

# The Influencing of Heavy Perceived Health Care Workers Workloads on Patient and Healthcare Worker Outcomes at Saudi Arabia 2022

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## Abstract

### Background:

On health care workers is important for several reasons, workload levels have been shown to influence outcomes such as mortality and morbidity for hospital and primary health care patients and workload levels have been shown to influence the job retention and job satisfaction of health care workers. Health systems researchers are beginning to address health care workers workload demands at different unit, job and task levels; and the types of administrative interventions needed for specific workload demands, as health care workers face workloads and also a wide range of psychosocial stressors, they are at a high risk of developing burnout syndrome, which in turn may affect hospital outcomes such as the quality and safety of provided care. All health care workers, regardless of their specialization it is a stressful and arduous profession career, many factors in the work environment contribute to this. Shortage of nurses is one of those factors that make hospitals and primary health care short staffed and increases on nurses and medical doctor's workload and also quality of Patient and healthcare worker outcomes also patient care, as well as health care workers.

**Aim of the study:** To assessment the influencing of heavy perceived health care workers Workloads on Patient and healthcare worker Outcomes at Saudi Arabia 2022.

**Methods:** Cross-sectional study was carried out; including a random sample of health care workers at Saudi Arabia a self-administered validated questionnaire was adopted and modified. The Sample size of medical practitioners . Our total participants were (200).

**Result:** description of the relation of influencing of heavy of elements of Workloads on Patient and healthcare workers Outcomes variables the most of participants high influencing of heavy of elements of workloads were (48.0%) followed by average were (31.0%) but weak were (21.0%) while heave a significant relation were P-value <0.001 and X<sup>2</sup> 22.36.

**Conclusion:** Administrators should work collaboratively with health care workers to identify work environment strategies that ameliorate workload demands at different levels, insufficient health care staffing leads to difficulties in meeting patient and healthcare worker Outcomes and patient needs and healthcare worker Outcomes places health care workers under increased pressure at work, heavy workload adversely affects health care workers by threatening physical safety and causing burnout .

**Keywords:** influencing, heavy, perceived, health care workers, workloads, Patient, Outcomes, Saudi Arabia

## Introduction

There is no common definition for health care workers workload. Workload is often associated with the volume of health care workers work, and there have been many attempts to quantify health care workers work in relation to health human resource management [1]. We were interested in identifying key predictors that can be used to identify worrisome trends and avert serious outcomes, such as patient mortality and morbidity[2]. stress and workloads in the workplace is globally considered a risk factor for health care workers' health and safety. [3] More specifically, the health care sector is a constantly changing environment, and the working conditions in hospitals and primary health care are increasingly becoming demanding and stressful.[4] According to the World Health Organization (WHO), "a healthy workplace is one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of all workers and the sustainability of workplace "[5]

When health care workers have heavy workloads, they leave essential tasks undone, and there are negative health care workers and patient outcomes [6]. Understanding workload and its impact, particularly from health care workers perspectives, is an urgent undertaking, given global health care workers shortages and the associations between workload and health care workers retention [7]The work environment at a hospital's or PHC is complex and technology-intense, and patients cared are seriously ill and unstable[8]. This leads to high physical, cognitive and emotional demands on healthcare workers. Work-related Workloads is found among many hospital's healthcare workers and originates from a range of sources [9]

Additional causes of work-related workload and stress are a physical work environment with advanced technology and non-ergonomic solutions [10]. Work-related stress can be prevented by changing the work environment, for example by ensuring adequate staffing in relation to workload and offering communication training, reflection time and structured communication [11]. Patient safety, quality of care and collaboration may be affected by workload and work environment, as there is a connection between staffing, skills and adverse events [12]. There is a risk of patients being exposed to adverse events in the ICU, with missed nursing care being one of several potential causes thereof .[13]

Despite WHO's aim to promote and foster healthy work environments, approximately 2 million work-related deaths occurred in 2000 [14]. In this sense, health care workers are at a high risk of experiencing severe distress, burnout, and both mental and physical illness. In turn, this could affect hospital outcomes, such as the quality of care provided by such institutions.[15]

## Literature Review

The notion of leading and lagging indicators was recently discussed in a paper by Ball et al. that urged employers and regulators to focus on leading nurse indicators that have the potential to proactively address quality and safety deficiencies, also Ball et al. found significant associations between nurses' reports of missed care, RN staffing levels, and perceptions of patient care quality [16]

Study by Sermeus et al (2011) found, focus on nurse-perceived workload factors that are assessable and actionable. In study, included workload factors from a variety of validated, publicly available assessment tools, particularly those used in the global RN4CAST studies [17]. Were also influenced by the human factors framework of Holden et al.[18]

Zwakhalen et al.(2018) postulated that when care is not done or "missed", the quality and safety of patient care may be compromised [19]. Based on the RN4CAST protocol, Ball et al. surveyed National Health Service England nurses about job-level care left undone on their most recent shift worked for 13 essential, nursing care activities. On average, nurses reported leaving four care items undone on their most recent shift. A frequent missed care item was patient surveillance, or the capacity to monitor patients for status changes [16] .

Although the majority of HCPs reported feeling stressed (68.4%), another study revealed that source-specific work-related stress, rather than overall stress is strongly associated with medical errors. Multiple studies indicate a significant relationship between stress and medical errors among HCPs although most of these studies were based on self-reported medication errors [20]

Another study by Moss et al., 2016 reported incidence of work-related Workloads among healthcare workers is >50% [21]. Study by Pastores et al., (2019) found that factors thought to cause work-related stress among ICU nurses are lack of communication between nurses, physicians and assistant nurses, poor supervision, high demands and ethical, moral and mental stress [11].

King et al.(2021) identified factors affecting medical staff and health care workers workload by conducting an integrative literature review, and then determining relevance and measurability of these factors through focus groups and a survey [22]. The factor with the highest workload "impact score" was "high number of work interruptions". Work interruptions at the task-level negatively influence cognitive or mental load, leading to emotional duress and error. Since a significant component of RNs' work is knowledge work, competencies associated with assessment, analysis, synthesis and coordination, are compromised by unanticipated interruptions [23]

A study from the USA showed that staff involved in at least one of seven training programs covering one or more aspects of stress management experienced significant reductions in psychological distress, depression and anxiety immediately after the intervention [24]. Follow-up of these subjects for 9–16 months revealed further reduction in psychological distress and emotional exhaustion [25]. The second approach is organization-based interventions [22]

Similar to other research, patient acuity was found to be strongly associated with each of the adverse patient outcomes and registered nurse staffing levels showed a weaker association [20].

## **Rationale**

Health care workers workload is an important factor in ensuring the safety and quality of care for Patient and healthcare worker Outcomes. Increasing workload is one of the main concerns in the field of health and treatment. It is also one of the most important workloads and stressors among health care workers. Excessive workload can lead to adverse outcomes for health care workers and other staff, increase in occupational injury, higher job demands and difficult decision making resulting in mental tension and job exhaustion. The heavy workload of hospital health care workers is a major problem for the health care system. Health care workers are experiencing higher workloads than ever before due to four main reasons; increased demand for health care workers, inadequate supply of health care workers, reduced staffing and increased overtime and reduction in patient length of stay. So that this study will be concerned with health care workers perception toward health care workers workloads and its effect on Patient and healthcare worker Outcomes.

## **Aim of the study:**

To assessment the influencing of heavy perceived health care workers Workloads on Patient and healthcare worker Outcomes at Saudi Arabia 2022

## **Objectives:**

To assessment the influencing of heavy perceived health care workers Workloads on Patient and healthcare worker Outcomes at Saudi Arabia 2022

## **Materials and methods**

### **Study design:**

A cross-sectional descriptive study was done among health care providers in the hospitals and primary health care at Saudi Arabia,2022

### **Study Area**

The study will be carried out at Saudi Arabia in Makkah Al-Mokarramah , Al-Baha and Riyadh, Makkah is the holiest spot on Earth. It is the birthplace of the Prophet Mohammad and the principal place of the pilgrims to perform Umrah and Hajj. It is located in the western area in Kingdom of Saudi Arabia and called the Holy Capital. Contains a population around 1.578 million's and considered the economic and tourism capital of the country. and it is the second largest city after Riyadh also in Riyadh. It has grown during the last two decades of the 20th Century, which made the city a center for money and business in the Kingdom of Saudi Arabia and a major and important port for exporting non-oil related goods as well as importing domestic needs.

### **Study Population**

The study has be conducted among health care workers regarding Workloads on Patient and healthcare worker Outcomes in the primary health-care and hospitals at Saudi Arabia.

### **The sample size**

The sample size has been calculated by applying Raosoft sample size calculator based on (The margin of error: 5%, Confidence level: 95%, and the response distribution was considered to be 20%) accordingly to sample size from medical practitioners by the required sample size; (200 ). (male and female) and adding 10 more to decrease margin of error. After adding 5% oversampling, the minimum calculated sample has been 200. Computer generated simple random sampling technique was used to select the study participants. Data collection was done by the researcher during the October to December, 2022.

### **Sampling technique:**

Systematic random sampling technique is adopted. After that, by using random number generator, then simple random sampling technique was applied to select the health care providers . Also, convenience sampling technique will be utilized to select the participants in the study. By using systematic sampling random as dividing the total health care providers by the required sample size; (200 ).

### **Data collection tools of the study:**

The self-administered questionnaire was adopted and modified Questionnaire.5 The questionnaire consists of two main parts, socio-demographic and personal characteristics including age, gender, nationality, grade and associated determinants. The questionnaire was then translated from English to Arabic. Then it was independently retranslated into English to ensure the linguistic quality. The final questionnaire was validated by three consultants .

The study was approved by the local research committee, and permitted by the Joint Program of Family Medicine. Permission to conduct the study in the PHC was also obtained from the Ministry of health . Written consent was obtained from each participant. All collected data from the health care workers are kept confidential, accessed only for scientific research. The study is self-funded by the

### **Data entry and analysis:**

The Statistical Package for Social Sciences (SPSS) software version 24.0 has be used for data entry and analysis. Descriptive statistics (e.g., number, percentage) and analytic statistics using Chi-Square tests ( $\chi^2$ ) to test for the association and the difference between two categorical variables were applied. A p-value  $\leq 0.05$  will be considered statistically significant.

### **Pilot study**

A pilot study has be conducted in primary health care patient's the same sector due to the similarity to the target group using the same questionnaire to test the methodology of the study, the questionnaire has be clear and no defect has be detected in the methodology

### **Ethical considerations**

Permission from the joint program Family Medicine program has be obtained. Permission from the Directorate of health , verbal consents from all participants in the questionnaire were obtained. All information was kept confidential, and results have be submitted to the department as feedback .

**Budget:** Self-funded

**Results**

**Table 1 Distribution of characteristics of participated in this study (n=200)**

	N	%
<b>Age (years)</b>		
20-30	42	21
31-40	40	20
41-50	68	34
More than 50	50	25
<b>Gender</b>		
Female	94	47
Male	106	53
<b>Education</b>		
Diploma or Certificate	68	34
Undergraduate	44	22
Baccalaureate or Masters	88	44
<b>Educational qualifications of health care workers</b>		
Bachelor of Nursing Science	42	21
Diploma of Technical Institute of HCWs	80	40
Diploma of Secondary School of health care workers	78	39
<b>Nationality</b>		
Saudi	156	78
Non -Saudi	44	22
<b>Marital status</b>		
Unmarried	68	34
Married	96	48
Divorced	30	15
Widowed	6	3
<b>Occupation</b>		
Physicians	64	32
Nurse	90	45
Health inspector	46	23
<b>Salary satisfaction</b>		
Sufficient	96	48
Partly Sufficient	44	22

Insufficient	42	21
Quite Insufficient	18	9
<b>Employment Status</b>		
Full-time	134	67
Part-time	66	33
<b>Existence of dependent's</b>		
Yes	24	12
No	176	88
<b>Willingness to work</b>		
Yes	154	77
No	24	12
Partially	22	11
<b>Taking official leave</b>		
Yes	68	34
No	132	66
<b>Hospital working experience years</b>		
Less than 5 years	54	27
From 5 to 10 years	66	33
From 11 to 20 years	62	31
More than 20 years	18	9
<b>Attended training programs</b>		
No	22	11
Quality program	68	34
Infection control	44	22
Hospital management	66	33
<b>Years of experience in department</b>		
Less than 5 years	62	31
From 5 to 10 years	56	28
From 11 to 15 years	66	33
More than 15 years	16	8

Table 1 shows that most of the participants (34.0%) were in the age group(41-50) years follow by the more than 50 were (25.0%) , the majority of them males was higher compared to female(53.0% and 47.0%) , regarding the marital status most of participants married were(59.0%)while unmarried were(23.0%), regarding education the majority of participant are Bacculaureate or masters were (44.0%) while diploma or certificate were(34.0%), regarding educational qualifications of health care workers the majority of participant are diploma of Technical Institute of HCWs were(40.0%) while diploma of Secondary School of health care workers were(39.0%), regarding Nationality the majority of participant are Saudi were(78.0%) while Non-Saudi were(39.0%), regarding marital status the majority of

participant are married were(48.0%) while unmarried practitioner were(34.0%), regarding Occupation the majority of participant are nurse were(45.0%) while Physicians were(32.0%) but the health inspector were (23.0%), regarding Salary satisfaction the majority of participant are Sufficient were(48.0%) while Partly Sufficient were(22.0%) but Insufficient were (21.0%) , regarding employment Status the majority of participant full-time were(67.0%) while part-time were(33.0%), regarding existence of dependent's the majority of participant answer No were(88.0%) while Yes were(12.0%), regarding willingness to work the majority of participant answer Yes were(77.0%) while No were(12.0%) but partially were (11.0%), regarding Taking official leave the majority of participant answer No were(66.0%) while Yes were(34.0%), regarding hospital working experience years the majority of participant are From 5 to 10 years were(33.0%) while From 11 to 20 years were(31.0%) but Less than 5 years were (27.0%). regarding attended training programs the majority of participant are attend training quality program were(34.0%) while hospital management were(33.0%) but Infection control were (22.0%) , regarding years of experience in department the majority of participant from 11 to 15 years were(33.0%) while less than 5 years were (31.0%), but from 5 to 10 years were (28.%)

**Table 2 Distribution of the Heavy Perceived Workloads on Patient and healthcare worker Outcomes variables**

	N	%
<b>Patient Acuity</b>		
Not at All or Somewhat Acute	94	47
Moderately or Very Acute	106	53
<b>Patient Dependency</b>		
Very or Somewhat Independent	82	41
Very or Somewhat Dependent	118	59
<b>Heavy Workload</b>		
Never to a Few Times a Week	48	24
Everyday	152	76
<b>Interruptions</b>		
Less than Almost Every day	68	34
Every Day or Almost Everyday	132	66
<b>Compromised Standards</b>		
Never to a Few Times a Week	88	44
Everyday	112	56
<b>Outcomes</b>		
<b>Medication Errors</b>		
Less than Weekly	134	67
Weekly or More Often	66	33
<b>Patient Falls</b>		
Less than Weekly	84	42



Weekly or More Often	116	58
<b>Urinary Tract Infections</b>		
Less than Weekly	66	33
Weekly or More Often	134	67
<b>Emotional Exhaustion</b>		
No	68	34
Yes	132	66
<b>Job Satisfaction</b>		
Yes	74	37
No	24	12
Partially	102	51

Table 2 shows the heavy perceived workloads on Patient and healthcare worker Outcomes variables regarding patient acuity the most of the participants answer moderately or very acute were (53.0%) but Not at All or Somewhat acute were (47.0%) , regarding Patient Dependency the majority of participant answer Very or Somewhat Dependent were (53.0%) while Very or Somewhat Independent were (41.0%), regarding Heavy Workload the most of participants answer Every day were(76.0%) while Never to a Few Times a Week were(24.0%), regarding Interruptions the majority of participant answer Every Day or Almost Every day were (66.0%) while Less than Almost Every day were (34.0%), regarding Compromised Standards the majority of participant Every day were(56.0%) while Never to a Few Times a Week were(44.0%),

**Regarding the outcomes**

Regarding Medication Errors the majority of participant are Less than Weekly were (67.0%) while Weekly or More Often were(33.0%), regarding Patient Falls the majority of participant are Weekly or More Often were(67.0%) while Less than Weekly were (42.0%), regarding Urinary Tract Infections the majority of participant Weekly or More Often were (67.0%) while Less than Weekly were(33.0%), regarding Emotional Exhaustion the majority of participant answer Yes were(66.0%) while No were(34.0%) , regarding Job Satisfaction the majority of participant answer partially were(51.0%) while Yes were(37.0%) but No were (12.0%) .

**Table (3) Distribution of elements of Workloads on Patient and healthcare worker Outcomes variables**

Elements		Workloads on Patient and healthcare worker Outcomes variables					%	Chi-square	
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		X <sup>2</sup>	P-value
<b>Not Control over Professional Practice</b>	N	70	22	30	44	34	65	34.400	0.000
	%	35	11	15	22	17			
<b>Lack of Control</b>	N	50	20	54	34	42	60.2	18.400	0.001

<b>over Personnel</b>	%	25	10	27	17	21			
<b>influence over Resources</b>	N	96	34	28	24	18	76.6	101.400	0.000
	%	48	17	14	12	9			
<b>Lack of participation in Committee Structures</b>	N	76	44	38	20	22	73.2	51.000	0.000
	%	38	22	19	10	11			
<b>Lack of access to Information</b>	N	86	54	26	20	14	77.8	89.600	0.000
	%	43	27	13	10	7			
<b>Lack of goal Setting and Conflict Resolution</b>	N	106	30	24	22	18	78.4	138.000	0.000
	%	53	15	12	11	9			

Table 3 shows the elements of Workloads on Patient and healthcare worker Outcomes variables, regarding the Not Control over Professional Practice the most of participant Strongly agree were (35.0%), followed by disagree were (22.0%) while Strongly disagree were (17.0%), while is a significant were p-value =0.000 and  $X^2$  34.400 while % were (65.0%), regarding Lack of Control over Personnel the most of participant Neutral were (27.0%), followed by Strongly agree were (25.0%), while Strongly disagree were (21.0%), while is a significant were p-value =0.001 and  $X^2$  18.400 while % were (60.2%) , regarding the influence over Resources the most of participant Strongly agree were (48.0%), followed by Agree were (17.0%) while Neutral were (14.0%), while is a significant were p-value =0.001 and  $X^2$  101.400 while % were (76.6%) , regarding Lack of participation in Committee Structures most of the participants Strongly agree were (38.0%) while Agree were (22.0%), followed by Neutral were (19.0%), while a significant were p-value =0.000 and  $X^2$  51.000 while % were (73.2%) , regarding the Lack of access to Information the most of participant disagree were (43.0%), followed by agree were (27.0%) while Neutral were (13.0%), while is a significant were p-value =0.000 and  $X^2$  89.600 while % were (77.8%) , regarding Lack of goal Setting and Conflict Resolution most of the participants disagree were (53.0%) while agree were (15.0%), followed by Neutral were (12.0%), while a significant were p-value =0.000 and  $X^2$  138.000 while % were (78.4%)

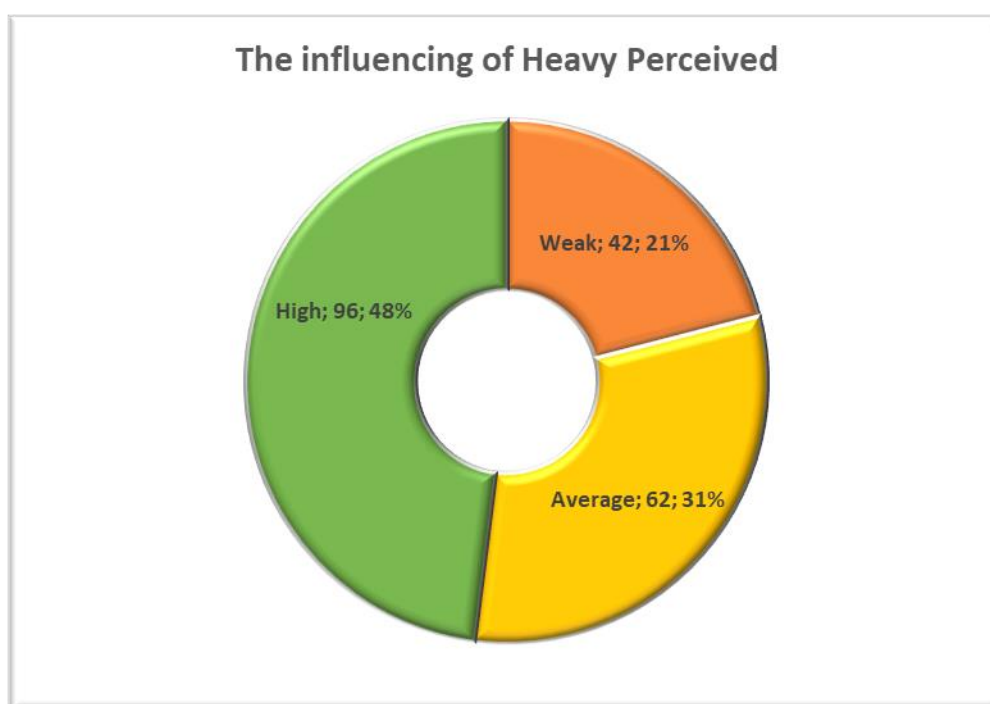
**Table 4 description of the relation of influencing of heavy of elements of Workloads on Patient and healthcare worker Outcomes .**

	<b>The influencing of Heavy Perceived</b>	
	<b>N</b>	<b>%</b>
<b>Weak</b>	42	21
<b>Average</b>	62	31
<b>High</b>	96	48
<b>Total</b>	200	100

<b>X<sup>2</sup></b>	22.36
<b>P-value</b>	<0.001*

Table 4 show description of the relation of influencing of heavy of elements of Workloads on Patient and healthcare workers Outcomes variables the most of participants high influencing of heavy of elements of workloads were (48.0%) followed by average were (31.0%) but weak were (21.0%) and total were (100.0%) while heave a significant relation were P-value <0.001 and X2 22.36.

**Figure (1) description of the relation of influencing of heavy of elements of Workloads on Patient and healthcare worker Outcomes variables**



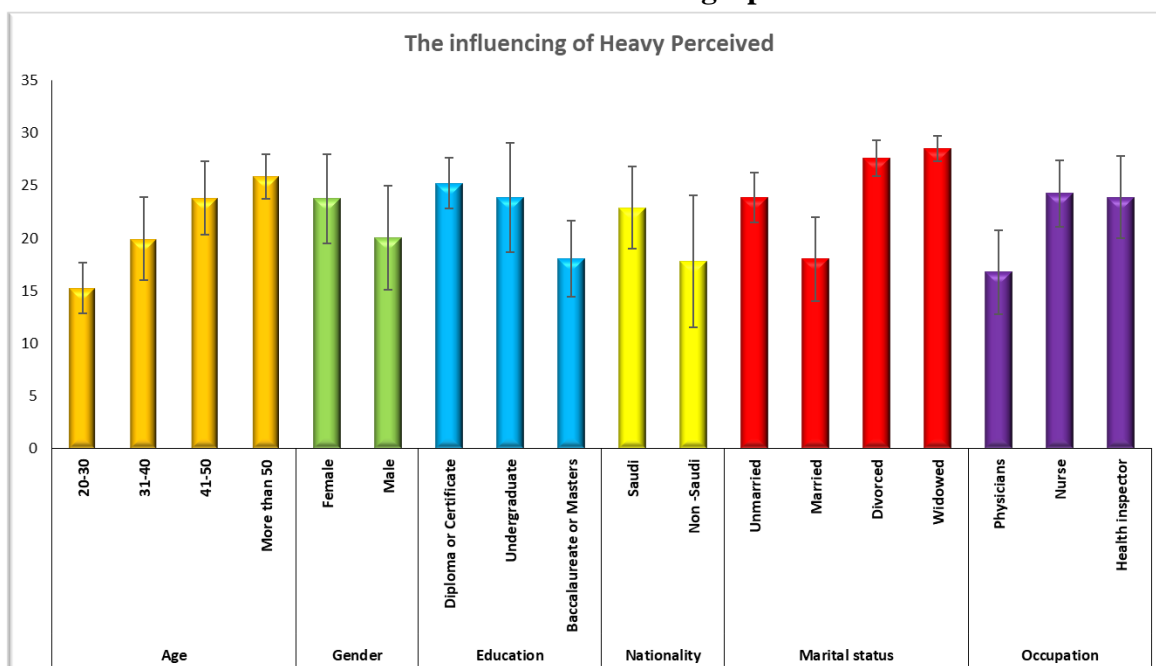
**Table 5 Distribution of influencing of heavy of elements of Workloads on Patient and healthcare workers Outcomes and demographic data .**

		N	The influencing of Heavy Perceived		F or T	ANOVA or T-test	
			Mean	± SD		Test value	P-value
<b>Age</b>	<b>20-30</b>	42	15.286	± 2.412	F	104.686	<0.001*
	<b>31-40</b>	40	19.925	± 3.938			
	<b>41-50</b>	68	23.838	± 3.505			
	<b>More than 50</b>	50	25.860	± 2.138			
<b>Gender</b>	<b>Female</b>	94	23.755	± 4.216	T	5.743	<0.001*

	<b>Male</b>	106	20.000 ± 4.942			
<b>Education</b>	<b>Diploma or Certificate</b>	68	25.221 ± 2.374	F	81.207	<0.001*
	<b>Undergraduate</b>	44	23.864 ± 5.201			
	<b>Baccalaureate or Masters</b>	88	18.045 ± 3.645			
<b>Nationality</b>	<b>Saudi</b>	156	22.885 ± 3.882	T	6.608	<0.001*
	<b>Non -Saudi</b>	44	17.795 ± 6.279			
<b>Marital status</b>	<b>Unmarried</b>	68	23.868 ± 2.387	F	96.403	<0.001*
	<b>Married</b>	96	18.031 ± 3.988			
	<b>Divorced</b>	30	27.600 ± 1.734			
	<b>Widowed</b>	6	28.500 ± 1.225			
<b>Occupation</b>	<b>Physicians</b>	64	16.766 ± 3.967	F	90.505	<0.001*
	<b>Nurse</b>	90	24.233 ± 3.162			
	<b>Health inspector</b>	46	23.891 ± 3.894			

Table (5) show that is a significant relation between influencing of heavy of elements of Workloads and age increase in more than 50 years were (Mean± SD 25.860±2.138), follow by 41- 50 age were (Mean± SD, 23.838± 3.505) while 31-40 years were (Mean± SD 19.925±3.938), were P-value=0.001, F= 104.686. Regarding the gender is a significant relation between influencing of heavy of elements of Workloads and gender increase in female were (Mean± SD 23.755 ± 4.216), follow male were (Mean± SD, 20.000 ± 4.942) also P-value=0.001, T= 5.743. Regarding the education is a significant relation between influencing of heavy of elements of Workloads and education increase in diploma or Certificate were (Mean± SD, 25.221 ± 2.374) follow by undergraduate were (Mean± SD 23.864 ± 5.201), also P-value=0.001, F= 81.207. Regarding the nationality a significant relation between influencing of heavy of elements of Workloads and nationality increase in Saudi were (Mean± SD 22.885 ± 3.882), follow by Non -Saudi were (Mean± SD, 17.795 ± 6.279) while P-value=0.001, T= 6.608. Regarding the marital status a significant relation between influencing of heavy of elements of Workloads and marital status increase in widowed were (Mean± SD 28.500 ± 1.225), follow by Divorced were (Mean± SD, 27.600 ± 1.734) but Unmarried were (Mean± SD 23.868 ± 2.387) also P-value=0.001, F= 96.403. Regarding the occupation is a significant relation between influencing of heavy of elements of workloads and occupation increase in nurses were (Mean± SD 24.233 ± 3.162), follow health inspector were (Mean± SD, 23.891± 3.894) also P-value=0.001, F= 90.505.

**Figure (1) Distribution of influencing of heavy of elements of Workloads on Patient and healthcare workers Outcomes and demographic data**



## Discussion

This study drew on cross-sectional study data from 200 care health care workers from Saudi Arabia from (Physicians, Nurse, Health inspector). [26] We considered some indicators of workload staffing levels, patient acuity and patient dependency, health care workers' perceptions of heavy workload, health care workers tasks left undone, compromised professional health care workers standards, and interruptions to workflow. [27].

Similar to other research reported that health care workers' perceptions of frequent, heavy workloads and interruptions to work flow showed strong associations with two patient outcomes, falls and UTIs, and a more modest association with the frequency of medication errors. This study's heavy workload measure includes items associated with health care workers perceptions of time pressure, or not enough time to get work done (e.g., arriving early/leaving late, missing breaks, too much work to do). In one simulated study of health care workers' decision-making performance, time pressure negatively influenced health care workers' capacity to detect the need for intervention, resulting in failure to rescue [22]. Of note is that under conditions without time pressure, health care workers with clinical expertise performed better than novice health care workers; the positive effects of clinical expertise, however, were negated when time pressure was introduced to clinical simulations [37]. (See Table1,2)

Workloads among health care workers are associated with high turnover rates and absenteeism due to sickness, relative ineffectiveness in the workplace, as well as low job satisfaction [28]. In view of this, it is important to identify organizational stressors that are related to job workloads in order to promote and facilitate strategies aimed at its prevention and reduction, the relationship between workload and exhaustion. This interaction is considered one of the most controversial aspects of Karasek and Theorell's [29] theory. However, previous studies have shown that workload contributes toward the prediction of

health care workers exhaustion [30], thus indicating incompatibility with Karasek and Theorell's [29] interaction hypothesis. Recently, Portoghese [31] showed that, of the 90 studies in which this interaction was tested, only nine provided support for the hypothesized interaction. Building on this result, we found a positive association between workload and Patient and healthcare worker Outcomes, and this relationship was strongest when Patient and healthcare worker Outcomes was lower. In this sense, both workload and Patient and healthcare worker Outcomes play important roles in improving working conditions. In turn, improved working conditions are demonstrated by a low workload and exhaustion level, which can also be attributed to an increase in Patient and healthcare worker Outcomes. In this manner, workloads control seems to protect workers from exhaustion when workload increases. Our findings showed that a high workload does not pose major concerns when health care workers have sufficient workloads control.[31]

### Conclusion

Our study identifies influencing of heavy perceived health care workers workloads on Patient and healthcare worker Outcomes, could lead to a decrease the workloads and stress level among health care workers. Future research is recommended influencing of heavy perceived health care workers Workloads on Patient and healthcare worker Outcomes. This should be accompanied by studying the introduction of new policies and programs that could reduce the workloads and stress level among our health care staff, administrators should work collaboratively with health care professionals to identify work environment strategies that ameliorate workload demands at different levels .

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