

Psychological Effect of Stress upon the Mental Well-being of Anaesthetists in Hospitals of AD-Diwaniyah Governorate

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Abstract

Background: Work-related stress is a common issue that affects the performance of medical staff members especially those from the anaesthetic department. Many factors can participate in initiating the problem such as financial and administering criteria. **Objectives:** the work investigation was conducted to identify the psychological factor effects on the wellbeing of anaesthetists in the surgical operation room. **Methods:** A questionnaire was confirmed, by a pilot study initiated by the same researchers of the current work, to be valid and stable for the present investigation according to the Cronbach's alpha coefficient (CAC) values. The reliability of the questionnaire, CAC and stability factor, is a measure or indicator of test stability, questionnaire credibility, and stability, which are considered to be the most important fashion. The simple linear regression was also used to test the work information. **Results:** The findings revealed significant ($p < 0.05$) important effects of the measured psychological dimension revealing increases in the levels of workplace-related stress and the wellbeing of the anaesthetic nurses. **Conclusion:** Psychological conditions may double the impact of many factors related to the workplace leading to stress and low-provided care to patients.

Keywords: Anaesthetists, job stress, work stress, surgical operation room, wellbeing.

I. Introduction

Stress is already incredibly popular as it can influence mental and physical health, the news cannot be read without a news item outlining the adverse effects of stress on how people can easier cope with stress in order to minimize the risk of their diseases, improve their well-being and realize their "full potential", there are experimental psychotherapeutic, nutritional and psychological therapies that aim to alleviate tension rates and avoid different disorders in stress illness, like persistent pain, insomnia, etc , Despite this basic desire for human beings to better grasp life conditions and variables that ultimately affect success, this enormous interest in stress makes sense , At the same period, it was a major difficulty and uncertainty that tension was assumed to be an apparent cause of illness or a mechanism that has its face-valid, generally accepted meaning , The "stress" structure is often described in

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different ways, often with little detail or specificity, also in the scientific literature on stress and health. Equally, while stress has long been believed to influence wellbeing, it remains widely unclear precisely how tension "under the skin" causes disease (Slavich, 2016).

Job stress or work-related stress is a well-known healthcare worker issue. The healthcare career has been described as a high stress occupation. It has been shown that job tension has a dangerous impact not only on the safety of staff, but also on the willingness to fulfil jobs criteria. The continuity of professional care and the efficiency of health care distribution is also significantly compromised (Burbeck et al., 2002). Nursing was described as a difficult career by a variety of reports. Stress has a wellbeing, well-being, happiness, as well as absenteeism and attrition costs for patients, which in turn can influence the standard of medical care. Stress has been defined as a background or trigger and an event, as a result or reaction. It has been researched in different forms. For instance, Selye proposed a physiological evaluation that would support the link between stress and disease. In contrast, studies advocated a psychological view, wherein stress is "a special link between the individual and the environment which the individual thinks to have taxed or exceeded the resources and endangered his or her quality of life-being." Job tension was specifically listed as a big health concern (Lee, 2003).

Hospitals are very frustrating places of work. Patients and their families frequently find themselves in difficulty and the medical personnel have to respond to their emergency concerns properly and quickly. Medical personnel are often subjected to numerous stressors like emergency crises, deaths of patients, burden of manpower, high social relations and team disagreements. Even small errors may have catastrophic effects, including accidents, especially in intense care units (ICUs). Around the same time the labor conditions in health facilities are far from satisfactory in many nations, as wards are under-populated, rotating overtime is constant, changes are typically too lengthy and nursing staff in particular are not well regarded for their hard work. Previous literature indicates the extremely high fatigue levels and other emotional problems correlated with these bad and demanding job environments. In particular, in ICU workers, stress-related features are associated. For example, a UK survey found that 12% of ICU doctors reported clinically relevant symptoms and 3 percent reported susceptibility to suicidal thinking compared with 5% of the general population (Mealer et al., 2009, 2012).

The present work investigation was conducted to identify the psychological factor effects on the wellbeing of anaesthetists in the surgical operation room.

II. Methods

Design of the Study

In the beginning, pilot study was conducted by the researcher from November 11, 2019 to August 9, 2020 to obtain validate the study design via the obtained data. The study was conducted in Shamiyah Hospital, Al-Diwaniyah province, Iraq, so a non-probability (purposeful) sample was selected from 10 healthcare workers. With a questionnaire, the study included a set of questions that were presented and judged by former specialists. The categories of the questions were age, gender, work hours, education level, and job title in order to achieve the

objectives of the study. After the data were organized and tabulated, the reliability of the questionnaires was determined, as well as the clarity of the questionnaire items, and the results indicated that the questionnaires were clear, understandable, easy to apply, and reliable through the use of specific statistical methods.

The statistical methods used in the study were for the purpose of describing and analyzing the data as well as testing the hypotheses of this study.

Reliability: The Cronbach's alpha coefficient (CAC) and stability factor is a measure or indicator of test stability, questionnaire credibility, and stability, which are considered to be the most important fashion. The item was calculated as in the following equation:

$$\alpha = \frac{N * \bar{c}}{\bar{v} + (N - 1) * \bar{c}}$$

\bar{c} : Mean of the internal variation to the dimensions (per dimension)

\bar{v} : Mean of the total variation to the dimensions

N: The number of items

In the study, means, standard deviations, and simple linear regression were used. The data entered SPSS v25 and Microsoft Excel for a final processing.

A design an analytical study was used over the course of the current study to identify the impact of work-related stress on mental well-being of anesthesia team. The study began on November 11, 2019 to August 9, 2020.

Administration Arrangement

Official permissions were obtained from the relevant authorities before starting to collect study information. The Psychiatric and Mental Health Nursing Department, Al-Diwaniyah Health Department, Ministry of Planning/Central Statistical Organization, and the scientific committee at the College of Nursing/University of Baghdad have approved to conduct the research.

Samples of the Study

Non-probability sample (purposive), this part included 114 (10 samples from the mini-study) members of the anesthesia staff distributed to five public hospitals in the center of Al-Diwaniyah province and the remote rural areas and one specialized center for burns located within the center of the province. Sample members were willing to participate in the study where they included their working hours. The sample of the study included all the functional addresses of the members of the anesthesia team.

Anesthesia Team

The team consisted of the following functional titles:

1-Permanent of Anesthesia(senior resident and intensive care). This rank is obtained after completing the residency program of two years that had followed the graduation from the College of Medicine, Bachelor (B.A.) of Medicine and General Surgery

2. Anesthesiologist General Practitioner is also B.A. Of Medicine with experience of many years to work in the anesthesia profession

3. Senior of Anesthesia (senior of Anesthesia and Intensive Care) Specialist, which includes a master or a PhD degree.

4. Anesthetic assistant (Graduate of technical institute/diploma/department of anesthesia)

5. Anesthetic technician (Graduate of the College of Medical Technology/ Bachelor/Department of Anesthesia

6. Academic Nurse(College of Nursing/Bachelor/Nursing)

7. Technical Nurse (Technical Institute/Diploma/Nursing)

8. Medical Assistant (Technical Institute/ Diploma/Community Health)

Criteria for Inclusion of the Sample

The sample includes individuals working in the anesthesia profession, anesthetists and assistants in their work in the operating room only. Inclusion of both genders (males and females). Calculating the years of work in anesthesia only (one year and more). Cover all work shift hours (over 24hrs).

Criteria for Exclusion of the Sample

No enrollment in the study of a sample with work time length in the anesthesia department of less than one year. No administrative people who work closely to the anesthesia team were enrolled.

Tools of Study

After considering the recommendations of professional people who have high degrees in Psychiatric and Mental Health Nursing, Community Health Nursing, and educational psychology, the study was divided according to its tools into three categories and as it follows:

Part 1

It contains information regarding age, gender, social status (married, unmarried, and other), years of work in anesthesia, academic achievement, job title, working shift hours.

Part 2

The Warwick–Edinburgh Mental Well-being Scale (WEMWBS):

This scale was optimized to reach the requirements of the world countries and all community members (13-year-old and above). The scale was followed from (Tennant et al., 2007). The points of the scale contained each mental wellness feeling and functioning status.

Measure of psychological work stress in the field of anesthesia

The psychological stress induced due to the work in the field of anesthesia was measured using a questionnaire form previously mentioned by (Abu Al-Hussein, 2010).

Psychological Dimension

This section includes 11 points about feeling-related states of the tested individual such as listlessness, no or less work willingness, and uncomfortable in the work place etc. (Table 1).

Methods of Data Collection

The data were collected between 1/2/2020 and 1/3/2020. The meeting was held with the staff of anesthesiologists and assistants who work in the Surgical Operation Department for the purpose of completing the questionnaire after obtaining the permission of each hospital in Al-Diwaniyah Governorate as well as the approval of the Surgical Operation Department and the Department of Human Resources to conduct the study and throughout the work hours. During the interviews, the questions were answered for a period (20-30min) in which the researcher completed the questionnaire with the anesthesiologists in the operating room.

III. Results

The results refer to clear outcomes of the psychological dimension on the appearing of stress and its effect on the wellbeing of the nurses (tables 2 to 7).

Table (2): Shows the lowest value, largest value, mean, standard deviation, variance, and range for the data on demographic information of the study samples.

Descriptive Statistics									
Demographic information	N	Min.	Max.	Sum	Mean		Std. Deviation	Variance	Range
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic
Gender	114	1	2	153	1.34	.045	.477	.227	1
Age	114	1	3	213	1.87	.081	.867	.752	2
MaritalStatus	114	1	2	137	1.20	.038	.403	.162	1
Years of	114	1.00	3.00	209.00	1.8333	.08257	.88164	.777	2

experience in Anesthesia									
Job title	114	1	8	413	3.62	.165	1.767	3.122	7
Level of Education	114	1	4	173	1.52	.063	.668	.447	3
Working shift	114	1	3	180	1.58	.076	.808	.653	2

Table (3): Represents the cut-off point to the dimensions of the psychological distress (independent variables).

Dimensions	Never	Sometimes	Always
Psychological	0----7	12-----22	8-----11

Table (4): Frequency and percentage distributed according to gender, age, marital status, years of experience, job title, academic achievement and working shift

Demographic information		f	%	Valid %	Cumulative %
Gender	Male	75	65.8	65.8	65.8
	Female	39	34.2	34.2	100.0
	Total	114	100.0	100.0	
Age	20-29	51	44.7	44.7	44.7
	30-39	27	23.7	23.7	68.4
	40 and more	36	31.6	31.6	100.0
	Total	114	100.0	100.0	
Marital Status	Married	91	79.8	79.8	79.8

	Unmarried	23	20.2	20.2	100.0
	Total	114	100.0	100.0	
Years of experience in Anesthesia	Less=5	55	48.2	48.2	48.2
	6-10	23	20.2	20.2	68.4
	11-more	36	31.6	31.6	100.0
	Total	114	100.0	100.0	
Job title	Technical nurse	12	10.5	10.5	10.5
	Academic nurse	21	18.4	18.4	28.9
	Medical assistant	23	20.2	20.2	49.1
	Anesthetic assistant	28	24.6	24.6	73.7
	Anesthetic technician	17	14.9	14.9	88.6
	Permanent of anesthesia	3	2.6	2.6	91.2
	Anesthesiologist general practitioner	5	4.4	4.4	95.6
	Senior of anesthesia	5	4.4	4.4	100.0
	Total	114	100.0	100.0	
Level of Education	Diploma	63	55.3	55.3	55.3
	Bachelor	46	40.4	40.4	95.6

	Master	2	1.8	1.8	97.4
	Doctorate	3	2.6	2.6	100.0
	Total	114	100.0	100.0	
Working shift	Morning	71	62.3	62.3	62.3
	Evening	20	17.5	17.5	79.8
	Night	23	20.2	20.2	100.0
	Total	114	100.0	100.0	

Table (5): Cronbach's alpha coefficient and the validity and reliability coefficient

Scale	Items	Number of items	Stability (Cronbach's alpha coefficient)	Honesty Factor
Measure of mental well-being		14	0.73	0.85
Measure of psychological stress for anesthetists	Measure of psychological stress for workers (psychological dimension)	11	0.74	0.86
	Measure of psychological stress for workers (physical dimension)	10	0.78	0.88
	Measure of psychological stress for workers (political dimension)	5	0.14	0.37
Total (measure of psychological stress for those working in the anesthesia profession)		26	0.79	0.88

Table (6): Repetitions and attribution of the answers of the members of the sample about the measure of psychological stress of workers in the anesthesia profession (psychological dimension)

		Never	Sometimes	Always	Min.	Max.	Mean	Std. Deviation	Relative importance
A1	f	37	67	10	1	3	1.7632	0.59945	6
	%	32.5	58.8	8.8					
A2	f	54	45	15	1	3	1.6579	0.70182	7
	%	47.4	39.5	13.2					
A3	f	58	49	7	1	3	1.5526	0.61099	10
	%	50.9	43	6.1					
A4	f	35	66	13	1	3	1.807	0.62226	4
	%	30.7	57.9	11.4					
A5	f	86	23	5	1	3	1.2895	0.54405	11
	%	75.4	20.2	4.4					
A6	f	39	60	15	1	3	1.7895	0.65815	5
	%	34.2	52.6	13.2					
A7	f	54	52	8	1	3	1.5965	0.62001	9
	%	47.4	45.6	7					
A8	f	27	71	16	1	3	1.9035	0.60921	1
	%	23.7	62.3	14					
A9	f	30	74	10	1	3	1.8246	0.56827	3
	%	26.3	64.9	8.8					

A10	f	35	61	18	1	3	1.8509	0.66828	2
	%	30.7	53.5	15.8					
A11	f	46	62	6	1	3	1.6491	0.57963	8
	%	40.4	54.4	5.3					

The results in table (6) indicate that the highest frequency of item (A1) was at the scale (Sometimes) the number of repetitions (67) and a percentage equal to (58.8%) while the lowest frequency was at the scale (always) where it reached The number of repetitions (10) and a percentage equal to (8.8%), while the highest iteration of item (A2) was at the scale (Never) where the number of repetitions was 54 (and a percentage equal to (47.4%). The lowest frequency was at the always scale, with 15 repetitions and a percentage equal to 13.2%, and the highest iteration of item (A3) was at the scale (Never) where the number of repetitions was 58 (and by a percentage equal to 50.9%). The lowest frequency was at the always scale, with 7 (and a percentage equal to 6.1%) The highest iteration of item (A4) was at the Times scale, where the number of repetitions was 66 and a percentage equal to 57.9%, and the lowest iteration was at the scale (always) with 13 (and a percentage equal to 11.4%). The highest frequency of item (A5) was at the (Never) scale, where the number of repetitions was 86 (and a percentage equal to 75.4%), and the following figure (Fig. 2) shows the relative importance of this axis.

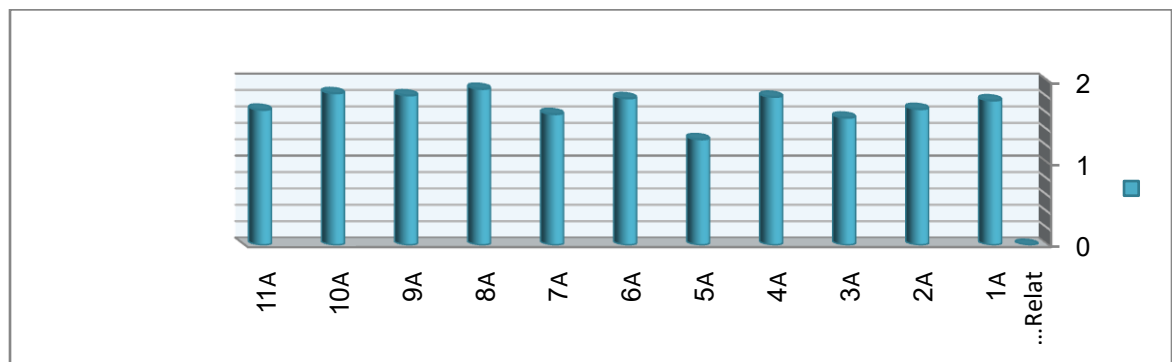


Figure (2): Relative importance of the psychological stress.

Table (7): The coefficient of identification, the value of the regression parameter, and the value of t for the hypothesis of the effect of the psychological stress of those working in the anesthesia profession on mental well-being

Independent variable \ Dependent variable	Mental Well-being			R^2	Adjusted R-Squared	Fc	sig
	β (Value)	Tc	sig				
Constant	0.096	8.534	0.000	%99	%98.9	364	0.001
Psychological stress measure	0.758	9.625	0.003				

IV. Discussion

The World Health Organization defines the workplace stress as 'response of workers when they are exposed to work requirements and expectations that do not fit their competence and skills and question their coping skills' and that it is induced by 'weak work organizations (such as the way we design and handle employment and working systems), bad working design. In the research project and action in order to better cope with stress, stigma and attitudes against workers suffering from stress or mental illness, on the whole, it persists often overlooked factor in various industries and countries, and only a few of the lessons learned are eventually put into effect (Hanisch et al., 2016; Joyce et al., 2016).

The core provisions of Article 23, Arts 6 and 7 of the International Convention on Economic, Social and Cultural Rights 5 as well as of Article 27 of the United Nations Convention on Rights of Persons with Disabilities are international legislation that has been implemented for several decades in the defense of employee rights at work. However, policy enforcement is variable and frequently insufficient. Moreover, countries with low and intermediated incomes but one has the biggest number in working age ranges remain lagging behind in carrying out or defining relevant solutions (Maulik, 2017)

Brouwers and his colleagues (2016) carried out a cross-sectional analysis in 35 countries; ~ 70% of individuals that passed through depression were discrimination issues at work. The report also indicated that expected and perceived inequality is more prevalent in developed nations than that in low-income countries. Both perceived and predicted prejudice are significant factors for people who struggle quietly at work and do not seek appropriate treatment. This can be a significant problem for pursuing mental health services by contributing to the

stigma associated with assistance and raising the treatment gap the gap between the share of mental-issue-based individuals and the share of those having mental healthcare. When organizations are noticed for such issue and are empowered to provide good mental health services when they need it, it not only will lead to better care for people with mental illness, but also to an environment in which staff feel comfortable communicating with other staff about their mental health problems and taking steps early so that serious psychological conditions do not arise.

It is becoming increasingly evident that workers' mental wellbeing is a core determinant of their overall health, and that impaired mental health and occupational stress can lead to a variety of physical conditions such as hypertension, diabetes and cardiovascular disorders. In addition, poor mental health will cause workers to drop out, significantly undermining their capacity to make positive improvements in both their personal and workplace lives (Rajgopal, 2010).

Data from many countries around the world show that a lot of workers are losing their employment as a result of mental health issues. Around 58 per cent of conditions in the Netherlands contribute to psychiatry. In the United Kingdom, there are reports that about 30-40% of the absence is attributed to a form of mental wellbeing. Problems of mental health have an effect directly on employers and industry by rising absenteeism, detrimental effects on efficiency, income and higher costs. They also negatively affect the wellbeing of staff (Iwanowicz, 2005).

Stress in the workplace is a primary cause of occupational wellbeing, reduced productivity and human errors. Increased absence of disease, higher workforce turnover and poor organization efficiency and a potential rise in injuries caused by human error. Job associated pressures can also include medical disease, back pain, fatigue, gastritis or various mild disorders as well as psychological impact, including anxiety and depression, attention loss and poor decision making. Stress means that people have an adverse reaction to unreasonable stimuli or to other demands. A simple difference is that the strain can be a driving force. Some jobs are more vulnerable than others are to mental health issues. A research in the Netherlands compared the level of ability to job speed in order to get an understanding of the potential for various jobs for depression and mental ill health. Higher stress levels are associated with increased mental wellbeing risk (Iwanowicz, 2005; & Rajgopal, 2010).

Several trial findings in the patient's wellbeing assessment assessed both burnout and well-being. These experiments will allow you to understand more complicatedly which variable is correlated with the highest probability of error. While most (7/11) have found that errors have been associated with negative well-being as well as the likelihood of burnout, all these reports, except one, have only used self-perceived errors. All but one of the remaining studies which found that well-being or burnout was associated with protection or not at all, were those which employed objective error measures and indicated that objective intervention could not be sufficiently sensitive (Hall et al., 2016).

Linzer and colleagues (2009) carried out maps and found no ties to failures or well-being or burnout. Dugan and colleagues (Dugan et al., 1996) searched for mistakes at hospitals and noticed that stress values (stress index scale) were linked with patient accidents, not a symptom-driven stress test (possible burnout action). Finally, Garrouste-Orgeas and colleagues (2015) found that exhaustion was a contributing factor of error (as measured by the map audit) independently of their forthcoming prospective analysis, but not burnout. The first study

incorporating both quantitative and subjective error measurements showed that different methods of calculation have provided different outcomes (Fahrenkopf et al., 2008).

Sexual abuse and intimidation at work is another stress linked to jobs elevated in any organization. Both genders are under the incidence, but females and those below the hierarchy are often at greater risk. Organizations should follow certain programs to notice this and take action to make the workplace happy and secure (Houle et al., 2011).

The overall current study dimension has significant impacts on the wellbeing of the anaesthetic nurses, which agrees with most research investigations mentioned above. The current work findings referred that political situations may introduce a layer of stress to those nurse. This agrees with Trifunovic et al., (Trifunovic et al., 2017) who identified that political institutional influences were high at elevating the stress in the tested workers. Besides, Trifunovic et al., (Trifunovic et al., 2017) found that financial issues of the nurses and their communication levels had real impacts on the wellbeing of their examined individuals, and these agree with our results at the two dimensions (relationships and the income), in which high levels of stress were performed on the nurses.

V. Conclusions

Pre-existent diseases and health conditions may increase the occurrence of psychological disorders and the stress generated in the team members. According to this study, psychological conditions may double the impact of many factors related to the workplace leading to stress and low-provided care to patients.

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