

## Developing Strategy for Overcoming Problems Faced by Nursing Staff through Hospital Working System

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### Abstract

**Background:** Nursing staff play an important role in the hospital working system, and through it, they face primary and secondary problems. So, it's important to develop the strategy to overcome it. **Aim:** The study aimed to develop a strategy for overcoming problems faced by nursing staff through hospital working system. **Design:** Analytical design was utilized for carrying out this study. **Setting:** The study was carried out in all inpatient medical, critical care units, and surgical departments at Benha University Hospital. **Subject:** The subjects in the present study included a simple random sample of 333 nursing staff included supervisors, head nurses, and staff nurses with at least one year of experience in the setting. Snowball sampling technique was used to select 15 panel experts for the delphi technique employed to develop the strategy. **Tool of data collection:** I) Nursing problems through hospital working system questionnaire II) Delphi Panel's consensus opinionnaire sheet. **Results:** More than half (56.1%) of the studied nursing staff reported facing secondary problems; at the same time, more than two-fifths (43.9%) of them reported facing primary problems through the hospital working system. **Conclusion:** All the experts agreed on the face and content validity of the developed strategy that overcoming problems facing nursing staff through hospital working system. **Recommendation:** Disseminate the developed strategy in the study setting regarded to adopt it and apply in the study setting.

**Keywords:** Strategy, Problems, Nursing Staff and Hospital Working System

### Introduction

Nurses play a critical part in patient care 24 hours a day, including autonomy and collaborative care for people of all ages, families, groups, and communities, ill or well. Its purpose is to support them in carrying out activities that promote health or rehabilitation. Nurses share the planning, implementing, and evaluating functions with other health professionals to ensure the adequacy of the health system for promoting health, preventing illness, and caring for ill people. Promoting a healthy environment, research participation in shaping health policy and health working systems management, and education are also important roles (Abou Malham et al., 2020).

Hospital work systems enable nurses to perform their duties in a coordinated way on a daily basis and offer a fundamental foundation for the production of services and responsibilities (Krone-Hjertstrom, Norbye, Abelsen and Obstfelder, 2021). Elements that impact the work system may be found in all hospital work systems. The employees, the job, the organization's structure, rules and procedures, and leadership methods are among these factors. The pieces are interconnected and work together to form a whole system (Ponnala, Valdez, McGuire and Valdez, 2021).

During their roles as nurses, they face numerous challenges and problems that are caused by flaws in the hospital working system's management process, such as

planning, organizing, staffing, directing, controlling, scheduling, and budgeting, and these issues are considered primary problems because of their direct relationship with the hospital working system (**Eid, Abdallah and Zidan, 2019**). In addition, there are five major issues that nurses face today as a consequence of main issues: Compensation, workplace violence, understaffing, excessive working hours, and workplace dangers are all issues that need to be addressed (**Europe, 2021**).

According to the National Health Service (NHS) Foundation Trust Organization, the new strategy was influenced by a wide range of challenges, issues, and opportunities, reflecting the exciting and rewarding time in the nursing profession (**NHS, 2017**).

A huge range of challenges, issues, and opportunities have influenced the new strategy and reflect the exciting and rewarding time; this is for the nursing profession (**NHS, 2017**). The nursing strategy was needed to be clear about the direction and main areas of development for nurses and nursing over the next few years to meet the needs of service users better, their families, and careers, to describe how we will provide satisfying and meaningful experiences at work for nurses themselves and to be clear on our ambitions to develop and retain a skilled, motivated and compassionate workforce with the right numbers in the right place to meet clinical and service need (**Baba et al., 2020**).

The conceptual framework upon which the development of strategy is conducted in four phases namely as follow: Firstly; needs quantitative assessment survey; secondly; conceptualization of findings from the first phase, thirdly; development of strategies to support the roles and functions of the nurse in local level and the fourth phase; validation of these strategies (**Lita, Ipinge and Dyk, 2016**). This study focuses on the second

phase, the conceptualization of findings from the first phase, and it describes the fourth objective of the study, namely, to develop a conceptual framework on which to base the formulation of relevant strategies.

The senior leadership of an organization is generally tasked with determining strategy. Strategy can be planned (intended) or observed as a pattern of activity (emergent) as the organization adapts to its environment or competes. The strategy includes formulation and implementation processes; strategic planning helps coordinate both. However, strategic planning is analytical and involves finding the dots, and strategy formation involves synthesis as connecting the dots via strategic thinking (**Grainger-Brown and Malekpour, 2019**).

#### **Significance of the study:**

According to a survey conducted in Egypt (**Abdallah et al. 2019**), 11.2 percent of nurses had a complete positive assessment of the hospital working system, 70.2 percent had a total average perception of the hospital working system, and 18.6 percent had a whole negative perspective of the hospital working system. Another research (**Özder, Özcan and Eren, (2020)**) found that 82.22 percent of nurses' workloads had grown, as well as the amount of night shifts. In addition, 97.8% of them are concerned about infection from patients, and 73.3 percent are concerned about nurse-doctor conflict. Furthermore, 84.5 percent of them reported a tense and stressful working environment. 93.3 percent feel they are in charge of some of the equipment, supplies, and essential instances. Family life was jeopardized in 91.1 percent of cases. As a result, nursing personnel exercise their reasonability when dealing with severe challenges and situations that obstruct and obstruct the hospital's aims. There are challenges that nursing staff face, according to the investigator's experiences and work as a

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nursing expert and nursing supervisor in governmental and private hospitals; these problems may develop or vanish depending on the quality of each hospital's working system. It was also discovered that the issues were diverse and varied. Its impact on all elements of nursing practice, and according to investigators, the working system's flaw is the root of most of these nursing issues. There are two categories of nursing issues: those brought on by society and the media, and those brought on by the hospital's working structure. The foundation and cause of the first kind of hospital working system issues are considered. So, if the hospital working system becomes stronger and more quality, which leads to the elimination of mistakes, societal satisfaction, and media praise or thanks, then this study was conducted for the purpose of developing a strategy for overcoming problems faced by nursing staff through the hospital working system.

### **Aim of study:**

Investigating the difficulties identified by nursing staff throughout their work via the hospital working system in order to develop a plan for resolving challenges experienced by nursing staff through the hospital working system.

### **Research questions:**

- What are the issues that nursing personnel encounter as a result of the hospital working system?
- What is the approach for dealing with the problems that nursing personnel confront as a result of the hospital's working system?
  - What are the perspectives of a panel of experts on the newly produced strategy?

### **Subjects and Methods**

#### **Research Design**

The analytical design was utilized to achieve the aim of the current study.

#### **Study setting:**

The current study was carried out in all inpatient units of medical, critical care

units, and surgical departments at Benha University Hospital, Qaliobia Governorate, Egypt; the total number of units at this hospital are 36 and total number of beds are 880.

### **Study Subjects:**

**The subjects of the present study included two groups:**

**Group (1):** A simple random sample of nursing staff included nursing supervisors, head nurses, and staff nurses from all units of the hospital 333 by using computer for statistics.

**Group (2):** Panel of Experts of Nursing Administration: The Snowball sampling technique was used to select the Panel Experts for the Delphi technique employed to develop the strategy.

### **Tools of data collection:**

**Two tools were used for data collection:**

**1- Nursing problems through hospital working system questionnaire. It consisted of two parts:**

**Part (1):** Included personal and work characteristics of nursing staff.

**Part (2):** The investigator developed its self-structured questionnaire after reviewing the related literature reviews (**Buchman et al., 2017; Mahran, et al., 2017; Eid et al., 2019**).

### **Scoring system:**

Responses of the nursing staff were measured by using a three-point Likert scale ranged from (1-3) as; (3) yes, (2) do not know, and (1) no. Each subject chose only one answer after reading and understanding carefully. Finally, the score of each problem was summed up and converted to percent scores. The range of scores from (213-639) and the cut point was done at 60% = 383 points. Accordingly, levels of problems faced by nursing staff through hospital working system were categorized as the following: **Common problem** if the percent  $\geq 75\%$  that equals 479

points, **the average problem** if the percent from 60- < 75% that equals from 383-< 479 points and **uncommon problem** if the percent < 60% that equals < 383 points.

## **2- Delphi panel's consensus opinionnaire sheet:**

It was developed by the investigator after reviewing the related literature (Sisawo, Ouédraogo and Huang, 2017; Schepker, Nyberg, Ulrich and Wright, 2018; Oronga-Roglá and Chalmeta, 2019; Jewell, Jewell and Kaufman, 2020) to assess the Experts' opinions about the validity of the developed strategy for overcoming problems faced by nursing staff through hospital working system.

### **Scoring system:**

Responses of the nursing staff were measured by using a three-point Likert scale ranged from (1-3) as; (3) yes, (2) do not know, and (1) no. Each subject chose only one answer after reading and understanding carefully. Finally, the score of each problem was summed up and converted to percent scores. The range of scores from (213-639) and the cut point was done at 60% = 383 points. Accordingly, levels of problems faced by nursing staff through hospital working system were categorized as the following: **Common problem** if the percent  $\geq 75\%$  that equals 479 points, **the average problem** if the percent from 60- < 75% that equals from 383-< 479 points and **uncommon problem** if the percent < 60% that equals < 383 points.

### **Ethical considerations:**

Before conducting the study, the investigator explained the nature and study aim to nursing staff and informed them that participation is voluntary. Oral consent was obtained from each participant in the study. Confidentiality of data obtained was protected by allocating a code number to the questionnaire sheets. Subjects were informed that the obtained data would be used for the

research purpose only. Participants' right to withdraw from the study with no consequences was ascertained.

**Content validity:** The face and content of study tools were revised by five Experts' in the field of Nursing Administration; one professor and one Assistant Professor from Cairo University, two Professors from Ain Shams University, and one Assistant Professor from Benha University. The validity of the tools aimed to judge its clarity, comprehensiveness, relevance, simplicity, and accuracy. Based on the experts' perspective, minor modifications were done based on their comments, such as (modifying some words to give the right meaning for the phrase that wasn't clear and deleting the items with the same meaning) and the investigator developed the final validated form of the tools. This phase took one month, August 2020.

### **Reliability of tools:**

Reliability of the tool was applied by using Cronbach's Alpha Coefficient test. Nursing problems through the hospital working system questionnaire was  $\alpha=0.878$ , reflecting the tool accepted internal consistency.

### **Pilot study:**

The revised questionnaires were piloted in September 2020 with 10% from the study subjects, 34 nursing staffs, to evaluate the proposed data collection tools' effectiveness and assess the feasibility of the study. In addition to estimating the time needed to fill the form that approximately ranged from 35-45 minutes for nursing staff. No modification was done, and pilot study nursing staff were included in the main study subjects.

### **Fieldwork:**

The following phases were adopted to achieve the aim of the current study: assessment, planning, implementation, and evaluation phases. These phases were carried out from the earliest starting point of October 2020 to July 2021.

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## **The Delphi process**

Theoretically, the Delphi process can be continuously iterated until consensus is achieved. The literature reflects that an adequate number of rounds must be employed in a Delphi study to find the balance between producing meaningful results without causing sample fatigue. Recommendations for the Delphi technique suggest that two or three rounds are preferred to achieve this balance (Worrell, Di Gangi and Bush, 2013).

## **Evaluation phase:**

It examined the clarification of the strategy purpose, its comprehensiveness, clarity, and simplicity, along with how comprehensible, applicable, and feasible it was. This phase took about one month and was carried out through July 2021.

## **Statistical analysis:**

Statistical Package performed statistical analysis for Social Sciences (SPSS version 20.0). Also, Microsoft Office Excel is used for data handling and graphical presentation. All data were collected, coded, tabulated, and subjected to statistical analysis. Descriptive statistics were applied in the form of mean and standard deviation for quantitative variables and frequency and percentages for qualitative variables. Qualitative categorical variables were compared using the chi-square test. Whenever the expected values in one or more of the cells in 2x2 tables were less than 5, Fisher exact test was used instead. Statistical significance was considered at p-value  $p \leq 0.05$  and considered highly statistical significance at p-value  $p \leq 0.001$ .

## **Results:**

**Table (1):** Illustrates one-third of the studied nursing staff employed at surgical, medical and critical unit almost equally and more than half of the studied nursing staff had aged from 20 to less than 25 years old. As far as to their gender and marital status about three-quarters of them, were female and

married. As regarding to their educational qualification, more than half of them had Associated Degree of Nursing, about one-third of them had years of experience less than 5 years and from 5 to less than 10 years. Concerning duration of work shift about one-third of them had a 24 hours and 12 hours per day. Regarding the rotation frequency system, the vast majority of them had a month rooster and the two-thirds of studied nursing staff had one to more than three patient regarding nurse to patient ratio.

**Figure (1):** Clarifies that about half (56.1% & 43.9%) of the studied nursing staff had primary and secondary problems through the hospital working system respectively.

**Table (2):** Illustrates the total mean and standard deviation were  $221.03 \pm 19.95$  &  $166.32 \pm 11.12$  of studied nursing staff regarding primary and secondary problems through hospital working system respectively and the highest mean and standard deviation (the lowest problem)  $33.44 \pm 3.89$  was related to work place violence problem, while the lowest mean and standard deviation (the highest problem)  $58.79 \pm 7.17$  was related to directing process.

**Figure (2):** Clarifies that more than half (54.4%) of studied nursing staff had average primary problems, more than two fifth (43.2%) of them had common primary problems while, the lowest percentage (2.4%) of them had uncommon primary problems.

**Figure (3):** Describes that about three fifth (60.4% & 58.6% & 58%) of nursing staff had common primary problems through hospital working system on budgeting, controlling and directing processes respectively and about three fifth (61.9% & 57.1%) of them had average primary problems through hospital working system on scheduling and organizing processes respectively while, 9.0% of nursing staff had uncommon primary problems through hospital working system on staffing.

**Figure (4):** Describes that about two third (65.5%) of studied nursing staff had average secondary problems and about one third (31.5%) of them had common secondary

problems while, the lowest percentage (3%) of them had uncommon secondary problems as reported by studied nursing staff through hospital working system.

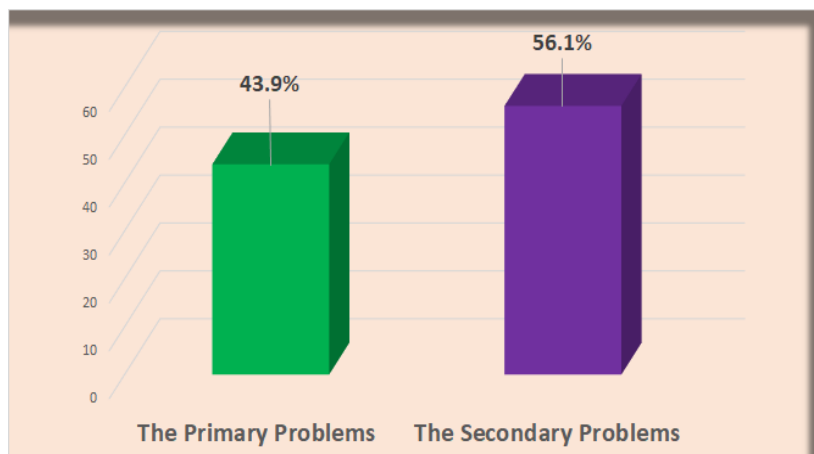
hospital working system problem on long shift hours.

**Figure (5):** Clarifies that more than three quarter (75.7%) of studied nursing staff had average work place violence problem and more than half (52.9% & 52.3%) of them had common problem in compensations and short staffing problems respectively while, more than one fifth (21.3%) of them had uncommon problem regarding secondary

**Table (1): Frequency distribution of the studied nursing staff regarding their personal and work characteristics (n=333)**

Personal and work characteristics		No	%
<b>The current place of work (units)</b>	Medical	114	34.2
	Surgical	117	35.2
	Critical	102	30.6
<b>Age</b>	20- < 25 yrs	190	57.1
	25-<30 yrs	47	14.1
	30 -<35 yrs	70	21.0
	≥ 35 yrs	26	7.8
	<b>M±SD</b>	<b>29.45±6.37 yrs</b>	
<b>Sex</b>	Male	88	26.4
	Female	245	73.6
<b>Marital Status</b>	Married	237	71.2
	Unmarried	96	28.8
<b>Educational qualification</b>	Nursing Diploma	93	27.9
	Associate degree of nursing	182	54.7
	Bachelor of Nursing science	58	17.4
<b>Years of experience in hospital</b>	1-<5 yrs	140	42.1
	5-<10 yrs	113	33.9
	10-<15 yrs	38	11.4
	≥15 yrs	42	12.6
	<b>M±SD</b>	<b>9.89±3.15 yrs</b>	
<b>Work shift duration</b>	6 hrs	96	28.8
	8 hrs	0	0.0
	12 hrs	113	33.9
	18 hrs	0	0.0
	24 hrs	124	37.3
<b>Rotation frequency system</b>	Week	25	7.5
	Ten days	0	0.0
	15 days	0	0.0
	Month	308	92.5
<b>Nurse/patient ratio</b>	one/one patient	20	6.0
	one/two patient	26	7.8
	one/3 patient	64	19.2
	one/more than three patient	233	67.0

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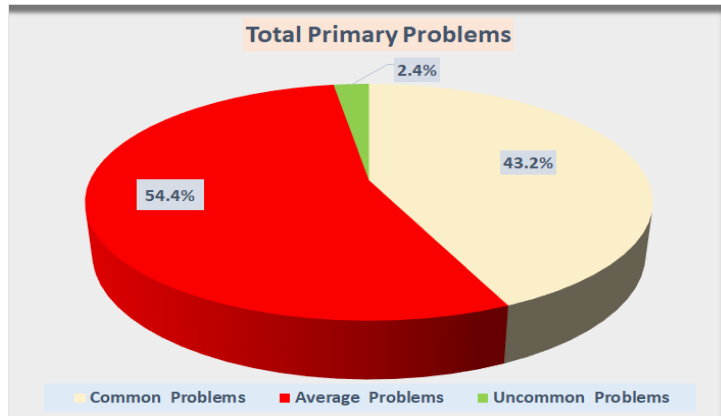


**Figure (1): Total problems as reported by the studied nursing staff through hospital working system**

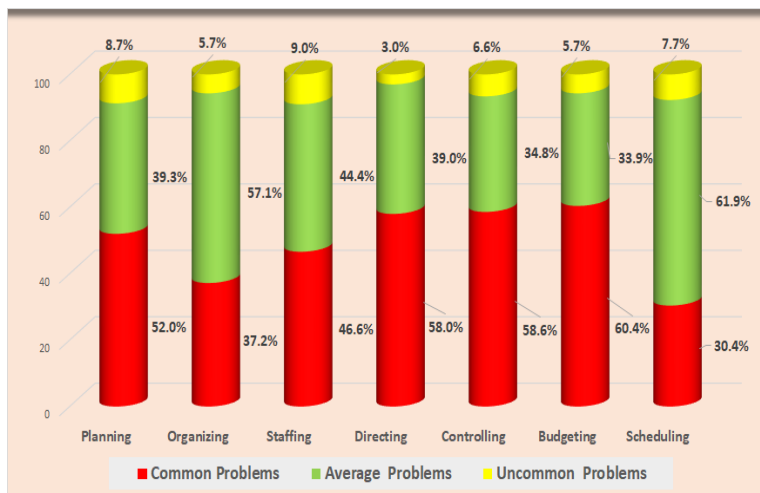
**Table (2): Total mean and standard deviation of primary and secondary problems as faced by the studied nursing staff through hospital working system (n=333)**

<b>Problems</b>	<b>maximum scores</b>	<b>M±SD</b>	<b>Mean%</b>	<b>Ranking</b>
<b>The planning</b>	<b>39</b>	<b>23.74±4.06</b>	<b>60.9</b>	<b>8</b>
<b>The organizing</b>	<b>99</b>	<b>62.28±8.58</b>	<b>62.9</b>	<b>9</b>
<b>The staffing</b>	<b>45</b>	<b>26.62±3.86</b>	<b>59.1</b>	<b>6</b>
<b>Directing</b>	<b>112</b>	<b>58.79±7.17</b>	<b>52.5</b>	<b>1</b>
<b>Controlling</b>	<b>42</b>	<b>23.90±5.00</b>	<b>56.9</b>	<b>3</b>
<b>The budgeting</b>	<b>12</b>	<b>6.38±1.74</b>	<b>53.2</b>	<b>2</b>
<b>Scheduling</b>	<b>30</b>	<b>19.30±2.90</b>	<b>64.3</b>	<b>10</b>
<b>The primary problems</b>	<b>369</b>	<b>221.03±19.95</b>		
<b>The compensation</b>	<b>81</b>	<b>46.68±5.01</b>	<b>57.6</b>	<b>4</b>
<b>Workplace hazards</b>	<b>60</b>	<b>36.30±5.64</b>	<b>60.5</b>	<b>7</b>
<b>Shortage of staffing</b>	<b>51</b>	<b>30.09±4.37</b>	<b>58.9</b>	<b>5</b>
<b>Long work hours</b>	<b>30</b>	<b>19.80±3.60</b>	<b>66.0</b>	<b>11</b>
<b>Workplace violence</b>	<b>48</b>	<b>33.44±3.89</b>	<b>69.7</b>	<b>12</b>
<b>The secondary problems</b>	<b>270</b>	<b>166.32±11.12</b>		

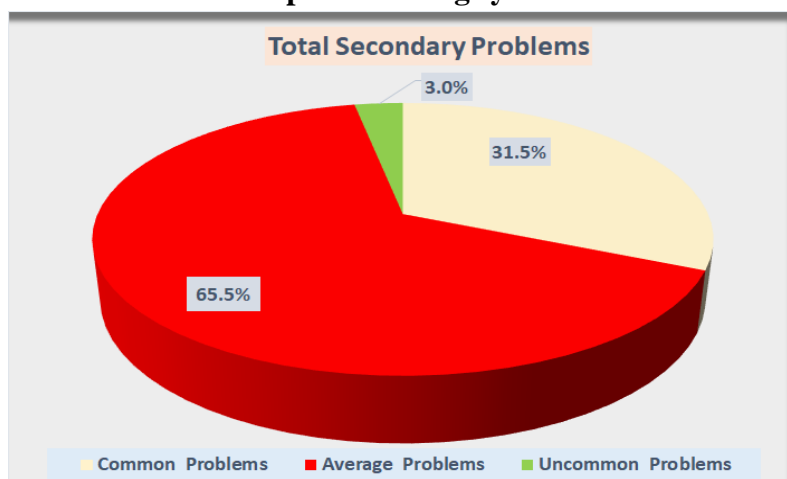
**\*Reverse ranking (the highest mean= the lowest problem)  
(the lowest mean= the highest problem)**



**Figure (2): Total primary problems levels as reported by the studied nursing staff through hospital working system (n=33)**



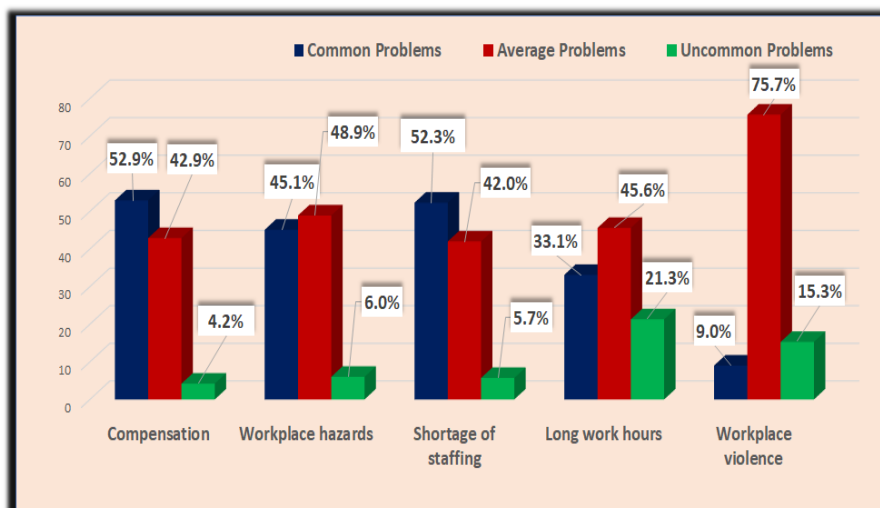
**Figure (3) : Distribution of primary problems faced by the studied nursing staff through hospital working system**



**Figure (4): Total percentage of secondary problems as faced by studied nursing staff through hospital working system.**



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**Figure (5): Distribution of secondary problems faced by studied nursing staff through hospital working system.**

### Discussion

Hospital working system problems and challenges that facing nursing staff at the workplace are significant because they have an important impact on nurses' ability to deliver safe, effective and high-quality care and prevent leading change in the health care system and advancing health claims. A robust strategic plan is a critical component to ensure excellent patient care and the best possible outcomes. A successful nursing strategic plan establishes a roadmap for the future. It gives nurses a direction to follow, refresh and reenergize the working system (Lal, 2020).

Thus, this study aimed to develop strategy for overcoming problems faced by nursing staff through hospital working system through: investigating the problems as reported by nursing staff during their works through hospital working system, developing strategy to overcome problems that were identified and assessing the validity for the proposed strategy of overcoming work problems.

Discussion of the present study was grouped and presented according to the following sequence: **Part (1):** Personal and work characteristics of the studied subjects,

**Part (II):** Nursing staff problems through hospital working system, **Part (III):** Relation between the study variable and personal and work characteristics of the studied nursing staff and **Part IV:** Experts opinionnaire regarding strategy items.

### **Part (1): Personal and work characteristics of the studied subjects:**

The finding of the present study showed that about one- third of the studied nursing staff employed at surgical, medical and critical unit almost equally and more than half of the studied nursing staff had aged from 20 to less than 25 years old. As far as to their gender and marital status about three-quarters of them, were female and married. As regarding to their educational qualification, more than half of them had Associated Degree of Nursing, about one-third of them had years of experience less than 5 years and from 5 to less than 10 years. Concerning duration of work shift about one-third of them had a 24 hours and 12 hours per day. Regarding the rotation frequency system, the vast majority of them had a month rooster and the two-thirds of studied nursing staff had one to more than three patient regarding nurse to patient ratio.

**Part (II): Nursing staff problems through hospital working system:**

This part answered the first question: What are the problems faced by nursing staff through hospital working system?

Regarding to total problems facing nursing staff through hospital working system, the present study revealed that, more than half of the studied nursing staff reported facing secondary problems, as; compensation, workplace hazards, shortage of staffing, long shift hours and work place violence, at the same time more than two fifth of them reported facing primary problems through the hospital working system as planning, organizing, staffing, directing, controlling, budgeting and scheduling.

From the investigator's point of views, the finding due to some reasons as the primary problems has direct relation with working system and not clear for all nursing staff. While, the secondary problems more common than the primary problems due to it repeated every day in all times and this type of problems was clear for all nursing staff.

The current findings were agreed with the study conducted by **Mahran, Taher and Saleh, (2017)** who conducted study about challenges and work crisis facing critical care nurses and reported more than three-quarters of nurses had secondary problems as increased in workload, increased numbers of night shifts, fear of the possibility of infection from patient, conflict between nurses and doctors, working atmosphere filled with tension and stress and sense of responsibility for some of the equipment and materials.

Regarding to ranking with mean scores of hospital working system problems (primary and secondary) facing the studied nursing staff, the present study illustrated the first ranking with the highest mean (the lowest problem) was related to workplace violence problem, while the last ranking with the

lowest mean (the highest problem) was directing process.

From the investigator's point of view, the findings that directing process is the highest problem because the directing process was related to decision-making, team building, conflict management, communications and time management. Also, nursing opinions regarding the directing as guiding, inspiring, overseeing and instructing staff toward accomplish of organizational goals and this didn't in real situations.

Additionally, the investigator's point of views the decision-making function as a part of the directing process is the highest problem as reported by nursing staff due to the head nurses of units has a weak role in important decisions, the necessary discussions and identifying, selecting, and analyzing the best alternatives in the units weren't activated for decisions making and no evaluation for the decisions.

Regarding team building function no cooperation between nursing staff when occurred problems, crisis during the daily workflow and responsibility isn't clarified in operations. Concerning communication function there is a highest problem due to there was no good communication channels between nursing staff and there is stress in work environment due to work overload and shortage of staff. Related to time management the nursing report that the time that required to perform nursing care isn't enough. Regarding the workplace violence as reported by nursing staff was the lowest problem because the security status stable by private security company that spread all over the hospital, there is fairness in dealing with all patients, there is laws and regulations that protect nursing staff form more types of violence like verbal, physical and sexual violence and the all entrances and exits are controlled by security.

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This study finding goes in line with results from the study done by **Gab Allah, El Shrief and Ageiz, (2020)** who conducted study about; developing strategy a guide for nurse managers to manage nursing staff work related problems. they reported that the conflict management in directing process was the main problems that the majority of nurses. Similarity **Hagbaghery, Salsali and Ahmadi, (2014)** who conducted the study about; the factors facilitating and inhibiting effective clinical decision-making in nursing reported that the majority of nurses complained of weakness of effective clinical decision-making through directing process is one of the most important components of weakness nursing practice.

In the same line, **Ferrara et al., (2017)** who conducted the study about a tool for assessing the quality of nursing handovers reported that a problem in communication in form of handover, in particular between two shifts, is a crucial aspect of nursing for patient safety, aimed at ensuring continuity of care. As well, **Lahana et al., (2019)** who conducted the study about conflict management in public sector nursing reported that lack of conflict management in directing process among nursing staff. Fittingly, concluded that the sources of conflicts in nursing and individual as well as nurse management strategies for conflict resolution, according to certain demographic and work-related characteristics.

This result aligns with **Mutshatshi et al., (2018)** who conducted the study about challenges experienced by nurses in selected public hospitals reported that nurses working in public hospitals experience record-keeping as a challenging activity owing to a variety of challenges which include lack of time to complete the records, increased patients' admission and shortage of recording material.

The current findings was in agreement with **Bambi et al., (2017)** who conducted the study about preventing workplace incivility, lateral violence and bullying between nurses and reported that there was a problem when the nursing staff working as team through poorly recognized communication and relations between nursing during the work.

### **Part (III): Relation between the study variable and personal and work characteristics of the studied nursing staff:**

Relation between nursing staff problems through hospital working system and their personal and work characteristics, the present study showed that there were no statistical significant relations among problems (primary and secondary) faced by nursing staff through hospital working system and their personal and work characteristics.

This result was harmony with **El-Atrash, Safan and Ahmed,(2020)** who conducted the study about relation between first line managers authority and staff nurses participation in decision-making and reported that , there was no statistical relation between first line manager authority and personal and work characteristics and contrasted with who conducted the study about **Eid, Abd-Alla and Zidan, (2019)** who reported that there was highly statistical significant relations among variables of hospital working system and their personal and work characteristics.

This result was in contrasted with **Badder, Salem and Hakami, (2016)** who conduct study about; Nurse manager's attitudes and properness towards effective delegation in Saudi hospitals and referred that there was positive correlation between nurse managers delegation authority and demographic characteristics such as age and experiences that give them more chances to acquire management skills, and learn more and learn more job description, policies and

procedure that clarify the role and function of delegation and capabilities of the staff and use those talent to maintain the benefit for quality of patient care.

#### **IV: Experts opinionnaire regarding strategy items.**

This part answered the second question: what are the strategy for overcoming problem faced by nursing staff through hospital working system, and third research question: what are the panal of expert,s opinions regarding the newly developed strategy.

This study utilized Delphi technique which can usefully influence many areas for managing clinical activity and solving operational problems by identifying and obtaining agreement on the underlying factors and strategies of resolutions. In the same way **Sim et al., (2018)** used the Delphi technique in their study to conclude that consensus was achieved between nurses on the most important concepts, which can provide the basis for measuring the quality and safety of nursing practice in a comprehensive way. The Delphi technique was also used to reach the findings of **Bjorkman et al., (2017)** which presented a consensus view of tele-nurses' experiences of important obstacles and prerequisites in their work environment.

Regarding to the second study question, the current study suggested a strategy for overcoming problems faced by nursing staff through hospital working system that building on four basic and main dimensions; the first; developing the nursing hierarchal, the second; developing crisis team, the third; ethics wise council and the fourth; developing scheduling process, nursing staff from different study settings suggested certain strategies for managing problems nursing staff which was later organized by the investigator's and validated by expert panelists. The developed strategies were following the assumption by

**Munro and Hope, (2020)** who conducted the study about healthy work environment and reported that; developing a healthy work environment in which the nursing staff feels supported physically and emotionally; where one feels safe, respected and empowered through solving problems faced them though hospital working system. Additionally, reviewing related literature by the investigator's helped in formulating the current strategies in light of the current study conceptual framework.

Regarding the first dimension of developing nursing hierarchal through increase the levels of administrative positions of nursing from top to lower level and focusing on staff nurse who directs contact with the patients for facilitating and rising of management processes and functions as planning, staffing, communication, team building and decision making through hospital working system.

This agreed with **Price and Reichert, (2017)** who conducted the study about the importance of continuing professional development to career satisfaction and patient care: meeting the needs of novice to mid-to late-career nurses throughout their career span and reported that nurses identified healthy work environments were identified by nurses as those that invested in continuing professional development opportunities to ensure continuous growth in their practice and provide optimal quality patient care. Training and education emerged as a cross-cutting theme across all career stages and held implications for patient care, as well as retention and recruitment.

Regarding the second dimension is crises team that help in raising the level of planning, decision making, communication, controlling and developing the all system due to become a way of communication the external with internal through experiences

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exchange, direct communication between the planning and the reality and management an emergency situation as emergency shortage as in staff strikes.

This agreed with **Al Thani and Obeidat, (2020)** who conducted the study about and reported that the crisis is an unusual and stressful event. It is highlighted by the strategic gap due to the lack of adaptation to the changes in the organization's environment and aimed to identify the reality of strategic leadership represented by (investing strategic capabilities, defining strategic direction, improving and developing human capital, strengthening organizational culture with ethical practices, implementing balanced regulatory supervision) and crisis management represented by (detection of warning signals, preparedness and prevention, containing and limiting damages, restoration of activity, and learning)

Regarding the third dimension is developing ethics wise council to assist in nursing management in conflict resolution and bring nursing staff to a state of satisfaction. So, this council will become to nursing staff take them rights which agreed with the findings of **Fox, (2021)** who conducted the study about exploring occupational health care nurses' perceptions of systems to enhance their own resilience, hardiness and well-being and reported that found that the occupational health care nurse practitioners experience numerous stressful situations on a daily basis in their different working environments and this study done in the government sector in South Africa showed that increased nursing dissatisfaction and compromised well-being are due to staff shortages, high work-load and unsatisfactory negative working environments.

Regarding the fourth dimension is developing the scheduling process and

developing schedule include data about the rolls of the nursing staff in normal and emergency situations and become way of planning, organizing, staffing and communication between all nursing staff. It is one of the most important aspects of workforce management strategy and the one that is most prone to errors or issues as there are many entities should be considered, such as the staff turnover, employee availability, time between rotations, unusual periods of activity, and even the last-minute shift changes.

This agreed with **Alade and Amusat, (2019)** who conducted the study about solving nurse scheduling problem using constraint programming technique and reported that the staff scheduling is a universal problem that can be encountered in many organizations, such as call centers, educational institution, industry, hospital, and any other public services. The nurse scheduling problem is a variant of staff scheduling problems which appoints nurses to shifts as well as rooms per day taking both hard constraints as hospital requirements, and soft constraints as nurse preferences, into account. Most algorithms used for scheduling problems fall short when it comes to the number of inputs they can handle and this study constraint programming was developed to solve the nurse scheduling problem depend on developed constraint programming model for schedule.

In accordance, the study done by **Özder, Özcan and Eren, (2020)** about a systematic literature review for personnel scheduling problems and reported that satisfaction at the top level, profit maximization, increasing system efficiency and minimizing costs. By carefully examining the significant effect of nursing scheduling on the production of goods and services, achieving a fair distribution of work among

the nurses paves the way for higher motivation and performance of the nurses.

**Conclusion:**

More than half of the studied nursing staff reported facing secondary problems; at the same time, more than two-fifths of them reported facing primary problems through the hospital working system. All the experts agreed on the face and content validity of the developed strategy that overcoming problems facing nursing staff through hospital working system.

**Recommendations:**

1. Nurses should be educated in strategic planning and strategy for the hospital operating system on a regular basis.
2. They should make it clear what the objectives are and how they will be achieved.
3. They need to be more specific about the findings.
4. In order to achieve this growth, nursing personnel should be characterized by strong interdependence and coordination.
5. The strategy's execution reduces the need for struggle and opposition during times of change and progress.
6. Examine both positive and negative influences on the strategy's success.

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## تطوير استراتيجية للتغلب على المشاكل التي تواجه التمريض خلال نظام العمل بالمستشفى

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يلعب طاقم التمريض دورًا مهمًا في نظام العمل بالمستشفى، ومن خلاله يواجهون مشاكل أولية وثانوية. لذلك من المهم تطوير استراتيجية للتغلب عليها. لذا هدفت الدراسة إلى وضع استراتيجية للتغلب على المشكلات التي تواجه طاقم التمريض من خلال نظام العمل بالمستشفى. وقد أجريت الدراسة في جميع أقسام المرضى الداخلي الباطنة والجراحة ووحدات العناية المركزة بمستشفى جامعة بنها. حيث اشتملت عينة البحث في هذه الدراسة على عينة عشوائية بسيطة من 333 من طاقم التمريض بما في ذلك المشرفين ومرضيين الذين لديهم خبرة سنة واحدة على الأقل في الإعداد. وتم استخدام تقنية أخذ عينات كرة الثلج لاختيار 15 من خبراء الفريق لتقنية دلفي المستخدمة لتطوير الاستراتيجية. وقد أظهرت النتائج أن أكثر من نصف (56.1%) من طاقم التمريض المدروس يعانون من مشاكل ثانوية. في الوقت نفسه، أفاد أكثر من خمسيهم (43.9%) أنهم يواجهون مشاكل أولية من خلال نظام العمل بالمستشفى. وخلصت الدراسة إلى أن جميع الخبراء اتفقوا على وجه ومضمون الإستراتيجية المطورة للتغلب على المشاكل التي تواجه طاقم التمريض من خلال نظام العمل بالمستشفى. وأوصت الدراسة بنشر الاستراتيجية المطورة في محيط الدراسة معتبرا اعتمادها وتطبيقها في بيئة الدراسة.