

Using Job Demand, Control, Support Model to study Nurses Job Stress and its Relations with their Quality of Work Life at Magdy Yacoub Foundation



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ABSTRACT

Background: Nurses are the professional group within the healthcare team. Nursing is an extremely stressful job by its nature. Workplace stress is a prevalent and costly issue that can influence the quality of services delivered, induce burnout, raise the likelihood of leaving work, absenteeism, and diminish the quality of nurses' work life. **Aim:** To use job demand control support model to study nurses' job stress and its relations with their quality of work life at Magdy Yacoub Heart Foundation. **Design:** Descriptive correlational design was carried out. **Methods:** Utilizing three tools, Job Demands, Control and Support Scale, Nursing Stress Scale, and Work-Related Quality of Life Scale. **Results:** The majority of nurses exhibit a high level of job demand and excellent level of job support, most of them had an excellent level of job control, while most of them had a low level of job stress. About 53.9% of the studied nurses had a moderate level of quality of work life. **Conclusion:** There are highly statistically significant negative relations between job control, job support and job stress. Additionally, there are highly statistically significant negative relations between job stress and quality of work life. Also, there is a highly statistically significant positive relation between job control, job support and quality of work life while job demand had no statistically significant relation with job stress and quality of work life. **Recommendations:** Create an environment that reduces excessive job demands, provides necessary control and fosters the quality of work life among nurses through job support.

Keywords: Job Demand Control Support Model, Job Stress, Nurses, Quality of Work Life.

Introduction:

Nursing is a caring science at its core, and nurses are the primary healthcare providers that deliver the most customized care to a wide range of service consumers. Numerous variables influence their work at hospitals, including the quantity of work given to them, how their supervisors manage them, and their interactions or interrelationships at work as members of diverse healthcare teams and while interacting with service consumers. Such job aspects either favorably or adversely shape and impact their professional quality of life (Shdaifat, Al-Shdayfat, & Al-Ansari, 2023).

Job stress is a major source of mental and physical issues among health care providers, in addition to decreased efficiency in workplaces. It also has the possibility to affect the quality of care provided, especially for nurses. Stress is a negative physical as well as mental response that may arise whenever a nurse is confronted with professional requirements and demand that are unsuitable for their background, talents, and competencies, making management difficult (Zabin, Zaitoun, Sweity, & de Tantilillo, 2023). Such distress drives the organization's human resources to engage in activities and behaviors that prohibit the organization from attaining its goals. As a result, the demand control support (DCS) model is the

most often used model of stress in the workplace (Babamiri, Heydari, Morteza pour & Tamadon, 2022).

The Job Demand-Control-Support (JDACS) model is a highly effective conceptual framework for assessing job characteristics and their implications for nurses' occupational health. In fact, this model has been utilized in a variety of professions to analyze a wide variety of behaviors that cause stress in nurses (Navajas-Romero, Ariza-Montes, & Hernández-Perlines, 2020). In its correlations with stress, the JDACS model places a focus on the roles of control and support elements. As a result, a nurse who perceives a high level of control over their field of work is less likely to develop stress and other psychological disorders (Kim et al., 2021).

JDACS Model explains how job characteristics affect nurses' psychological health. According to this model, the biggest hindrances to nurses' well-being include workplace expectations like an extensive workload, increased work rates, role uncertainty, and psychological demands from patients or consumers. However, if a nurse has autonomy in making decisions or support from other colleagues or supervisors, the link between job demand and well-being can be mitigated (Min

& Hong, 2022).

Job demands refer to the physical, emotional, and cognitive requirements of the nursing profession that require sustained effort and energy expenditure from nurses (**Elnady, Omar, & Abd-Elrhaman, 2023**). Job demands are further described as those social, physical, or organizational aspects of the job that necessitate continual physical and mental expenditures like exhaustion, which are a type of stressor that being an external element, has an adverse effect on nurses. Job control was the second aspect of JDCS model (**Bano, Mubashir, & Aijaz, 2023**).

Job control has been defined as the degree whereby nurses think that they have authority over their work schedule or manner. It relates to the capability of nurses to exert influence over job duties, settings and achievements. Nurses with great job control can select how to operate and organize their duties in an intuitive manner and makes meaning to them (**Zhao & Yin, 2023**). As well as job control can be defined as the amount to which a nurse's autonomy to make judgments and control actions throughout occupational activities. It is inversely connected to work unhappiness (**Abadi et al., 2020**).

Job control is an instrument that serves as a buffer against workload stress (**Rashmi, & Kataria, 2021**). It is the capacity to regulate and handle job demands, as well as the level of self-determination/authority over one's job in terms of applying specialized abilities, regulating time and task allocation, and engaging in organizational policy choices. It has two dimensions: skill discretion and decision authority. The first is *skill discretion*, which refers to the variety of skills necessary to complete and regulate activities, and the second is *decision authority*, which relates to the level of autonomy in carrying out duties at work (**Lee et al., 2022**). Support dimension added later to the JDC model to be JDCS model (**Montesa, Fuentes, Han, & Law, 2018**).

Individuals are human beings that depend on others for psychological and social support. Another important source of these resources is social support in work environments, which essentially means interpersonal assist from other coworkers. These resources frequently have a beneficial effect on critical results like creating or strengthening of social exchange links, and they serve as a buffer between sustainability issues and a person's appraisal and sense of strain (**Jolly, Kong, & Kim, 2021**). The JDCS model proposes that the perceived level of control and support regulates the association between job demands and adverse

psychological consequences (**Kim et al., 2021**).

Nurses who have a great deal of control over their job and can successfully seek social support from colleagues or other individuals are less likely to suffer from stress and other mental health issues (**Kim et al., 2021**). Nurses' job stress arises when nurses' coping abilities are tested or overwhelmed by the demands of their job. It is possible that nurses who experience occupational stress can self-regulate by making constant adjustments to their thoughts, behaviors, and emotional responses in order to alter their perceptions of the stressor. However, others may adjust in negative ways leading to psychopathology (**Mutua, et al., 2023**).

Again, nursing is known as a stressful career because of the challenging job demands and requirements, and the primary stressors have been identified as high expectations, high duty, and insufficient authority (**Babapour et al., 2022**). Nurses work in a variety of challenging environments. Nursing is a naturally stressful profession that handles patients' pain, suffering, and death. In addition to physical pressures, nurses are also exposed to psychosocial stressors, both of which create significant stress (**Biganeh et al., 2022**).

Stress refers to a mental and physical condition that results from both physical and mental strain. Job stress is a serious issue for nurses, as it leads to burnout and, as a result, severe consequences on patient care, nurses' physical and emotional health, and increase people and medicine costs. High stress is a widespread and costly condition that can impair the level of care delivered by nurses, increase the likelihood of nurses leaving their jobs and reduce the nurse's quality of work life (QoWL). It is a key factor in recruiting dedicated, talented, and motivated individuals to work in the healthcare sector (**Mohammadi, Bavarsad, & Hendighomashi, 2022**).

QoWL refers to the degree to which nurses within the workplace may meet their personal requirements via their work experience in the organization. It includes nurses' wages, resources, health and safety concerns, making decisions, management style, work variety, and flexibility (**Mosisa et al., 2022**). QWL has a considerable beneficial impact on nurses' satisfaction but has a significant adverse impact on the intention to leave. Hence, a high level of QWL can predict high nurses' happiness and low turnover intention (**Riyono, Hartati, & Fatdina, 2022**).

Poor work-life quality, on the other hand, contributes to greater turnover intention; higher

stress levels, which impacts the continuity and direction of any organization, blocks productivity in the organization and serves as a barrier to enrollment into nursing (Salahat, et al., 2022). Thus, job stress may have a negative impact on several elements of nurses health and lives, as well as the quality of their work life. Finally, regulating hospital nurses' job stress is an important method for improving hospital work efficiency and advancing nursing organizations (Arkan-Donmez, et al, 2022).

Significance of the Study

Hospitals are under high pressure to raise quality of care regarding patients also provide and maintain balanced work environment free from stressors face all nurses which spent major time with patient to ensure patients take needed care, so they give the patient optimum care with low patient harm. Work-related stress in nurses is one of the most serious workplace health threats for nurses around the world. Work-related stress costs organizations a lot of money since it causes nurse absences and turnover, decreased efficiency, sickness, low level of health care services, and a higher likelihood of errors and expenses. Job stress can be caused by work overload and a lack of decision-making authority (Mohammadi, et al., 2022).

At Magdy Yacoub Heart Foundation is dedicated to improving the health outcomes of those who are most susceptible individuals in Egypt and the wider Middle East and Africa, particularly children, by making comprehensive advanced cardiac treatment available to all persons in need at no cost. And nurses make up most human resources in hospitals that provide 24-hour care and have an increase in job demands and job strains. Nurses experience more stress and pressure in their workplace which can lead to serious consequences. Hence the present study used JDCS model to investigate the factors that influence work stress in nurses and if greater job demands, less job control or support, or safety concerns raise levels of work stress in nurses.

Aim of the Study

This study aims to use job demand control support model to study nurses' job stress and its relations with their quality of work life at Magdy Yacoub Heart Foundation.

Research Hypothesis

The specific research hypotheses are:

H1. Job demand correlates with nurses job stress and quality of work life at Magdy Yacoub Heart Foundation.

H2. Job control correlates with nurses job stress and quality of work life at Magdy Yacoub Heart Foundation.

H3. Job support correlates with nurses job stress and quality of work life at Magdy Yacoub Heart Foundation.

Methods

Study design:

For this study, the descriptive correlational design was carried out.

Setting of the study:

This research was carried out at Aswan Heart Centre (Magdy Yacoub Heart Foundation), a charitable organization affiliated with the ministry of social solidarity established in 2008. The hospital contains 10 inpatient units and non-patient supported units. The hospital consists of four floors including three floors, basement and ground. The ground floor contains the reception, Outpatient Department (OPD), Radiology Unit, Cath Lab Unit (CL), and Cardiac Care Unit (CCU). The first floor contains Adult Cardiac Intensive Care Unit (ACICU), Pediatric and Neonatal Cardiac Intensive Care Unit (PCICU), Surgical Unit (two operation room) (OR), Rapid Recovery Unit (RRU), internal Adult Ward Unit, and Research Unit. The second floor contains Pediatric Ward (PW), Laboratory, Blood Bank, and Pharmacy. The third floor contains another internal Adult Ward (AW) unit and administrative unit. The basement floor contains laundry and cafeteria. And other supportive units with occupied capacity of 90 beds.

Participants:

A convenience sample of all available nurses (n=180) and providing patient care at the time of data collection. in (ACICU, PCICU, RRU, CCU, OR and CL) units and having a minimum of one year experience work to express their opinion about study variables.

Tools of data collection:

In the current study, three tools were utilized to gather data namely: Job Demands Control and Support Scale (JDCSS), Nursing Stress Scale (NSS) and Work-Related Quality of Life Scale (WRQoLS).

The first Tool: Job Demands, Control and Support Scale (JDCSS):

This scale contains four parts: *The first part*: It was used in order to identify the study nurses personal characteristics such their gender, marital status, age, qualifications in education, experience years, working unit, & number of working shifts. *The second part*: This part

developed by **Karasek & Theorell, (1990)** which describes nurses' job demands related to workload and time pressures in the workplace. It includes (5 items). **The third part:** It was developed by **Ganster (1989)** aims to assess the extent of nurse's job control in the work environment. It contains two subscales. The first one includes (6 items) is concerned with nurses' discretion in applying skills to do the job. The second one includes (3 items) that describe a nurse's authority to make job-related decisions. **The fourth part:** It was developed by **Eisenberger, Huntington, Hutchison, & Sowa (1986)** to assess work-related support resources, which were measured by organization support (4 items), coworker support (4 items) and supervisor support (4 items). On a 5-point Likert scale ranging from (1) "strongly disagree" to (5) "strongly agree", respondents scored the following items: (1) indicates severely disagree, (2) indicates disagree, (3) indicates uncertainty, (4) indicates agree, and (5) indicates highly agree.

Scoring system: In order to determining job demands dimension levels, it was classified into three levels based on cut of points as follows, low (less than 50%), moderate (from 50% to 75%), & high (more than 75%).

As regards levels of job control and job support dimensions, it was classified into three levels based on cut of points as follows, poor (less than 50%), moderate (from 50% to 75%) & excellent (more than 75%).

The second tool: Perceived Nursing Stress Scale (PNSS):

It was developed by **Cohen, Kamarck, and Mermelstein, (1985)** to assess the perception of nursing stress in the workplace. It consists of (10 items) made up of five negative items and five positives related items. The questions in the PNSS focus on feelings and thoughts from the previous month. Respondents are asked how frequently they felt a certain way. The PNSS is rated by participants on a 5-point Likert-type scale ranging from (0) "never" to (4) "very often" as following: (0) never, (1) almost never, (2) sometimes, (3) often and (4) very often.

Scoring System: The total score of nursing stress was classified into three levels based on cut of points as follows, low (lower than 50%), moderate (from 50% to 75%) & high (above 75%).

The third tool: Work-Related Quality of Life Scale (WRQoLS):

Van Laar, Edwards, and Easton (2007) created it to measure the quality of work life. It consists of 23-items which categorized under 6 dimensions namely; Job and career satisfaction (6 items), general well-being (6 items), home-work interface that includes how to accommodate family and work responsibilities (3 items), stress at work that includes job demands (2 items), personal control including control of decision- making at work (3 items), and working conditions including the physical work environment (3 items). Participants evaluated the WRQoL scale items on a 5-point scale ranging from (1) "strongly disagree" to (5) "strongly agree." (1) means strongly disagree, (2) means disagree, (3) means uncertain, (4) means agree, and (5) means strongly agree.

Scoring System: The total quality of work life score was divided into three levels based on cut-off points: low (less than 50%), moderate (50%-75%), and high (more than 75%).

Validity and reliability:

A five-person panel of expertise academic staff in relevant speciality fields revised the tools for clarity, relevancy, applicability, comprehensiveness, comprehension, and simplicity of implementation from the Faculty of Nursing at Mansoura University then modifications were done according to their point of view. The researcher customized and translated three tools into Arabic. The study tools and some dimension's reliability were tested and judged by utilizing the Cronbach alpha test and the reliability of job demands, job control, job support, job stress and quality of work life was (0.71), (0.70), (0.86), (0.77) and (0.92) respectively.

Pilot study:

A twenty nurse or 10% of study sample was conducted as a pilot. Nurses selected randomly and omitted from the entire study population to assess the tool's simplicity, feasibility, applicability and time needed for filling it.

Ethical consideration:

The Research Ethical Committee of Mansoura University Faculty of Nursing gave ethical permission. The study was approved by Aswan Heart Center's responsible administrator. After being told about the nature and objective of the study, nurses volunteered to participate in it. All participants were assured of the confidentiality of the collected data and the privacy of the study sample at all phases of the research. Results were utilized as a part of essential research.

Field work:

Once an official permission was obtained by the proper channel of communication from the director of Aswan Heart Center Hospital, the questionnaire sheet was distributed to nurses. Data was collected at the period from beginning November 2022 to end of December 2022 through self-administered questionnaire that was distributed for nurses. The researcher explained the study purpose as well as the method to fill out the questionnaire papers. Time required to complete the questionnaire was 20-30 minutes.

Statistical analysis:

For entering data and statistical analysis, the computer program Statistical Package for the Social Sciences (SPSS) version 23 was used, as well as applicable statistical tests. SPSS software (version 23, SPSS Inc. Chicago, IL, USA) was utilized to organize, tabulate, and statistically analyze the collected data. Categorical variables were represented using frequency and percentage. To compare the means of two continuous variables, the independent t-test was utilized. The independent t-test was used to compare the means of two continuous variables. The ANOVA test was used to determine the difference between the means for multiple continuous variables. To investigate the relation between two continuous variables, the Pearson correlation coefficient test was utilized. The independent factors influencing workplace stress and work life quality were investigated using multiple regression analysis. If $p\text{-value} \leq (0.05)$ & (0.01) was considered statistically significance.

Results

Table (1) shows the most of studied nurse age were between 20 and 30 years with (92.2%). The majority of them have fewer than 5 years of experience (82.2%), while low percent of all of them (1.1%) had years of experience more than 10 years and most of them were male (70.6%) and had bachelor's degree (69.4%) and were single (70.6%). Approximately two-thirds of the nurses surveyed (67.8%) work in intensive care units, and over fifty percent work 16 to 18 shifts per month.

Figure (1) revealed the majority of studied nurses reported the highest level of job demands (70.6%) whereas, (28.9%) of them have moderate level and just (0.6%) of the studied nurses represent low level.

Figure (2) revealed more than half of the participated nurses (52.8%) strongly agree for skill discretion statement. And less than half of studied nurses (42.8%) are agreed for decision authority statement. Whereas about (41.1%) of studied nurses strongly agree, while (1.1%) strongly disagree for total job control statement.

Figure(3) represents total job support dimensions mean score is (48.53). The mean scores for organization support, supervisor support and coworker support were (16.62, 16.51, 15.41) respectively.

Table (2) shows that (61.7%) responded with very often for unsure about their ability to handle their problems, while only (20%) of the studied nurses responded with never for upset because of something that happened unexpectedly. And about one third of participants (34.4%) responded with never for all of the job stress statements with represent (13.28 ± 6.24) mean scores.

Figure (4) shows the highest mean score percentage is (82.96%) for job and career satisfaction and followed by (80.66%) for working condition. While stress at work had the lowest mean score percentages (58.1%).

Table (3) illustrates that there was a relation between gender, job stress and quality of work life. There was also a relation between number of working shifts per month with job demands, and quality of work life (statistically significant relation) and job control (highly statistically significant relation). Otherwise, no statistically significant relations were found between nurses' age, marital status, level of education, years of experience and working unit with their total job demand, job control, job support, job stress and quality of work life.

Table (4) shows there was a highly statistically significant negative relation among job control, job support and job stress. Additionally, there was highly statistically significant negative relations between job stress and quality of work life. Also, there is a highly statistically significant positive relation between job control, job support and quality of work life. while job demand showed no statistically significant relations with job stress or quality of work life.

Table (1): Personal Characteristics of the studied nurses (n=180)

Characteristics	No.	%
Age years		
▪ From 20:30	166	92.2
▪ From 31:40	14	7.8
<i>Mean±SD</i>	26.06±2.94	
Years of experience		
▪ From 1:5 years	148	82.2
▪ From 6:10 years	30	16.7
▪ More than 10 years	2	1.1
<i>Mean±SD</i>	3.59±2.59	
Gender		
▪ Male	127	70.6
▪ Female	53	29.4
Level of education		
▪ Technical degree	53	29.4
▪ Bachelor's degree	125	69.4
▪ Master degree	2	1.1
Marital status		
▪ Single	127	70.6
▪ Married	53	29.4
Unit		
▪ Intensive care units	122	67.8
▪ Other units	58	32.2
Number of working shifts / month		
▪ ≤ 16	85	47.2
▪ 16:18	95	52.8

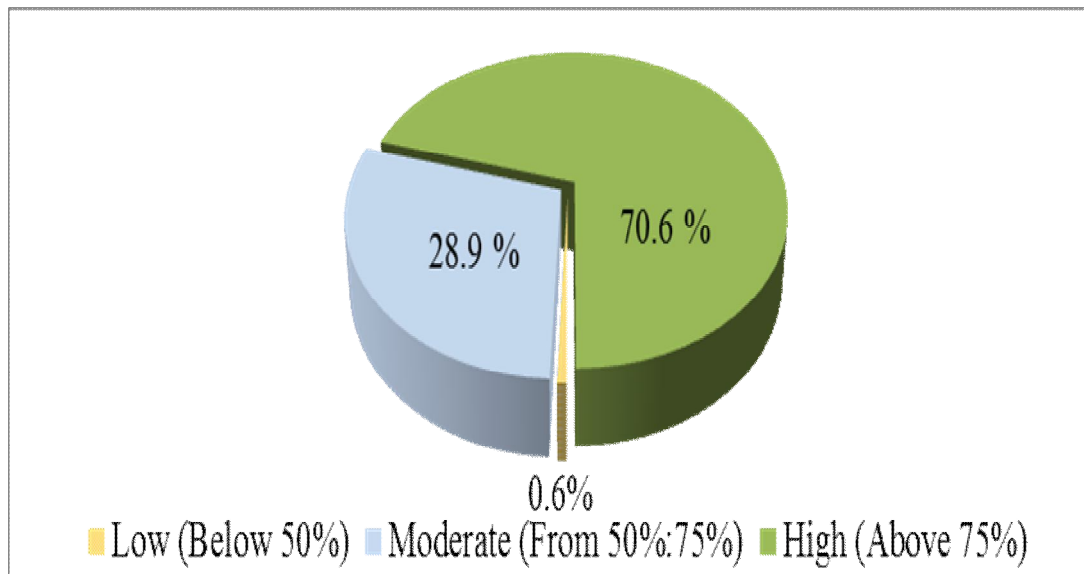


Figure (1): Job demands levels as perceived by the studied nurse(n=180)

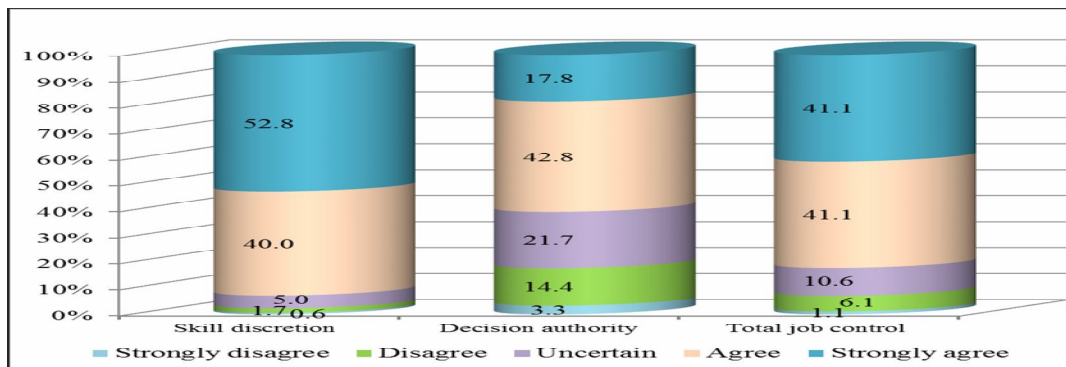


Figure (2): Job control percentage as assessed by studied nurses (n=180)

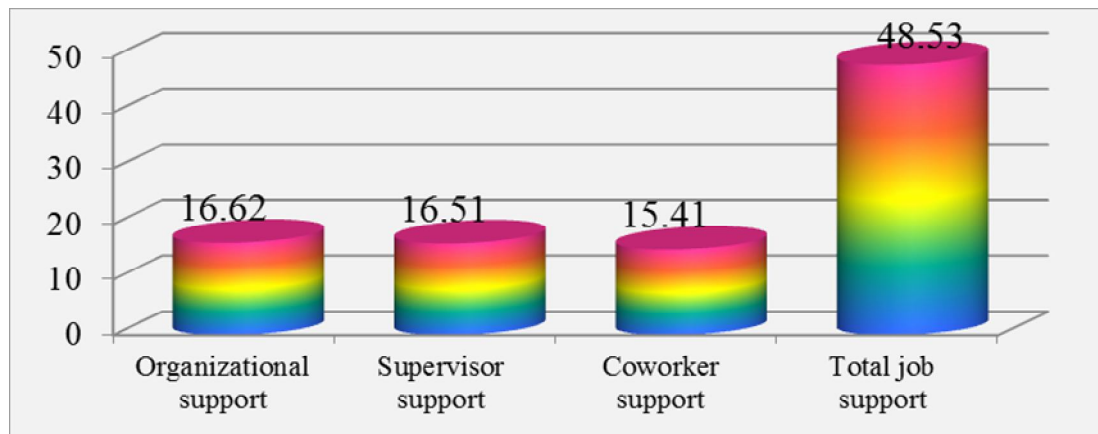


Figure (3): Mean scores of job support dimensions as perceived by the studied nurses (n=180)

Table (2): Number & percentage of job stress as perceived by studied nurses (n=180)

Statements	Never		Almost never		Sometimes		Often		Very often	
	No.	%	No.	%	No.	%	No.	%	No.	%
• I felt upset due to something unexpected that happened.	36	20.0	79	43.9	42	23.3	13	7.2	10	5.6
• I have been unable to maintain control over the necessary things.	58	32.2	44	24.4	31	17.2	8	4.4	39	21.7
• I'm nervous or stressed.	45	25.0	71	39.4	30	16.7	9	5.0	25	13.9
• I'm upset because of events that occurred beyond my control.	49	27.2	66	36.7	36	20.0	12	6.7	17	9.4
• I am unable to cope with developing difficulties.	91	50.6	40	22.2	8	4.4	6	3.3	35	19.4
• I cope effectively with daily obstacles and annoyances.	68	37.8	33	18.3	8	4.4	1	0.6	70	38.9
• I deal effectively with significant changes in my life.	75	41.7	32	17.8	5	2.8	3	1.7	65	36.1
• I am confident in my capacity to solve my challenges.	47	26.1	19	10.6	2	1.1	1	0.6	111	61.7
• I don't think things are moving in the direction you want.	73	40.6	50	27.8	8	4.4	32	1.1	47	26.1
• I feel me on top of things.	78	43.3	54	30.0	14	7.8	5	2.8	29	16.1
Overall job stress (mean frequency)	62	34.4	49	27.2	18	10.0	6	3.3	45	25.0
Mean±SD	13.28±6.24									

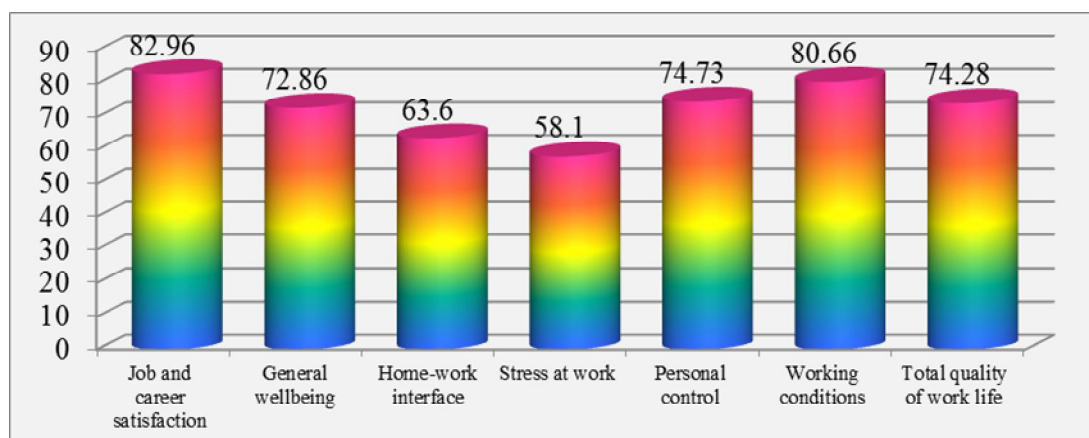


Figure (4): Mean percentages of the examined nurses' quality of work life dimensions (n=180)

Table (3): Mean scores of job demand, job control, job supports, job stress, quality of work life in relation to characteristics of the studied nurses (n=180)

Characteristics	Job demands	Job control	Job support	Job stress	Quality of work life
Age (years)	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
20-30	19.57±2.21	37.22±3.24	48.38±6.44	13.36±6.30	84.99±11.43
30-40	19.93±1.98	38.50±2.44	50.36±7.14	12.36±5.67	90.50±10.38
t value / p-value	0.58 / 0.56	1.44/ 0.15	1.09/0.28	0.57/0.56	1.74/0.08
Gender					
Male	19.63±2.21	37.61±3.22	49.34±6.68	12.07±5.44	87.21±11.89
Female	19.57±2.18	36.98±3.15	47.59±6.17	14.69±6.83	83.33±10.54
t value / p-value	0.55/0.85	0.96/0.18	0.23 / 0.07	2.85/0.005**	2.30/0.02*
Marital status					
Single	19.46±2.19	37.08±3.25	48.36±6.64	13.52±6.18	85.39±11.42
Married	19.94±2.17	37.89±3.03	48.94±6.18	12.70±6.42	85.49±11.52
t value / p-value	0.93 / 0.18	0.18 /0.12	0.65 /0.58	0.80/0.42	0.06/0.96
Education level					
Technical degree	19.74±1.85	37.85±2.73	49.3±7.24	14.41±6.98	85.91±13.87
Bachelor's degree	19.54±2.33	37.07±3.37	48.19±6.20	12.84±5.90	85.13±10.33
Master's degree	19.50±2.12	38.50±3.54	49.5±3.54	10.50±0.71	90.50±0.70
F value / p-value	0.14 / 0.87	1.24 /0.29	0.56 /0.57	1.39/0.25	0.28/0.75
Experience years					
1-5	19.50±2.26	37.14±3.30	48.35±6.67	13.64±6.34	84.66±11.71
6-10	20.10±1.84	38.10±2.59	48.97±5.49	11.70±5.40	88.67±9.43
>10	19.50±0.71	39.00±2.83	55.50±4.95	10.00±9.90	92.50±10.61
F value / p-value	0.94/0.39	1.42/0.24	1.28/0.28	1.49/0.23	1.94/0.15
Working Unit					
Intensive care units	19.46±2.33	37.22±3.27	48.03±6.62	13.03±6.39	85.10±11.32
Other units	19.90±1.84	37.52±3.06	49.59±6.15	13.79±5.94	86.09±11.71
t value / p-value	0.26 / 0.21	0.95 / 0.56	0.64 / 0.13	0.76/0.45	0.54/0.59
Number of working shift/month					
≤ 16	19.96±2.07	38.19±2.98	49.24±6.00	12.72±6.05	87.21±11.18
16:18	19.27±2.25	36.54±3.20	47.91±6.88	13.78±6.40	83.81±11.45
t value / p-value	0.84 /0.03*	0.42 /0.000**	0.34 /0.17	1.14/0.26	2.01/0.04*

• Statistically significant (p ≤0.05) / ** highly statistically significant (p ≤0.01)

Table (4): Relation between job demand, job control, job support, job stress and quality of work life of the studied nurses (n=180).

	Job Stress		Quality of Work Life	
	R	P	R	P
Job Demand	0.12	0.09	0.06	0.39
Job Control	-0.25	0.001**	0.37	0.000**
Job Support	-0.47	0.000**	0.66	0.000**
Job Stress			-0.62	0.000**

** Highly statistically significant ($p \leq 0.01$)

Discussion

Nurses serve as vital providers of services in the healthcare sector due to their special role of dealing directly with patients as well as caregivers. As a result, preparing for the right individual for carrying out responsibilities in health care organizations remains vital. To improve staff and patient safety, efficient delivery of care necessitates the availability of competent staff nurses and an acceptable nurse-to-patient ratio (**Karikari et al., 2023**). The most of health care organizations human resources are nursing portions which have a direct contact with patient, they deliver all necessary nursing care in a professional manner under a variety of demands and pressures while maintaining high quality of care (**Krijgheld, Tummers & Scheepers, 2022**).

Nursing is a caring science at its core, and nurses are the primary medical providers that deliver specially customized treatment to a wide range of service consumers. A multitude of factors impact nurses' work at hospitals, including the amount of work assigned to them, how their supervisors manage them, and their communication or interactions at work as members of teams of healthcare professionals and in interacting with service consumers (**Shdaifat, et al., 2023**). Work-related stress and work-life quality all have significant impact on how effectively nurses do their duties, which subsequently affects the treatment of patients and the efficacy of the medical system as a whole. Impacts on quality of work life, either beneficial or detrimental have an impact on healthcare personnel' ability to provide safe, high-quality patient care (**Shdaifat, et al., 2023**).

The current study's findings indicated that the majority of the nurses examined have the highest level of job demand at Magdy Yacoub heart foundation. This may be due to their job requires working in intensive care units, operation room and acute coronary syndrome or myocardial infarction patients these type of patient require working with full mind and work very fast with full concentration

to save life and give comprehensive care to patient with no harm to patient, also require excessive amount and quantity of work with critically ill patients with high degree of concentration as there is no chance for error or mistake.

This is consistent with **Abadi et al., (2020)** who study the relationships between job satisfaction and job demand, job control, social support, and depression among Iranian nurses and found there is a high mean score of job demand to Iranian nurses. As well as **Abadi et al., (2020)** who study the relationship between job stress and fatigue based on job demand-control-support model among nurses working in hospital at Shiraz University of Medical Science in Iran and found higher mean score of job demands as perceived by studied nurses.

Furthermore, **Attia & Abdelwahid, (2021)** who study of relationships among organizational identification, cynicism, job demands-resources and nurses' job crafting at Zagazig University Hospitals and found nurses had high levels of job demand as a result of nurses face a lot of work pressure, excessive workload, work-life conflict, and role ambiguity. In the same context, **Dahri et al., (2021)** investigate the effect of job demands-resources on job crafting at Hasanuddin University hospital, and noted that most of respondents said they were in the high category of work demands. Also, **Elnady, et al., (2023)** who study of job demands, resources and its relation to nurses' professional quality of life and job crafting during COVID-19 pandemic at Mallawi General Hospital in Minya Governorate, Egypt staff nurses and found the majority of nurses had high level of job demands.

Again, Job control is one of the dimensions of the job demand-control-support (JDACS) model. It means being able to regulate and manage job demands, as well as having self-determination/authority over one's job in terms of using specialized talents, controlling time and task allocation, and participating in managerial decisions (**Lee et al., 2022**). The current study's

findings indicated that most of the nurses examined have an excellent level of job control at Magdy Yacoub heart foundation. Also, the result revealed that skill discretion is higher maximum percentage mean score than decision authority. It might be because nurses' work requires them to learn new things, their job needs a high degree of ability, and they perform a range of various things on the job, nurses have the chance to build their own unique abilities in terms of skill discretion.

In addition, in the current study, the nurses working at Aswan Heart Centre are accountable for their decisions in caring for patients in critical circumstances, since professional autonomy is a significant tool for professional nurses to make the proper decisions. This is the same line of **Asl, Taghinejad, Parizad, & Jasemi, (2022)** Who stated that nurses in intensive care units have the power to make judgments about their patients' needs and to implement those decisions to establish and preserve patient safety, improve care quality, keep nurses in their profession, and assure work satisfaction. As well as the finding of the present study is supported by **Boonduaylan, Deoisres, & Wacharasin, (2022)** who conduct the study to examine a causal model of job stress in Thailand and found that an excellent nurse's job control among nurse-midwives. Also, results of the current study congruent with **(Shohani, Rasouli, & Sahebi, 2018)** who found job autonomy of intensive care units nurses working in the hospitals of Ilam had an excellent level of job support. **Navajas-Romero et al. (2020)**, on the other hand, conducted a study to investigate the job demands-control-support model in work-life balance among nurses in the European context and discovered a poor level of job control at work.

The results of the present study revealed the majority of the studied nurses have an excellent level of job support at Magdy Yacoub heart foundation. This may be due to support from the organization, supervisor and coworker in form of considering nurses goals and values, cares about their well-being and opinion and listen to their complaint does not ignore it. This is the same view of **Rattrie, Kittler, & Paul, (2020)** who emphasized the importance of activate the motivation process through supporting nurses' motivation and job engagement by assisting them in achieving their objectives, satisfying their need for autonomy and increasing their willingness to devote effort in work duties.

In addition, **Labrague and Santos (2020)** highlighted social and organizational support as significant variables in nurses' resilience to

challenges and stress, assisting them to maintain their mental well-being and psychological health. As well **Orgambidez, Almeida, & Borrego (2022)** pointed out beneficial effects of social support on nurses' job satisfaction, job commitment, health, and well-being. Also, in the same line with **Boonduaylan, et a., (2022)** who study a causal model of job stress among Thailand nurse-midwives found that the nurses in Thailand had an excellent job support level.

On the other hand, **Jalilian, Shouroki, Azmoon, Rostamabadi, & Choobineh, (2019)** who study relationship between job stress and fatigue based on job demand-control-support model in hospital nurses working in educational hospitals affiliated at Shiraz University of Medical Science, in Iran and found that nurses had a poor level of job support. Also, **Navajas-Romero, et al., (2020)** conduct the study analyzing the job demands-control-support model in work-life balance found that European nurses had a poor level of job support at work.

The results of the present study revealed that most of studied nurses have low levels of job stress at Magdy Yacoub heart foundation. This may be due to their job support from organization, supervisors, and co-workers which give nurses the opportunity to develop their own special abilities and complete study while working, reward system, high salaries, education programs, availability of resources needed, good work environment, climate and teammate, the nurses can grow up and promoted in his filed. This is the same view of **Ahmed, AbdElazeem, & Abdallah, (2020)** who emphasized that participation in making choices that create some mutual links between management and staff nurses is one of the most effective aspects that reduce job stress.

The current results were the same view of **Ilkafah et al., (2023)** who study work stress toward nurses in rural hospital and found nurses job stress at low level. Whereas this result is disagreed with **Shawwat et al., (2023)** who conducted the study to assess job satisfaction and work stress related to nurses at AL-Muthanna Governorate Hospital and found there is no job satisfaction and moderate work stress among nurses at study hospital. Also, **Babapour et al., (2022)** who conduct cross-sectional study in two teaching hospitals in Iran and revealed that nurses reported higher levels of job stress, which may have a negative influence on their quality of life and caring behaviors. Job stress can endanger nurses' physical and mental health, reduce their energy and productivity, and cause them to fail to provide good nursing care, all of

which have a negative impact on the outcomes of patients (**Elnady, et al., 2023**)

As regards quality of work life result, the current study revealed more than half of the studied nurses have a moderate quality of work life level at Magdy Yacoub heart foundation. This may be due to nurses have high level of carer and satisfaction through having a defined set of goals and objectives that will allow them to accomplish their job, had the opportunity to use their abilities at work, their satisfaction with the training received to perform their work. This is the same line with **Howie-Esquivel, Byon, Lewis, Travis, & Cavanagh, (2022)** who study quality of work-life among advanced practice nurses who handle care for patients with heart failure and discovered that the nurses investigated have a moderate level of quality of work life. Moreover, **Sham, Alias, K Saravana Muthu, & Nanjundeswaraswamy, (2023)** found moderate level of nurse's quality of work-life. As well as **Al-Dossary, (2022)** who found moderate level of quality of work life among nurses in Saudi Arabian hospitals.

On the other hand, **Mohammadi, et al., (2022)** who studied the effect of job strain on nurses' quality of work life who working in educational hospitals in Ahvaz, Iran and revealed their quality of work life is relatively low. Also, **Raeissi, Rajabi, Ahmadizadeh, Rajabkhah, & Kakemam, (2019)** who study quality of work life and factors associated with it among nurses in public hospitals, Iran and revealed overall nurses reported that their quality of work life was low. The finding of the present study revealed that job demand is affected by the number of working shifts. This finding is matched with **Elnady, et al., (2023)** who stated job demands, and its associated effort especially caused by demands are significant in increasing number of working shifts hour. As well as the same view of **IA, HA, SA, & RM, (2022)** who found a relation between the number of working shifts and decision authority at Tanta university hospital.

Regarding job control in relation to personal characteristics of the nurse participated in the study, finding of the present study revealed that job control is affected by the number of working shifts. This is the same view of **IA, et al., (2022)** who found a relation between the number of working shifts and decision among nurses in Tanta University Hospitals.

Again, findings of the current study consistent with view of, **Abd Elmohsen, et a., (2022)** who conduct the study of relationship between quality of work life and job involvement

among staff nurses in all departments in Bahtem Central Hospital, Egypt, affiliated to ministry of health and found there were significant relations between the total quality of work life of studied nurses and their gender. Also, **Hafaz, (2022)** found that gender had a statistically significant difference with quality of work life. This study is the same line with **Ali et al., (2021)** who found that quality of work life was significantly higher among those who worked 48 hours per week. As well as **Gharagozlou, Kashef, Babaei, Bakhtyariza Deh, & Rahimi, (2020)** found no significant relationship between quality of work life and demographic variables like age, gender, and marital status.

This result is dissimilar to **Kokoroko & Sanda (2019)**, who conduct the study about effect of workload on job stress of Ghanaian outpatient department nurses: The role of coworker support from 4 major hospitals in the Greater Accra region of Ghana found that the workload of nurses has a positive influence on their job stress, such that as nurses' workload grows, as well their level of job stress.

The result of the study regards the correlation between job demand and quality of work life data showed there was no statistically significant relationship related to nurses' perception of job demands and quality of work life. It may be due to nurses' job demands refer to the challenges and workload they face in their profession, such as long working hours, high patient caseloads, and dealing with stressful situations. These demands can have an impact on their well-being and professional quality of life. This, in turn, can positively influence their professional quality of life (**Elnady, et al., 2023**).

This result is not agreed with **Elnady, et al., (2023)** who found there is a positive relation between job demand of nurses and quality of working life at Mallawi General Hospital in Minya Governorate, Egypt. Also, **Babamohamadi, Davari, Safari, Alaei, & Pordanjani, (2023)** who found a significant negative correlation between workload and QWL in nurses, in other words, a higher workload decreased the quality of work life.

The result of the study related to correlation between job control and job stress data revealed that there is a highly statistically significant negative relationship between nurses' perception of job control and job stress. This may be due to one of the most effective variables for reducing job stress is involvement in decision-making, which creates some mutual links between heads and staff nurses. In general, institutions that provide nurses with alternatives reduce stress and increase their

sense of autonomy, confidence, and responsibility. In relation to correlation between job control and quality of work life result of the study revealed that there is a highly statistically significant positive relationship between nurses' perception of total job control and quality of work life. This is the same view of (Badi, Cherian, Farouk, & Al Nahyan, 2023).

Moreover, the result of the current study revealed that there is a highly statistically significant positive relationship between nurses' perception of job support and quality of work life. This may be due to nurses when feel they are supported level of motivation and satisfaction was increased, so they level of loyalty to work increased, able to control stress, able to balance home with work as well as social and overall work climate and environment become healthier that reflect on patient quality of care.

Conclusion

Depending on the study findings, Job Demand, Control, Support Model can be used to study factors associated to nurses' job stress. The study findings indicated that the majority of nurses at Magdy Yacoub Heart Foundation had a high level of job demand and excellent level of job support, most of them had an excellent level of job control, while most of studied nurses had a low level of job stress. As well as half of the studied nurses had a moderate level of quality of work life. Additionally, a highly statistically significant positive relation between job control, job support and quality of work life was found while job demand had neither statistically significant relations with job stress nor quality of work life.

Recommendations

Based on the study data analysis and findings, the following recommendations can be proposed to staff nurse, nursing supervisors, nursing director and hospital management to create an environment that reduces excessive job demands, provides necessary control, and fosters the quality of work life among nurses through job support which can lead to better patient outcomes.

For staff nurses:

- Nurses can use time management skills to manage job tasks to prevent higher job demands with its associated negative effects.
- Nurses can search for opportunities to develop professionally and to enhance their knowledge and skills in order to meet the continuous difficulties and demands at the workplace.

- Nurses can use and develop their personality traits such as openness, conscientiousness, extraversion and agreeableness that enables them to deal well with job demands.

For unit head nurse:

- Head nurses should plan for scheduled meetings with nurses to talk and express their feelings about job demands problems so that these problems are addressed and solved and help to decrease job stress.
- Head nurses should be flexible regarding schedule and work hours which reflect on home-work interface that will increase quality of working life.
- Head nurses should be clear about the assignment given to nurses and ensure that it's compatible with their capabilities to avoid role ambiguity and role conflict.
- Head nurses should give nurses space to take a decision and express their opinion freely to increase their self-esteem and job satisfaction, motivation which leads to increase their quality of work life.

For nursing director:

- Adjusting policies and practices that enhance nurses' quality of work life.
- Assessing and implementing the ongoing training programs for nurses to clarify the importance of job control and support in different work environments and management positions.
- Establish a management plan to cope with stress and burnout, which can significantly improve nurses' quality of work life.
- Focus on increasing job support in the work environment that promotes work engagement for nurses and acting to increase autonomy, self-confidence.
- Regularly meeting should be conducted with staff nurses to listen to their problem and recommendation to alleviate any source of stress.

For future research:

- Future research should focus on developing strategies on how to use the job control and support effectively and efficiently for attaining the best results on decreasing job stress and improving quality of work life for nurses.
- Evaluate the correlation between job demand, job stress and quality of working life.

- Assess the relationship between job demands and quality of care provided to patients.

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