head nurses' abilities, the nurses' maturity, tasks' complexity, and the work level in the healthcare organization that occurs. The number of nurses directly reporting to any one head nurse must be the number that maximizes productivity and nurses' satisfaction. If a head nurse's span of control is too narrow or too wide, there may be variation in outcomes. Span of control may influence decisions relating to healthcare organizational operations, workforce goals, and ultimately, patients' outcomes **(Meier & Bohte, 2022)**.

Also, a head nurse with a wider span of control may have less time to dedicate to each staff nurse, potentially impacting the quality and frequency of communication, feedback, and support provided to individual nurses. While a narrower span of control results in a taller structure with more levels, it also allows for more personalized attention and support from the head nurse, fostering a closer relationship between supervisors and subordinates Span of control is a complex phenomenon, needing consideration of many indicators depending on the number of nursing staff reporting to the head nurse **(McCutcheon et al., 2021)**.

The span of control indicators can be classified into five domains. The first domain pertains to head nurses' sensitivity towards their staff, as they interpret the verbal and nonverbal behaviors of nurses to recognize their needs. The second domain focuses on head nurses' rigor, which involves finding a balance between meeting the demands and expectations of their nurses. The third domain involves the head nurses' integrity, emphasizing the importance of maintaining confidentiality, being forthright, and being trustworthy. The fourth domain relates to head nurses' humility, where they prioritize the needs of the nurses and patients over their own by understanding and acknowledging limitations. The last domain is concerned with working environment, including the physical conditions and social features in which head nurses and staff nurses carry out their work (**Chadwick & Gallagher, 2020**).

The level of interaction between head nurses and staff, the breadth and complexity of the head nurse's role, and the number and size of work groups under their authority. Head nurses are also responsible for addressing immediate issues in the unit's daily operations, fulfilling organizational needs, recognizing and rewarding staff, and attending to the personal needs of the staff nurses to maintain their job involvement (**Lull, 2020**).

Job involvement refers to the psychological identification and engagement of individuals with their work, which is an important factor in nurses' job satisfaction, organizational commitment, and job turnover. When head nurses have a manageable span of control, they are more likely to have the time and capacity to engage with staff nurses, provide mentorship, and facilitate their professional development. This, in turn, can enhance staff nurses' job involvement, job satisfaction, and commitment to the organization, ultimately reducing turnover rates (**Keyko et al., 2022**).

The job involvement concept comprises three types; emotional, cognitive, and behavioral job involvement. Emotional job involvement indicates how strongly the staff nurses are interested in their job or how much they like their job. Cognitive job involvement refers to the level of desire the staff nurses have to be involved in decision-making at work or how important their job is in their overall life. Behavioral job involvement measures the frequency of staff nurses engaging in additional behaviors outside their regular roles, such as attending courses to enhance job skills or thinking about the work after leaving the hospital (**Seo & Price, 2021**).

Job involvement can be categorized into four distinct domains (work as a central life interest, active participation in the job, performance as central to self-esteem, and performance compatible with self-concept). Each domain highlights different aspects of nurses' engagement and satisfaction in their work. The first domain involves viewing work as a central life interest, where staff nurses prioritize their professional roles and find fulfillment

in their work, contributing to their overall sense of identity and purpose. Active participation in the job is the second domain and emphasizes the engagement and active contribution of nurses to their work. They value factors such as prestige, autonomy, and self-respect, deriving satisfaction from their meaningful involvement in their nursing roles **(Diefendorff et al., 2020)**.

The third domain emphasizes the connection between job performance and self-esteem. Nurses in this domain place a high value on their job performance, viewing it as essential for maintaining a positive self-concept and self-worth. The fourth domain revolves around performance compatible with self-concept, where nurses find alignment between their work and self-identity. They see their work as a means of self-realization, utilizing their skills and attributes, and deriving fulfillment and purpose from their work **(Weibler, 2020)**.

Finally, staff nurses will be motivated to work hard and upgrade their performance when their mental and physical needs are fulfilled, which control staff nurses working attitudes like job satisfaction, tendency to resign, and organizational commitment. **(Abd-EL Aliem & Abou Hashish, 2021)**.

Significance of study

Changes in health service management structures have created a necessary need to increase awareness of effective span of control indicators among head nurses **(Wong et al., 2018)**. However, little research has been conducted on the impact of spans

of control on nurses' and patients' outcomes **(Alidina, 2021; Altaffer, 2020; Van der et al., 2019)**. The span of control plays an important role in healthcare organization and has implications for organizational structure, how decisions are made, the interaction between supervisors, and subordinates, and head nurses' coalition **(Hvaei et al., 2018; El-Khalil, 2021)**. Also, nurses' job involvement leads to enhancement of their job satisfaction, increase of organizational commitment, and reduce job turnover **(Salessi & Omar, 2019)**. So, when faced with the need for quality professional practice environments where, nurses can provide high-quality nursing care, it is important to determine the effect of span of control of head nurses on staff nurses' job involvement.

Aim of the study

To assess the indicators of head nurses' span of control and its relation to staff nurses' job involvement.

Research questions:

1. What are the indicators of span of control among nursing staff?
2. What are the levels of staff nurses' job involvement?
3. What is the relation between the indicators of head nurses' span of control and staff nurses' job involvement?

Subjects and Method

Study design:

Adescriptive-correlational research design was utilized to conduct this study.

Setting:

The study was conducted in all departments at El Santa Central

Hospital affiliated to Ministry of Health and Population in El Gharbia Governorate. The hospital consists of three buildings with bed capacity of 150 beds.

Subjects:

The research subjects consisted of a stratified sample of (2) head nurses and 53 nurses, chosen from the total number of nurses (529). The technique for selecting the sample from the previous mentioned setting was proportional according to the number in each department.

Tools of data collection:

Two following tools were utilized:

Tool I: Span of Control Indicators Structured Questionnaire (SOCISQ)

This tool was developed by the investigator guided by **Morash & Brintnell (2020); Avolio, (2019)** and related literatures **Shen et Al., (2019); Simpson et al., (2020)**. It consisted of three parts as follow; **Part 1: Personal Characteristics**: This part intended to collect data about the study subjects' characteristics including age, sex, marital status, educational qualifications, years of experience, working units, and number of staff per head nurse.

Part 2: Span of control characteristics: this part was used to assess span of control characteristics from head nurses' and their staff nurses' point of views. It included 20 items divided into two domains:

- **Narrow span of control characteristics** (10 items)
- **Wide span of control characteristics** (10 items)

Scoring system:

Subjects' responses were measured on a two points scale "yes" or "no" where "yes" equals one and "no" equals zero. Each nurse chose one answer for each item after reading and understanding carefully to differentiate head nurses' span of control as a wide or narrow span. The total score is determined by cutoff point as the following:

- Head nurses use narrow span of control if score level ≤ 60 %.
- Head nurses use wide span of control if score level <60 %.

Part 3: Span of Control Indicators Questionnaire:

This part was used to assess head nurses' span of control indicators from head nurses' and staff nurses' point of views. It included 36 items divided into five domains:

- **Sensitivity toward staff** included 4 items (from 1 -4).
- **Head nurses' characteristics of rigour** included 5 items (from 5 - 9).
- **Head nurses' characteristics of integrity** included 9 items (from 10 -18).
- **Head nurses' characteristics of humility** included 6 items (from 19 – 24).
- **Reflect the working operation** included 12 items (from 25- 36).

Scoring system:

Subjects' responses were measured on five-points Likert Scale ranging from 5 to 1 where "1 = never", "2= rarely", "3= sometimes" "4= often", and "5= usually". Each nurse chose one answer after reading and understanding carefully, the scores of each dimension summed up and

converted into percent score. The total score determined by cutoff point as the following:

- **Highly span of control level** < 75 % equals 135. (Indicated that head nurses require assistance)
- **Moderate span of control level** 60% - 75 % equal 135- 108. (Indicated appropriate span of control)
- **Low span of control level** > 60 % equal > 108. (Reflected that head nurses are capable of growth)

Tool II: Staff Nurses' Job Involvement Scale: (Appendix II)

This tool was developed by the investigator guided by **Kanungo (2018); Bader, (2020)** and recent literature **Khan et al., (2018); Grov & Bjornnes, (2020)** to measure staff nurses' job involvement levels. This tool included 27 items divided into four domains:

- **Work as a central life interest** included 6 items (from 1 -6).
- **Active participation in the job** included 10 items (from 7 – 16).
- **Performance compatible with self-concept** included 6 items (from 17 -22).
- **Performance as central to self-esteem** included 5 items (from 23-27).

Scoring system

Staff Nurses' responses were measured on a three-points Likert Scale ranging from 3 to 1, where "1 = rare","2= often","3= always". The score of each dimension summed up and converted to percent score. The total score determined by cutoff point as the following:

- **Highly involved staff nurses' level** < 75 % equals 61.
- **Moderate involved staff nurses' level** 60% - 75 % equal 62-49.
- **Low involved staff nurses' level** > 60 % equals > 49.

Methods

1. An official permission to conduct the study was obtained from administrator of Tanta Faculty of Nursing and was submitted to the responsible authorities of the selected setting at El Santa Central Hospital.

2. The purpose of the study was explained and made clear to the directors of hospitals and managers of each unit to gain their cooperation.

3. **Ethical considerations:**

a) Approval from Scientific Research Ethical Committee of the Faculty of Nursing was obtained by a code no 76 \ 6 \ 2022.

b) The investigator introduced herself to the participants, a full explanation of the aim and method of the study was done to obtain the acceptance and cooperation as well as their informed consent.

c) The right to withdrawal at any time was accepted.

d) The nature of the study was not causing any harm for the entire sample.

e) Assuring the nurses about the privacy and confidentiality of the collected data and explain that it was used for the study purpose only.

4. After reviewing the related literature and different studies in this field, the tools were developed

by the investigator and translated into Arabic to collect data from nurses.

5. Tools were reviewed with the supervisors, then submitted to five experts in the area of specialty from nursing administrator department at Tanta Faculty of Nursing for testing the content and face validity.

- The five experts were three professors of nursing administrator and two assistant professors of nursing administrator and all jury from Faculty of Nursing Tanta University.

- The experts were asked for some modifications related to grammatical language and rephrasing of some sentences related to their answers, where strong relevant=4, relevant=3, little relevant=2, not relevant=1. The face validity of the tools was calculated based on experts' opinions after calculating content the validity index which was 91.9% for tool (I) and 94.8% for tool (II).

6. A pilot study was carried out on 10% of subject head nurses (n= 2) and staff nurses (51) after the development of the tools. The aim of pilot study was to test the sequence of items, clarity, applicability and relevance of question. Necessary modifications were included clarification, omission of certain questions and adding others and simple work related words were used.

- Reliability of the tools was tested using Cronbach's Alpha which was 0.822 for part 2   of tool (I), 0.950 for part 3 and 0.754 for tool (I), and 0.939 for tool (II) about span of control and job involvement questionnaire.

7. Data collection phase: the data was collected from the subject at EL Santa Central Hospital by the investigator. The investigator met the nursing staff in small groups during their work to distribute the questionnaire. The subjects recorded the answers in the presence of the investigator to ascertain that all questions were answered and others were asked to fill it and return it back.

Results

Table (1): shows personal data of nursing staff. According to head nurses, about three- quarters (73.7%) of them aged from 35 – <50 with a mean age of 45.37 ± 4.42. All of the head nurses were female, the majority (89.5% and 84.2%) of them had a Bachelor of Science in nursing and were married, respectively and 10.5% of them had post graduate studies. About three-quarters (73.7%) of head nurses had 20 – <30 years of experience with a mean score of (22.84 ± 3.79). According to staff nurses, over half (60%) of them aged from 35 – <50 with mean age 38.81 ± 6.72. Majority (88% and 84.5%) of staff nurses were female and married, respectively. More than one-third (36.3%) of them had a secondary nursing diploma. Over half (59.6%) of staff nurses had 10 – <20 years of experience, with a mean score of 18.50 ± 7.47.

Figure (1): shows that the head nurses (ranged from 15.8% - 10.5%) were working at Outpatient, Medical, Surgical, Orthopedic, Operating Room, Obstetric Departments, While staff nurses (range from 19.6% - 9.8%) were working at Outpatient, Operating Room, Hemodialysis, Emergency, Neonatal Intensive Care Units.

Figure (2): shows that more than half (57.9%) of head nurses and about three- quarters (72.5%) of staff nurses reported a narrow span of control, while more than two-fifths (42.1%) of head nurses and one quarter (27.5%) of staff nurses reported a wide span of control.

Table (2): shows mean scores, standard deviation and ranking of nursing staff regarding span of control indicators. The overall mean score of span of control indicators was 42.89 ± 12.65 for head nurses while the overall mean score was 47.30 ± 11.80 for staff nurses with a T test value 3.446 at p= 0.001. According to head nurses, it was observed that the highest average mean percent (72.5%) of span of control domain was assigned for their characteristics of integrity with a mean score of 32.63 ± 6.59 at p= 0.003, while reflect the working operation was the lowest average mean percent (61.2%) for span of control domain with mean score of 42.89 ± 12.65 at p= 0.111. According to staff nurses, the highest average mean percent (64.2%) of span of control domain was reflect the working operation with mean score of 47.30 ± 11.80, and the lowest (58.2%) span of control domain was

sensitivity toward staff nurses with a mean score of 11.64 ± 3.75 at p= 0.007.

Figure (3): shows that over two-thirds (67.1% and 68.6 %) of head nurses and staff nurses reported a low level of span of control that meant head nurse capable of growth, while one-third (31.6%) of head nurses and (16.7%) of staff nurses reported a moderate level of span of control that meant appropriate span of control.

Table (3): shows mean scores, standard deviation, and ranking of staff nurses' job involvement. It was observed that the highest average mean percent (69.9%) of job involvement domain was related to work as central life interest with a mean score of 12.59±2.40, and the lowest average mean percent (64.3%) of job involvement domain was related to performance compatible with self- concept with a mean score of 11.58 ± 2.86.

Figure (4): shows Staff nurses' overall levels of Job Involvement. More than two-thirds (69.8%) of staff nurses had a high level of overall job involvement. Also, about one-fifth (18.6%) of them had a low level of overall job involvement and minor percent (11.6%) had a moderate level of overall job involvement.

Figure (5): shows that there was a statistically significant positive correlation between span of control indicators among nurses and their job involvement as reported by staff nurses (p< 0.001).

Table (1): Frequency and distribution of personal data among head nurses and staff nurses

| Part 1: Personal characteristics	Head Nurse (n = 19)		Nurse (n = 510)	
	No.	%	No.	%
Age (years)				
<35	-	-	142	27.8
35 – <50	14	73.7	306	60.0
≥50	5	26.3	62	12.2
Min. – Max.	39.0 – 52.0		26.0 – 57.0	
Mean ± SD.	45.37 ± 4.42		38.81 ± 6.72	
Median	46.0		37.0	
Sex				
Male	-	-	61	12.0
Female	19	100.0	449	88.0
Marital Status				
Married	16	84.2	431	84.5
Unmarried	3	15.8	79	15.5
Level of education				
Secondary nursing diploma	-	-	185	36.3
Technical nursing institute	-	-	169	33.1
Bachelor of science in nursing	17	89.5	126	24.7
Post graduate studies	2	10.5	30	5.9
Years of Experience				
<10	-	-	14	2.7
10 – <20	5	26.3	304	59.6
20 – <30	14	73.7	133	26.1
≥30	-	-	59	11.6
Mean ± SD	**22.84 ± 3.79**		**18.50 ± 7.47**	
Number of staff nurse per head nurse				
< 20 nurse	214		42.1%	
20 -40 nurse	214		42.1%	
>40 nurse	82		15.8 %	
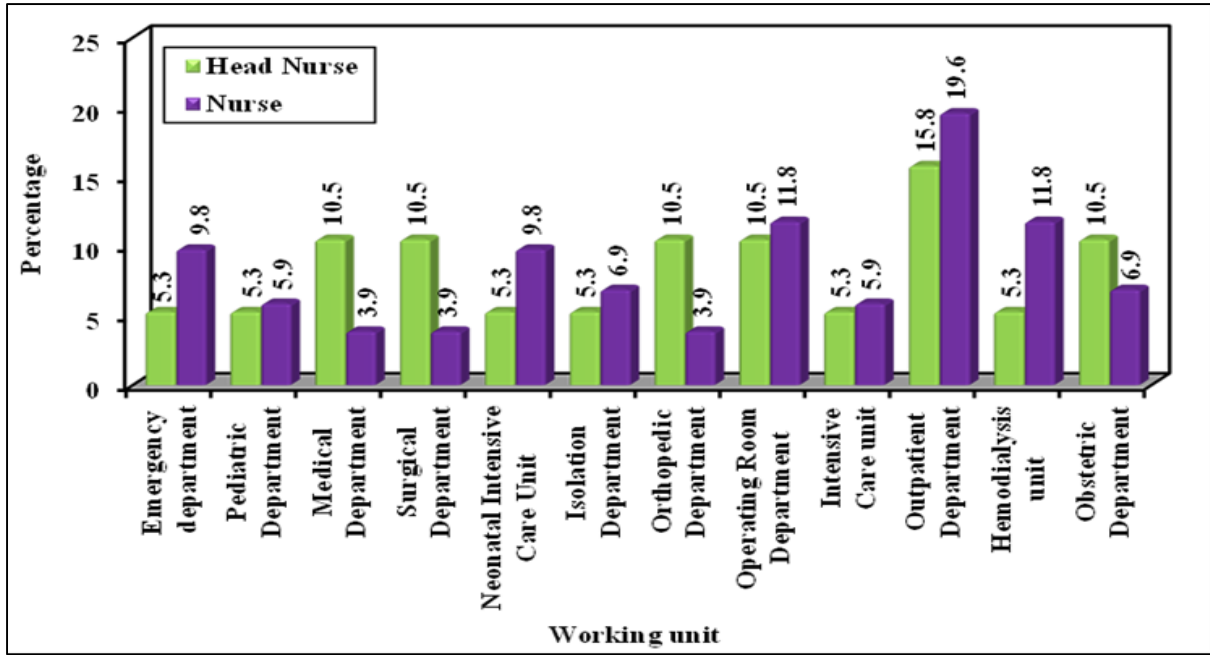
Figure (1): distribution of head nurses and staff nurses according their working unit
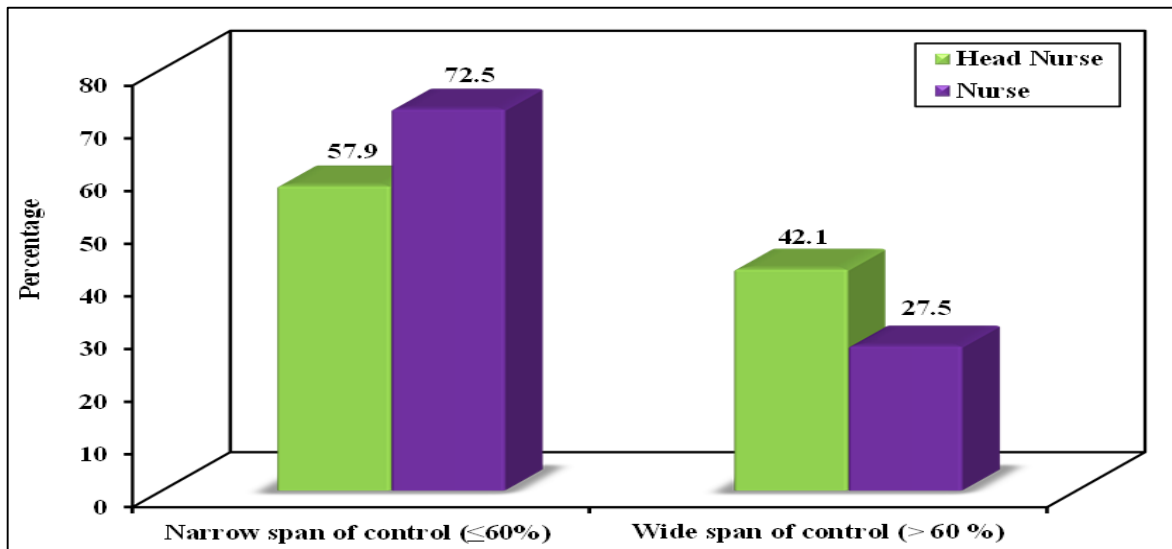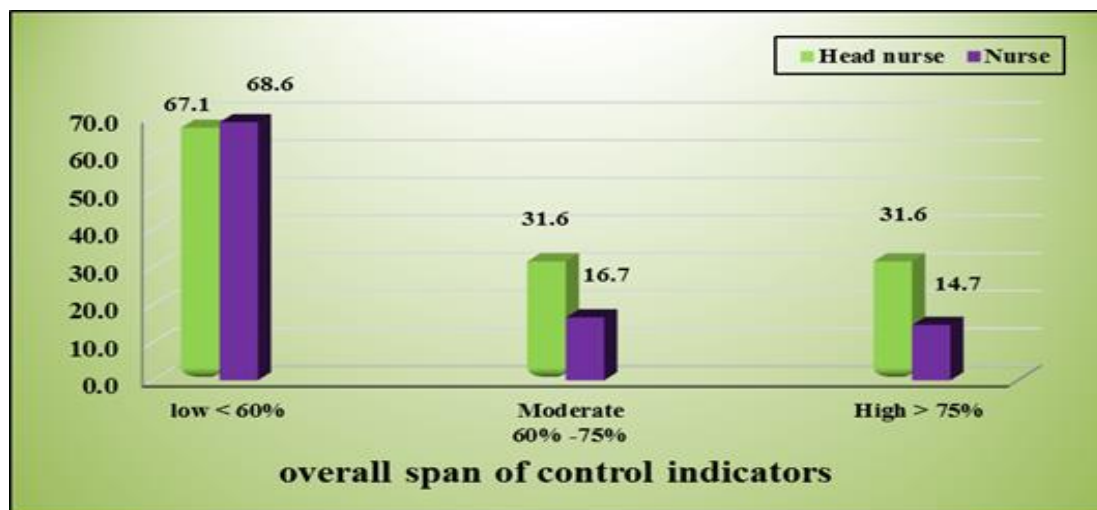

Figure (2): Overall levels of head nurses and staff nurses of span of control characteristics (n=529)

Table (2): Mean scores, standard deviation and ranking of nursing staff regarding to span of control indicators domains (529)

Span of control Indicators domains	Head nurses (n= 19)				Staff nurses (n= 510)				t	p
	No. of item	Mean ± SD	Mean %	Ranking	No. of item	Mean ± SD	Mean %	Ranking		
- Sensitivity toward staff nurses Total score (4 - 20)	4	14.0 ± 3.56	70	3	4	11.64 ±3.75	58.2	5	2.695*	0.007*
- Head nurses' characteristics of rigour Total score (5 - 25)	5	16.16 ±2.43	64.6	4	5	14.99 ±2.64	60	4	1.905	0.057
- Head nurses' characteristics of integrity Total score (9 - 45)	9	32.63 ±6.59	72.5	1	9	27.58 ±7.29	61.2	2	2.978*	0.003*
- Head nurses' characteristics of humility Total score (6 - 30)	6	21.58 ±5.43	71.9	2	6	18.05± 5.10	60.1	3	2.951*	0.003*
- -Reflect the working operation Total score (38 - 118)	12	72.32± 10.12	61.2	5	12	75.84± 9.44	64.2	1	1.594	0.111
Overall score	36	42.89 ± 12.65			36	47.30 ± 11.80			3.446	0.001*

Fig ure(3): Overall levels of head nurses and staff nurses of span of control indicators (n=529)

Table (3): Average mean percent and ranking of staff nurses' job involvement (n = 510)

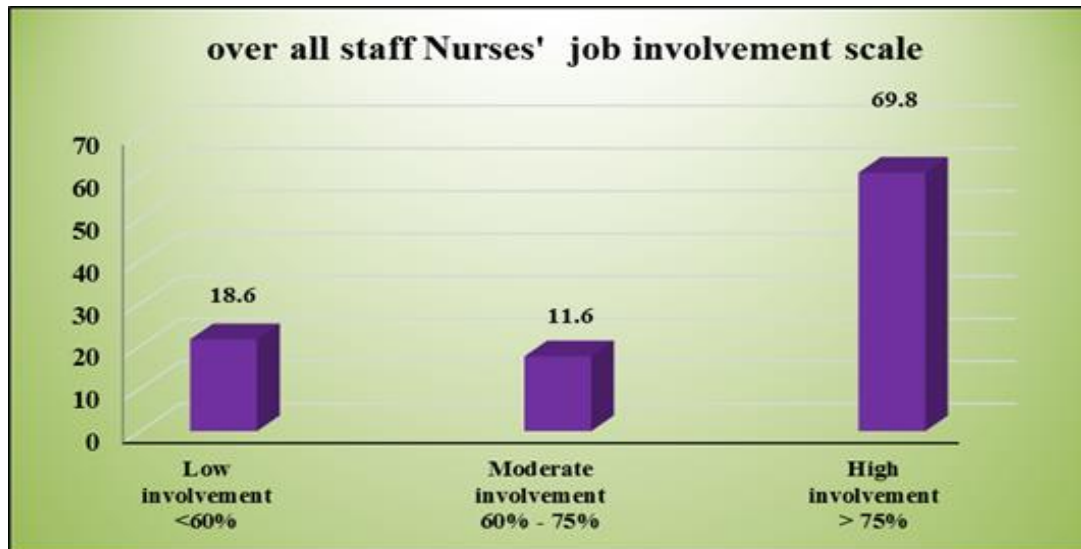| Tool II: Staff Nurses' Job Involvement	Mean ± SD	Mean %	Ranking
Work as central life interest **Total score (6-18)**	12.59±2.40	69.9	1
Active participation in the job **Total score (10-30)**	19.40 ± 4.44	64.6	3
Performance compatible with self- concept **Total score (6-18)**	11.58 ± 2.86	64.3	4
Performance as a central to self- esteem **Total score (5-15)**	9.97 ± 2.56	66.5	2
Overall score	53.55 ± 10.26	60.4	

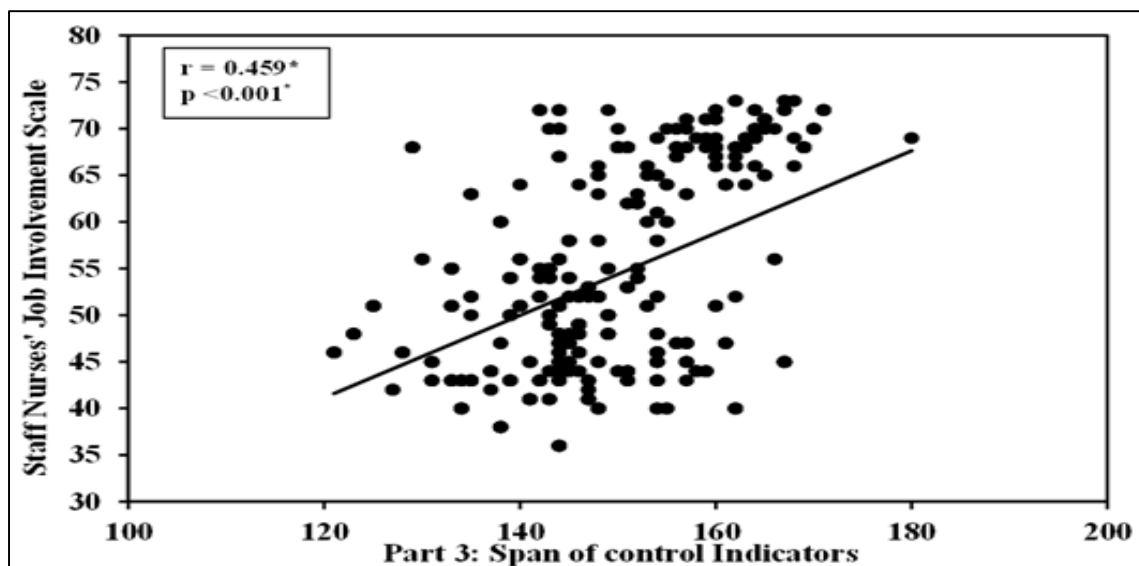**Figure (4): Levels of staff nurses' overall job involvement**

Figure (5): Correlation between Span of control Indicators among staff nurses and their Job Involvement (n = 510).

Discussion
Regarding span of control characteristics among head nurses and staff nurses.

The results of this study revealed a statistically significant difference between head nurses and staff nurses regarding the overall span of control characteristics. The result of the study showed that the majority of head nurses and staff nurses reported a narrow span of control. Around three-quarters of head nurses reported that their workload was less due to supervising fewer nurses, had balance between leadership responsibilities and nursing duties. This result can be explained by head nurses' age and the long years of experiences in management that can increase their managerial skills. According to staff nurses, around two-thirds of them reported that their head nurses trusted them to make decisions, had poor discipline with so much autonomy given to nurses, and had more experience in managerial skills. This result may be explained by as during the evening and night shifts the head nurse is not present so nurses are responsible for taking their decision. This finding aligns with research by **Ruffin et al., (2023)** who found that experienced head nurses often perceive their workload as manageable even when supervising large teams. However, this perception of workload management is contrasted by **Cupit et al., (2019)** who suggested that even experienced head nurses may underestimate the impact of their workload on staff nurses, particularly in environments with wide spans of control.

Regarding span of control indicators among head nurses and staff nurses

Findings of the current study revealed that the highest-rated domain among head nurses was "head nurses' characteristics of integrity". The lowest-rated domain by head nurses was "reflect the working operation". In contrast, staff nurses rated "reflecting the working operation" as the highest domain. The lowest-rated domain by staff nurses was "sensitivity toward staff nurses". The result of the study showed that the majority of head nurses and staff nurses reported a low level of span of control that meant head nurse capable of growth.

Along with this result is **Lull, (2020)** who clarified that positive relationship allows closer supervision, more detailed guidance, and better communication between head nurses and staff nurses. In contrast with the current study is **Soukup et al., (2022)** who highlights specific areas of improved care provided by nurses dimensions, such as creating proactive care plans and supporting self-management goals, where the nursing staff excelled or could benefit from further development.

Regarding staff nurses' job involvement

The current study findings revealed that more than two-thirds of staff nurses were highly involved in their work. This result can due to that most nurses were working at the critical care units that exchange professional practices, skills, provide participation in decision making, scheduling, delegation, and transfer information.

Moreover, **Salemm, Ahlam, and Fatma (2019)** concluded that nurses' job involvement was important for producing good results in the area of work and job, and staff nurses whose level of involvement was high depends on the inspiring perspective of the managers' behavior or job to increase and improve their level of job satisfaction.

Regarding correlation and relation between study variables

The current study result found no significant correlation between specific characteristics of span of control and broader indicators of span of control among head nurses. The result might be due to contextual differences in the organizational structure or the specific challenges faced by the head nurses in the current study. These factors could lead to varying interpretations of what constitutes an effective span of control. This contrasts with **Ruffin et al., (2023)** who highlighted that a well-balanced span of control is essential for effective management and can enhance job involvement and performance.

The present study result revealed that there was a positive correlation between span of control characteristics, indicators, and staff nurses' job involvement. The age and experience gap might contribute to the differences in perception regarding span of control. Older, more experienced head nurses might be more confident in their abilities to manage large teams and balance multiple responsibilities, while younger staff nurses might feel they require more support and guidance,

leading to the observed discrepancies in the responses **(Barroso, 2020)**. This study finding is consistent **Cupit et al., (2019)** who emphasized the importance of an optimal span of control in enhancing job satisfaction and involvement. Similarly, **Boned-Galán et al., (2023)** supported the idea that a manageable span of control, where head nurses can provide adequate supervision and support, directly impacts the job involvement of staff nurses. These consistent findings underscore the critical role of span of control in fostering a supportive work environment that promotes high job involvement.

Conclusion

Based on the findings of the present study it was concluded that:

Span of control indicators are essential to achieve exemplary job outcomes to facilitate staff nurses' job involvement. The present study confirmed that more than half of head nurses and about three-quarters of staff nurses reported narrow span of control. Regarding span of control indicators, over two-thirds of head nurses and staff nurses reported low level of span of control that meant head nurse capable of growth.

Also, the study result confirmed more than two-thirds of staff nurses had a high level of overall job involvement. Accordingly, a statistically significant positive correlation between span of control characteristics, indicators, and staff nurses' job involvement was found.

Recommendations

In the light of the findings obtained from the present study, the following

recommendations were suggested:

For the management:

- Establish a policy and standards on the maximum number of staff nurses per head nurses that can effectively supervise and ensure that they have enough time to support and mentor their team effectively.

- Organize regular training sessions for hospital administrators on empowering staff nurses with job-related support, supplies, resources, necessary information, and opportunities to achieve their work effectively.

For head nurses:

- Motivate staff nurses to express their opinion and enhance their leadership competencies, so that staff nurses might apply these when they become leaders.

- Provide ongoing monitoring for staff nurses and evaluate their strengths and areas needing for improvement.

For education:

- Leadership and span of control need to be included undergraduate and post graduate curricula.

For further research:

- Effect of span of control programs on the level of staff nurses' job involvement and their performance.

References:

Abd-EL Aliem S., & Abou Hashish E. (2021). The relationship between transformational leadership practices of first-line nurse managers and nurses' organizational resilience and job involvement: a structural equation model. Worldviews on Evidence-Based Nursing, 18(5), 273-82. Available from https://doi.org/10.1002/hpm.2491.

Alidina S., Funke-Furber J. (2021). First-line nurse managers: optimizing the span of control. *Journal of Nursing Administration*, 18 (5), 34–5. Available at https://doi.org/10.1111/jonm.13250.

Altaffer A. (2020). "First-Line Managers: Measuring Their Span of Control. *Nursing Management journal*, 29(7), 36–40. doi:10.1097/00006247-199807000-00011.

Avolio B. (2019). "Multifactor leadership questionnaire: manual and sampler set", 3rd ed. Redwood City, CA: Mind Garden, pp 66-70.

Bader Y. (2020). Relationship between motivation and job involvement among staff nurses, unpublished master thesis, faculty of nursing, Ain Shams University, 153-4.

Barroso C. (2020).Work values and job involvement of public nurses. Liceo J High Educ Res. *administration research journal*, 15(2), 44-48. Available at https://doi.org/10.1111/nicc.12649

Boned-Galán A., López-Ibort N., & Gascón-Catalán A. (2023).Nurse Manager Span of Control in Hospital Settings: An Integrative Review. Nursing Reports,13(4), 1577-92.

Chadwick R., & Gallagher A. (2020). Ethics and nursing practice: a case study approach: Bloomsbury Publishing. Published Master thesis. Chiang Mai

University, Faculty of Nursing, p 33-35.

Counsell C., Gilbert M., & McCain J. (2023). "The Evolving Role of the Nurse Manager." *Journal of Nursing Administration*, 31(2), p. 52. doi: 10.1177/001872679504800302.

Cupit T., Stout-Aguilar J., Cannon L., Norton J. (2019). Assessing the nurse manager's span of control: A partnership between executive leadership, nurse scientists and clinicians. Nurse Leader. *Canadian Journal of Nursing Administration*, 17(2), 103-108.

Diefendorff J., Brown D., Kamin A., &LordG. (2020). "Examining the roles of job involvement and work centrality in health care organizational citizenship behaviors and job performance". *Journal of Organizational Behavior*, 23 (1), 93-108. doi: 10.1002/job.123

El-Khalil R., Abdul-Nasser E. (2021). Managing span of control efficiency and effectiveness: A case study. Benchmarking, 23(7), 1717-35. doi:10.1108/bij-04-2014-0037

Grov E., Bjornnes A. (2020). Nurses' job involvement and association with continuing current position—A descriptive comparative study. *Journal of Clinical Nursing*, 29(13), 2699– 709.

Hattrup G., & Kleiner B. (2021). "How to Establish the Proper Span of Control for Managers." Industrial Management. Journal of Nursing Management, 35(6), 28– 29.

Hechanova R., & Beehr T.(2021). "Empowerment, Span of Control, and Safety Performance in Work Teams after Workforce Reduction." *Journal of Occupational Health Psychology*, 6(4), 275–82. doi:10.1037/1076-8998.6.4.275.

Hvaei F., Dahinten S., Macphee M. (2018). The effects of perceived organizational support and span of control on the organizational commitment of novice leaders. *Journal of nursing management*, 66 (23), 307-14. doi:10.1111/jonm.12131.

Kanungo R. (2018). Measurement of job and work involvement, *journal of Applied Psychology*, 67(3), 341-9.

Keyko K., Cummings G., Yonge O., & Wong A. (2022). Work engagement in professional nursing practice: A systematic review. *International journal of nursing studies*, 61, 142-64.

Khan I., Jam F., Akbar A., Khan M., Hijazi S. (2018). Job involvement as predictor of employee commitment: Evidence from Pakistan. *International Journal of Business and Management*, 6(4), 23-41.

Lull S. (2020). How span of control is defined and measured: A systematic literature review to inform healthcare leaders: Central Michigan University. *Nursing studies journal*, 14 (3), p 625-35.

Meier K., & Bohte J. (2022). Span of control and organizational performance Administration and Society. N*urse Educational today*

journal, 32(2), 115–37. doi:10.1177/00953990022019371.

McCutcheon A., Doran D., Evans M., & Pringle D. (2021). Effects of leadership and span of control on nurses' job satisfaction and patient satisfaction. *Nursing Leadership journal*, 22(3), 48-67. doi:10.12927/cjnl.2021.21154.

Morash R., Brintnell J. (2020). A span of control Tool for clinical Managers Nursing Leadership. *Journal of Management Development*, 18(3), 83-93. doi:10.12927/cjnl.2020.17620

Ruffin A., Shirey R., Dick T., Fazeli L., Patrician A. (2023). Understanding the impact of span of control on nurse managers and hospital outcomes. *Nursing Managing journal*, 68(3), 158-173.

Salessi S., Omar A. (2019). Job involvement in current research: Update and state of the art. Psychologist Papers. Human resource management journal, 40(1), 46– 56. doi: https://doi.org/10.1111/isj.12067.

Seo Y., & Price L. (2021). "The determinants of job satisfaction among hospital nurses: *International Journal of Nursing Studie*s, 41 (4), 437-46.

Shen H., Zhong S., Chen R. (2019). Span and scale of the government Public Personnel Management. *Nursing journal*, 45(1), 58-69.

Soukup T., Lamb W., Arora S., Darzi A., Sevdalis N., & Green J. (2022). Successful strategies in implementing a multidisciplinary team working in the care of patients with cancer: an overview and synthesis of the available literature. *Journal of multidisciplinary healthcare*, pp49-61.

Simpson B., Dearman V., Graves R. (2020). Mitigating the Impact of Nurse Manager Spans of Control. Nursing Administration Quarterly. *Nursing sciences journal*, 41(2), 178-86. doi:10.1097/01.nna.0000525953.88460.6

Van der Heijden B., Brown Mahoney C., & Xu Y. (2019). Impact of job demands and resources on nurses' burnout and occupational turnover intention towards an age-moderated mediation model for the nursing profession. *International journal of environmental research and public health*, 16(11), 11-20. doi:10.1177/000169939804100205.

Waltz L., Munoz L., Weber Johnson H., & Rodriguez T. (2020). Exploring job satisfaction and workplace engagement in millennial nurses. *Journal of nursing management*, 28(3), 673-681.

Weibler J. (2020). The job self-efficacy and job involvement of clinical nursing staff. *Journal of Nursing Research*, 14(3), 237-49.

Wong C., Miller E., Laschinger H., Cuddihy M. (2018). Examining the relationships between span of control and manager job and unit performance outcomes. *Journal of Nursing Management,* 23 (2), 156-68