



**مجلة جامعة أم القرى**  
للعلوم الطبيعية والاجتماعية والإنسانية

## **The Effect of Some Socio-Demographic Factors on Job Stress Level in Nursing Work**

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## **The Effect of Some Socio-Demographic Factors on Job Stress Level in Nursing Work**

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### **Abstract**

Nursing profession is considered as one of the most important occupations in health care delivery system. The present study aims at determining the effect of some socio-demographic factors on job stress level. Those factors include age, nationality, gender, department of work, educational level, job experience, and marital status.

This research was conducted at a central hospital in Saudi Arabia. Hypotheses and literature review are given. Research methodology is described. A self-administrated questionnaire with stratified random samples is used. 236 questionnaires were collected and analyzed. Test -retest correlation reliability represents 85% The following statistical techniques were used: nonparametric correlation test, Mann-Whitney U-test, and Kruskal-Wallis test.

The study reveals that there is no effect with significance level for age, gender, department of work, job experience, and marital status on the job stress level in nursing work. While the study showed that, there is only an effect with significance level for nationality and educational level.

## تأثير بعض العوامل الاجتماعية والديموغرافية على مستوى الإجهاد الوظيفي في مهنة التمريض

### الملخص

**تعتبر** مهنة التمريض واحدة من أهم الوظائف في أنظمة الرعاية الصحية. في هذه الدراسة نقوم بدراسة تأثير بعض العوامل الاجتماعية والديموغرافية على مستوى الإجهاد الوظيفي. شملت هذه العوامل العمر، الجنس، الجنسية، القسم الذي يعمل به، المستوى التعليمي، الخبرة الوظيفية، الحالة الاجتماعية. تدقيق هذه الدراسة على أحد المستشفيات المركزية في المملكة العربية السعودية، فرضيات الدراسة تنص أنه لا يوجد فروق ذات دلالة معنوية بين مستويات الإجهاد الوظيفي وكل من العوامل المستقلة المبينة أعلاه. التطرق إلى الدراسات السابقة وطريقة إجراء الدراسة.

اعتمدنا في هذه الدراسة على تصميم استبيان مع أخذ عينة عشوائية طبقية حيث تم تجميع وتوزيع 236 استبيان حيث كان معامل ارتباط إعادة الاختبار بموثوقية 85%. استخدمنا في الدراسة اختبار الإرتبا اللامعالي واختبار مان ويتني واختبار كروشال واليس. أظهرت الدراسة أنه لا يوجد تأثير ذو دلالة معنوية للعمر والجنس والقسم الذي يعمل به وسنوات الخبرة والحالة الاجتماعية على مستوى الإجهاد الوظيفي التمريض. بينما وضعت الدراسة أنه يوجد فروق ذات دلالة معنوية فقط للجنسية والمستوى التعليمي

## 1- Introduction

Qualified administrators in any hospital aim at providing comprehensive care effectively and efficiently through the nursing department; which is considered to play a big role in the medical care provided to hospital patients. Therefore, nursing staff are considered very important part of the health team assigned to patient care.

Hingley and Cooper (1986) mentioned that the nursing department in any hospital constitutes almost 20% of the total number of hospital staff. Therefore, to manage any hospital with full competence and efficiency, the role of the nursing department in the hospital is of great importance.

Services produced by the nursing department are evaluated positively or negatively by clients. From nursing services, the hospital gains good or bad reputation. Heavy load of work in hospitals creates a series of medical or social problems.

Although nursing jobs in many hospitals are often represented by emotive pictures, these pictures may be affected with deficiencies which may occur in some hospitals. Deficiencies such as work overload, shortage of staff, role conflict, lack of experience, work hazards, and lack of the art of dealing with nurses who provide patient services lead to stress.

Nurses are considered as dependent practitioners allowed by law to deliver a limited range of services to persons under the supervision and/or the authorisation of independent practitioners. So the evaluation of the medical and nursing

professions is complementary.

These two distinct occupations have emerged where there was once a single generalised "healer". Nursing took on the responsibility of "caring", while physicians were concerned with "curing" and technical functions.

In the following literature review of the study is given. Job stress sources will be described in section three. Purpose and objective of the study will be given in section four. Research questions are given in section five. Research methodology and questionnaire reliability are described in section six. Data analysis, tables, findings and conclusions are presented in section seven. Finally recommendations suggested to decrease job's stress level are given in section eight.

## 2-Literature Review

In this section the authors briefly review the main related contributions in this context.

Nagchabandy (1999) expressed the opinion that Saudi youth refuse to choose or continue in the profession of nursing because of social reasons and the stresses of the job. However, she believes that nursing has developed with the advancement of medicine. If society experiences any medical and/or surgical achievements it is certain that there is a competent team of nurses sharing in this success. Advancement in technology has not wiped out the work of nurses, for example electronic machines require skilled nurses to be alert and accurate in operating these machines.

A detailed study by Naseer et al. (1997) on job stress sources among

emergency physicians who suffer moderate level of stress, covers nine hospitals in northern Jordan; The study revealed that presence of a relation with statistically significant level is only between age and marital status from one side and stress sources from other side. They found that less than 30 years old and unmarried physicians were exposed to stress more than others.

A study on patient choice of hospitals in Saudi Arabia by Aldayel (1997) showed that there were four personal and social factors having role in patient choice of hospitals. Those factors were: hospital payment source, patient gender, educational level, and his job as well.

Guppy (1991) investigated the job satisfaction and occupational stress among nursing staff in a general hospital in UK. Sources of stress for nurses were examined based on a questionnaire data. Multivariate analysis revealed that 50% of the variance in sources of stress stemmed from two factors - staff relationships and resources, and dealing with dying patients and their relatives. Out-patient, accidents and emergency, critical care and intensive care units reported higher stress from the latter sources. Nursing auxiliaries reported significantly lower stress than other nursing professionals and charge nurse/ward group nurses reported significantly more job satisfaction than state-enrolled nurses. Overall, experienced nurses were more likely to report higher job satisfaction.

The effect of perceived work

environment, selected demographic and work related variables on nurse burnout was investigated by Robinson et al. (1991). Drawing on inventor and scale data from 314 nurses, the majority of them were females, at a large southwestern metropolitan hospital. Nurses worked different shifts in a variety of medical areas. Results have indicated the three aspects of burnout measured - emotional exhaustion, depersonalization and personal accomplishment - were influenced by perception of high work pressure and low work involvement. Emotional exhaustion was negatively influenced by perception of low supervisors support, while depersonalization and personal accomplishment were more influenced by perception of less task-oriented behaviour.

### 3- Stress and Job Stress Sources

The term stress was used and introduced to social sciences by Hans Selye in the year 1950. Selye (1950) studied stress for long periods of time, and noticed through his studies that stress was designed to help the individual to overcome threats and danger. As a result stress leads to an increase in heartbeat, acceleration in breathing and the transference of blood to skeletal muscles, which is a reaction known as the fight or flight response.

Hingley and Cooper (1986) showed that nurses as members of a caring profession have as their prime focus a responsibility for 'people' rather than 'things'. Also, they showed that occupational stress is likely to be

substantially higher amongst those occupations whose task is 'person focused'.

Manfred, et al. (1979) defined stress as an undetermined or unlimited response towards which circumstances may impinge on human resources. Stress then represents an unbalanced state between environmental requirements and individual ability for adaptation.

As a result employees have a feeling of satisfaction and self-respect, and opportunities for rehearsing their creative ability and increasing their interest in their work. Additionally however, there is destructive stress which gives negative results in relation to the performance of the individual and the organization. In this case high levels of stress lead to decreased efficiency in performance and carelessness in work weakens loyalty to the organization and often results in the employee eventually leaving work.

Destructive stress can lead to the individual feeling exhausted. It is at this stage that the presence of disease symptoms is often detected showing that destructive stress can affect the individual's psychological and physical health.

Job stress is triggered by two groups of sources; first: organizational sources, which come from the work itself, second: sources connected with/or related to the personal traits of the individuals or their life circumstances outside of work. The focus of this study will be on stress sources related to work itself. In particular socio-demographic variables on job stress levels will be identified

Stress is considered as unpleasant

as it may have a bad impact on those who suffer from it. Work stress has been well documented in administrative organizations. The following glossary for the most common causes of work stress has been identified from the review of literature:

- Occupational demands (some types of work have more stress than others).
- Role conflict (stress due to conflict usually not capable of solution).
- Role ambiguity (stress as a result of uncertainty).
- Work over and under load.
- Responsibility for others.
- Career development.
- Lack of participation (stress comes from the input's absence).
- Another organizational source of stress (evaluation, work condition and interpersonal relations in the organization).

#### 4- Purpose and Objectives of the Study

The general purpose of this study is to investigate the effect of stress levels in nursing work. This type of investigation is very useful to hospital administrators, because it helps in improving all nursing management processes and to protect nurses from these adverse effects. The specific objectives of this study are to:

1. Identify jobs stress levels among nurses.
2. Reveal the essential sources of stress among nurses in a selected hospital.
3. Know the effect of socio-demographic factors on job stress levels among nurses according to age, nationality, gender, department,

level of educational, job experience and marital status.

- ξ. Provide useful information to the hospital administrators and health professionals in nursing management and to provide proper solutions and recommendations for reducing job stress levels.

#### • - Research Hypotheses

This study focuses on testing some socio-demographic factors on job stress level among nurses. These factors are age, nationality, gender, department of work, educational level, job experience and marital status.

For the purpose of the study a series of null hypotheses have been adopted.

١. There is no significant relationship between age and job stress level.
٢. There is no significant relationship between nationality and job stress level.
٣. There is no significant relationship between gender and job stress level.
٤. There is no significant relationship between work setting (department) and job stress level.
٥. There is no significant relationship between educational level and job stress level.
٦. There is no significant relationship between experience and job stress level.
٧. There is no significant relationship between social status and job stress level.

#### ٦. Research Methodology

In the following we will discuss the study's methodology and design, data collection methods, data processing,

analysis, and interpretation.

#### ٦,١ Introduction

The job stress level cannot directly be observed. Its measurement, like any other feeling, usually rely on respondent's self reports. Strategies for measuring job stress level include interviews and rating scale questionnaire.

Generally, the use of rating scales can protect against some of the distortion of answers by respondents. Some workers, fearing retaliation from management, might not give an accurate representation of their levels of job stress in an interview or meeting out might presents an overly positive picture of their feelings. On the other hand, meetings of interviews could provide more information. This can refer to asking a follow-up question or request further elaboration of clarification of an answer.

Any social survey is conventionally associated with questionnaires and structured interviews, which are the only two data collection methods. The self-administrated questionnaire is particularly intensively used. The validity and reliability measurements of the questionnaire are very important in order to make a right judgment on this research tool.

There are two types of validity, the internal and external validity, The distinction between these types can lead to the suggestion that, whereas internal validity tends to be a source of strength for experimental research, external validity is often less well established.

In the social survey study, data

relating to all variables are collected at the same time by questionnaire.

### ٦,٢ Research design

The study is a descriptive cross-sectional one. It was carried out at the Central Hospital in Riyadh the capital city of Saudi Arabia in the year ١٩٩٨. As the hospital is supervised by the Ministry of Health, the study has focused on nursing staff working in the hospital, both males and females. They constitute almost ٥٠% of the total number of hospital staff. All departments, which are directed by the nursing department director, were included in the study.

### ٦,٢,١ Data Collection Instrument

Self-administrated questionnaire method is the main research method for this study by collecting data by questionnaire, on a constellation of variables. The objective is to examine patterns of relationship between the variables.

The questionnaire used in this research is designed by Modic (١٩٨٩) with some modifications. The questionnaire is divided into two parts. The questionnaire was used in this study to examine the demographic factors that affect job stress level in nursing work at a selected hospital.

A questionnaire consisting of two pages, in addition to a covering page explaining the purpose of the study, was used to collect data. The first part consists of seven questions (personal data) covering age; nationality; gender; department; academic level; job experience in the hospital, and marital

status. The second part includes ١٤ statements to measure the level of nurses' stress. Respondents were asked to rate the feelings of stress for each criterion of the ١٤ statements using a ٤-point Likert scale, from "Never" to "Almost always".

### ٦,٢,٢ Study population and sample

The total study population is ٧٨٣ nurses, ٦٨٩ of them are females and ٩٤ are males. Three hundred questionnaires were distributed at the different hospital departments; ٢٥٠ were distributed among female nurses and ٥٠ among male nurses. The response rate among females was ٩٢% and among males ٧٦%. The total number of the received questionnaires was ٢٣٦ which is approximately ٣٠% of the total population. The sample size ٢٣٦, represents the proportional allocation method of determining the sample size, i.e., ٢٠٧ female nurses and ٢٩ male nurses. All the following analysis of data will be used on this sample size.

### ٦,٣ Study Constructs and Variables

The first task in the data collection phase was to identify socio-demographic factors (independent variables) that influence the dependent variables (Nursing Job Stress). From literature, relevant factors that might lead to job stress among nurses in hospitals were identified. Eight sets of factors were

identified as likely to influence nurses and lead to stress.

Random sample by proportional allocation method.

**The independent variables are:**

١. Age: age in the year at the date of survey.

٢. Nationality: (Saudi, Egyptian, Pakistani, Filipino, Indian, Indonesian, Korean).

٣. Gender: ( male and female).

٤. Department of work is divided into ten groups and given in Table(٣).

٥. Educational level: (nursing diploma, B. Sc in nursing and above).

٦. Job Experience: (number of working years in the hospital).

٧. Marital Status: (married, single, divorced, widow).

**The dependent variables are:**

Q١ : The work conditions are hard physically.

Q٢: The work is dangerous or hazardous.

Q٣: The workplace is uncomfortable or depressing.

Q٤ : I find that office policies interfere with my work.

Q٥ : I do not have the information I need for my work.

Q٦ : There is unfairly competitive, backbiting atmosphere at work.

Q٧ : What is expected of me is not clear.

Q٨ : I am asked to do conflicting

things.

Q٩ : I feel overloaded at work.

Q١٠: I have ethical problems with my job duties.

Q١١: I am not able to advance, as I would like in this job.

Q١٢ : Relationships among co-workers are poor and full of conflict.

Q١٣ : I am not clear where I stand; I am uncertain if my contributions are valued

Q١٤ : I do not participate in decisions that affect my job.

**٦,٤ Questionnaire Validity**

To assure the validity of the research questionnaire, the following procedures were conducted: Review of the literature and face validity. In addition to reviewing the relevant literature, as mentioned previously, the study instrument was taken from a published book on job stress.

Kidder and Judd (١٩٨٦) defined the validity measure as “one that taps the construct we intend to tap”. Whereas, Hulley and Cummings (١٩٨٨) defined the validity of variables as “the degree to which it actually represents what it is supposed to represent”. Neuman (١٩٩٤) stated that, “validity tells us whether an indicator actually captures the meaning of the construct in which we are interested”.

Polgar and Tomas (١٩٩١) mentioned that face validity is evaluated by a group of judges, sometimes experts, who read or look at a measuring technique and decide whether, in their opinion it measures

what is suggested.

Statistically, validity test is carried out by finding Spearman correlation between the answers, denoted by  $Q_1, Q_2, \dots, Q_{10}$  and the retest answers, denoted by  $QQ_1, QQ_2, \dots, QQ_{10}$ . This test is widely used in social, scientific, and health studies.

### 3-3 Questionnaire Reliability

Babbie and Halley (1990) defined reliability as the quality of the measuring instrument to report the same value in successive observations of a given case. According to Kidder and Judd (1986) a reliable measure is "one that has a small error component and, therefore, does not fluctuate randomly from one moment to the next". Tests-retest correlation reliability method was used, Alpha coefficient is an indication of a Scale's Internal Consistency ranging from 0.0 to 1.0. This was used to test the reliability of the questionnaire. The Alpha coefficient of the questionnaire or alpha Cronbach was 0.80, which is considered as a very good level of reliability.

### 4. Data Processing, Interpretation, and Analysis

The collected questionnaires were coded, fed, processed and analysed by using (SPSS), The Statistical Package for Social Sciences, for the purpose of statistical analysis. (for further information regarding SPSS, one can refer to Babbie(1990)).

There are different statistical tests used to verify the test of hypothesis of

the dependent variables, answers to study questions.

The nonparametric correlation test was carried out between age and job stress level, and between experience and job stress level. This sort of tests is usually used in the case when we have a data values under test fall in groups, four groups for age variable and four groups for job experience.

Kruskal-Wallis one-way analysis of variance test will be used for testing nationalities, department of work, marital status against the job stress level. This test applies in the case of testing for a coded data.

Man-Whitney U-test was carried out for testing gender and educational level against job stress level. Here we have only two figures for each variable, gender: male and female, educational level: diploma and BSc. & above. [For further information regarding statistical analysis refer to Conover (1980)].

### 4.1 Descriptive analysis

In the following, full presentation of the data processed in the analysis will be described. The independent and dependent variables will be presented, and a number of cases under study and their percentages will be given. Statistical analysis of the job stress level was measured. The job stress level questions are denoted by  $Q_1, Q_2, \dots, Q_{10}$ . and are summarized in section 3.3.

Answers to the questionnaire are summarized in Table (1), where 236 nurses are covered. Frequency distribution, mean and standard

deviation are given for each answer. Most of the answers concentrate on the second choice, 'sometimes' with total percentage 49.4% followed by 'frequently' with 11.6% then by 'never' with 9.36% then by 'almost always' with 9.35%. Detailed frequencies and percentages of each question are also included. The questions' total was calculated with mean value of 2.01 and standard deviation of 0.45.

Q2: "The work is hazardous" shown of the selection "sometimes" this was the highest answer among all other questions with a frequency of 147 and a percentage of 62.3% of other choices for this question.

Table ( 1 ): Job stress level summary

The following analyses describe each independent variable by presenting its frequency and percentage. These values are summarized in Table (2). Some graphs will also be included.

The age of nursing staff under study is divided into seven classes. The age group (31-35) represents the highest frequency among the other age groups with value 58 and consume 24.6 % of the complete sample. The pie chart in Figure(1) clarifies this notation.

The sample is composed of 29 males (12.3%) and 207 females (87.7%). This was due to the stratified random sample which was selected for the nursing staff under study.

Educational level of the sample under study shows that 60.6% of

nursing hold a nursing diploma, and 39.4% of those hold a bachelor and master degrees.

Four types of marital status are counted for the sample under study. It is found that 66.5% are married and 27.5% are single.

Years of experience are divided into four groups. The highest percentage is 39% with (6-10) years of experience. The smallest one is 26.7% for those who have more than 10 years of experience.

Nationalities distribution shows that Indians constitutes the highest value with 47% of the sample, followed by Filipino and Saudi nationalities with a total of 48 and 31 nurses respectively and with 33.1% and 13.1% of the total sample size. Plotting of all nationalities under study are presented in ascending order in Figure(2). The distribution of nationalities reflect the concentration of some foreign nationalities rather than others.

Table ( 2 ): Distribution of nursing staff according to Age groups.

Figure(1): Pie chart of age groups

Figure(2): Bar chart of nursing staff according to nationality.

Hospital departments were divided into ten groups and summarized in Table (3). The highest percentage belonged to Male medical, Female medical, Nursing office, Nuclear medicine, Dental clinic, Private room, Blood unit, Diabetic clinic, and ECG room and equaled 24.2% of all the

sample size followed by Plastic surgery, General surgery, Orthopedic surgery, and Chest surgery with 21,2%. For the hospital departments included in the classification, the frequencies and percentage of each one are also explained.

Table (3): Distribution of nursing staff according to hospital department.

#### 4.2 Test-retest correlation

This procedure is done to make sure that the questions of the questionnaire are clear and not misunderstood by members of study. It is calculated by finding the Spearman correlation coefficient between the total of questions, denoted by Q, and total of questions of retest, denoted by QQ.

A sample size of 20 was used for the test-retest process. The test-retest correlation coefficient is 0.760 with a significant level at 0.01. This indicates that the questions were answered honestly for the selected sample of retest and highly efficient for the entire sample under study and passes the reliability test.

The correlation coefficient was also calculated between the answer of each question and the corresponding answer of the retest questions. Insignificant correlations were observed between Q0 and QQ0; and equals 0.279, while for all other questions correlation coefficients were positive and vary from 0.426 to 0.847 with highly significant value ( P-value < 0.01). Table (4) summarizes the results of correlation analysis.

Table (4): Correlation coefficient of Test-retest

#### 4.3 Validity test

Validity test is measured by finding the Spearman correlation between the answers, denoted by Q1, Q2, ..., Q14 and the total of answers. The correlation coefficient values are summarized in Table (5). It varies from 0.4278 to 0.6091. These figures indicate that the job stress answers are honest and pass the validity test.

Table (5): Validity test

Reliability factor  $\alpha$  (Cronbach Alpha) was established for the sample size of 236 and for all the questions which was found to be 0.8460. This figure is considered a very good reliability factor compared to relative studies.

#### 4.4 Test of hypotheses

To test the hypotheses of the study mentioned earlier, the following test procedures were carried out.

**I. H. : There is no significant effect relationship between age and job stress levels**

The nonparametric correlation test is carried out between age and the job stress level. The results of analysis and significance level are summarized in Table (6). It is noted that the correlation coefficients between age and the job stress level were very small and negative in most questions. There was a significant negative correlation, at 0.05 level of significance, between age and job stress level for questions

Q<sub>2</sub> (The work is dangerous or hazardous) and Q<sub>11</sub> (I am not able to advance, as I would like in this job). Hence, it is clear that there is no effect for age on job stress levels.

On the other hand, significant negative correlation between experience and job stress level for Q<sub>2</sub> and Q<sub>6</sub> were detected. Correlation coefficients between experience and other levels of job stress were not significant.

Table(6): Correlation coefficients between Job stress levels and age and between job stress level and job experience

**II. H. :There is no significant effect relationship between experience and job stress levels.**

The non-parametric correlation test was carried out between job experience measured in years and the job stress level. The results of analysis and significance level are summarized in Table (6). Again, analysis shows that all the coefficients were negative and very small except for Q<sub>2</sub> "I find that office policies interfere with my work".

For all of the job stress level questions, except Q<sub>2</sub>, the correlation coefficients were not significant at 0.05 and 0.1 level of significance. Hence, it is obvious that there is no effect for years of experience on job stress levels.

**III. H. :There is no significant effect relationship between nationality and job stress levels.**

To test this hypothesis, the Kruskal-Wallis one-way analysis of variance

test was used to determine whether there was a difference in the job stress levels according to nationality. Results of the analysis, including mean ranks, chi-square values and significance level, are shown in Table (7). It is noted that most of the Chi-square values are significant at 0.05, except for Q<sub>2</sub>: The workplace is uncomfortable or depressing, which was significant at 0.0001. Q<sub>4</sub>: I find that office policies interfere with my work, was significant at 0.0001. Q<sub>5</sub>: I do not have the information I need for my work, was significant at 0.0001. Q<sub>11</sub>: I do not participate in decisions that affect my job, was significant at 0.0001.

The Chi-square value for the total of answers was 19.3 with significance level less than 0.1. Hence, It is concluded that there is a difference among nursing staff nationalities regarding answers to job stress questions.

Table(7): Kruskal-Wallis test for different types of nationalities

**IV. H. :There is no significant effect relationship between departments and job stress levels.**

For this hypothesis, the Kruskal-Wallis one-way analysis of variance test was used to test whether there was a difference in job stress levels according to the departments in which nurses are working. Results of the analysis, including mean ranks, chi-square values and significance level, are shown in Table (8).

Most of the Chi-square values are not significant at level of 0.05 or less,

except for Q<sup>1</sup>, Q<sup>2</sup>, Q<sup>3</sup>, and Q<sup>4</sup>, where the Chi-square values are significant at levels less than 0.05. Generally, the Chi-square value for the total of answers was 18.7 with significance level less than 0.05, i.e. there is no significant difference among departments of work for nursing staff regarding answers of the job stress questions.

Table(8): Kruskal-Wallis test for different types of departments

**V. H.: There is no significant effect relationship between marital status and job stress levels.**

For this hypothesis, the Kruskal-Wallis one-way analysis of variance test was used to test whether there was a difference in the job stress levels according to marital status. Results of the analysis, including mean ranks, chi-square values and significance level, are shown in Table (9).

Table(9): Kruskal-Wallis test for different types of marital status

The Chi-square values are not significant at level of significance of less than 0.05 except for Q<sup>1</sup> (The work is hard physically) with the highest value of Chi-square among other values and equals 12.12, and for Q<sup>4</sup> (I feel overloaded at work) with a second highest value of chi-square which equals 11.63.

There is no difference among marital status regarding the questions mentioned above. In general, the Chi-square value for the total of answers is 7.58 with significance level 0.006. Hence, we conclude that there is no

difference among the marital status regarding answers of the job stress questions.

**H. : There is no significant effect relationship between gender and job stress levels.**

For this hypothesis, Man-Whitney U-test is carried out for testing if there is a difference in the gender of the nursing staff under the study regarding the job stress level. Results of the analysis, including mean ranks, U values and significance level, are summarized in Table (10).

All the U values are very large with a significance level greater than 0.05. Hence we can conclude that there is no difference between male and female of the study group regarding the job stress level.

Table(10): Mann-Whitney U-test for different types of gender

and for types of educational level

**VI. H. : There is no significant effect relationship between educational level and job stress levels.**

For this hypothesis, Man-Whitney U-test is carried out for testing if there is a difference in the educational level of the nursing staff under the study regarding the job stress level. Results of the analysis, including mean rank, U value and significance level of the group under study are given in Table (10).

The U values are very large with significance level less than 0.05 in most of the answers. This means that there is a significance difference between the two educational levels of the study group regarding the job stress level.

According to hypotheses of the

study, the following table summarizes the hypotheses, test used in the analysis and the decision has been taken.

Table(11): summary testing of hypotheses

Some suggestions and recommendations regarding these decisions will be mentioned below.

#### ٨. Discussion

The general purpose of this research was to investigate the socio-demographic factors that affect job stress levels among nurses at the Central Hospital in Riyadh, Saudi Arabia. The effect of various variables was investigated through two dimensions: Personal characteristics and Job stress characteristics. Statistical methods were used in order to present the outcome of this research.

#### ٨,١ Discussion of dependent variables

Analyses of questionnaires succinctly showed that in providing answers most of the respondents concentrated on the second choice 'sometimes' with a total ٤٩,٤% followed by 'frequently' with ١١,٦% then by 'never' with ٩,٣٦% then by 'almost always' with ٩,٣٥%. This means that the majority of nurses experienced stressful work even though they were not unanimous in their report.

It was also found that the majority of nurses ٦٢,٣% in response to Q٢ (The work is hazardous) selected the second choice of answer, 'sometimes'. This means that in the view of nurses the safety considerations are not enough,

therefore the job stress levels among nurses obviously increased.

For Q١ (The work is hard physically), ٤٦,٦% of nurses selected the choice "sometimes", it is therefore suggested this situation should be revised by hospital authorities in order to reduce this percentage.

It was also found that ٣٨,١% of nurses in response to Q٩ (I feel overloaded at work) selected the choice "sometimes" and ٣٢,٢% of them selected the choice "almost always" in response to the same question. This revealed that the nursing staff members were experiencing stress from work over-load.

Thus it is apparent from the previous answers that job stress prevails and that it is exacerbated by work overload and recognition of the fact that work hazards are present.

#### ٨,٢ Discussion of independent variables

The above factors combine to emphasize that work is physically hard. These factors may cause greater concern when it is realized that with regard to age, ٧٠% of nursing staff are ranging from ٢٦-٤٠ years old. There is a negative correlation between age and job stress levels in response to Q٢ (The work is dangerous or hazardous) and Q١١ (I am not able to advance, as I would like in this job). This means that with an increase of nurses' age, the job stress level decreases.

There are a number of different nationalities working in the nursing

departments, Saudi and non-Saudi with different languages and religions. Analysis of the nursing population showed that 13,1% were Saudi nurses (both males and females) whilst Indian (47%) and Filipino (33,1%) nurses complement the nursing staff. Pakistani nurses suffering the highest job stress level with mean rank value 2,24 comparison with other nationalities under study. Less job stress level are among Egyptian nurses with mean rank value 1,39 among other nationalities.

Although ideally, the nursing job requires both genders (male and female) because of the job's intricate nature and the fact that the general hospital deals with both male & female patients. However, most of the nursing staff are females, they constitute 88% of the population of nurses and the rest 12% are males. This also means that there is a shortage of male nurses. Recruitment of more male nurses could likely improve the quality of care for male patients.

Since the study was conducted in a Central hospital, it was shown that although there were many departments covering many specialties in medicine. The highest percentage of nurses were working in medical departments (16,9%) with mean rank value 1,90, followed by surgery clinics with 21,1% and mean rank value 2,16, followed by Emergency department with 16,1% and mean rank value 1,92 out of the total staff.

For a comparison with other

departments, one can refer to Table (9). If the mean rank value was to be arranged in ascending order, the smallest value will be 1,77 for the ENT, with less job stress level, followed by 1,86 for the intensive care unit with less job stress level in comparison with other departments. Prison clinic hold the highest job stress level with mean rank value 2,24.

With regard to educational level it was found that 60,6% of nurses are a diploma holders in nursing and 39,4% are Bachelor degree and above in nursing sciences. This means that there is a severe shortage of highly educated instructor nurses in this hospital for the purpose of providing advanced training programs in the nursing field. To solve this situation it is suggested that a developmental program is to be introduced.

In relation to experience, it was found that most nurses had been qualified for (6-10) years (39%). Those that had less than 6 years of experience amounted to 34,3%. In other words, 73,3% of the sample had less than 10 years experience.

Marital status frequencies revealed that 66,0% of nurses are married, 34,0% are single. This may mean that the added responsibilities of marriage may add to work stress. However, research shows that this is not usually the case for all of the results.

Test-retest correlation reliability was conducted to assess the study's

reliability. A reliability factor  $\alpha$  was established for all the sample size ۲۳۶. All the study's questions yielded a factor of ۰,۸۵ which is considered a very good reliability factor in comparing this work with similar studies.

This study was based on one question and seven hypotheses. According to the scientific research method, the question must be answered, and the hypotheses tested before the research study can be considered to be complete. To answer the study question this research project hypothesized ۷ null hypotheses which were to be accepted or rejected, according to the findings of the data analysis.

#### ۸,۳ Discussion of study hypothesis

The null hypothesis applied for this study presented the view that there is no significant effect of socio-demographic factors on job stress levels in nursing work. Data analysis of the study revealed the following results:

The study accepts the first hypothesis that says (There is no significant effect of age on job stress levels.).

The study rejects the second hypothesis (There is no significant effect of nationality on job stress levels). This means that the nationality of nurses has a significant effect on job stress levels. Egyptian nurses appeared to suffer from the least amount of job stress, then Indians were in the second rank, third Saudis, fourth Koreans, fifth Indonesians, sixth Filipinos, and finally Pakistanis. This

last group recorded the highest level of job stress. It is therefore concluded that the nursing profession is much more stressful for Pakistani nurses.

The study also accepts the third hypothesis (there is no significant effect of gender on jobs stress levels). This means that gender has no effect on the job stress levels. The study accepts the fourth hypothesis that says (there is no significant effect of the department work setting on job stress levels). This means that there is no difference in job stress levels according to the department of work setting of the nurse.

The study rejects the fifth hypothesis that says (there is no significant relationship between educational levels and job stress level). This means that diploma educational level has an effect on job stress levels. In other words, the nursing staff with a Bachelor degree and above are suffering from job stress level with mean rank value ۲,۱۸ more than those holding only Diploma with mean rank value of ۱,۹۰.

The study accepts the sixth hypothesis that says there is no significant relationship between experience and job stress levels in general, but there is a negative correlation between experience and job stress levels  $Q۲$  &  $Q۱۱$  (the increase in experience, the decrease in job stress level).

The study accepts the seventh hypothesis that says there is no significant relationship between marital status and job stress levels.

According to the selected socio-demographic factors for this study

which consisted of the following seven independent variables: Age, Nationality, Gender, Department, Educational level, Experience and Marital status, it was found that most of these variables have no effect on the job stress level in nursing work among nurses (males & females) in Saudi Arabia.

Only two factors had an effect on job stress levels among nurses these are (Nationality and Educational level).

#### **Recommendations**

The following recommendations are drawn from the descriptive part and the hypothetical part of the study. A decrease in job stress levels among nurses was suggested. It was suggested that the satisfaction of nursing staff must be ensured.

Strategic planning for the nursing profession is required to improve the work conditions and increase the employees (nurses) participation in decision-making and strategic planning.

Planners, policy makers and hospital administrators should consider differences in the nurse's nationality within the hospital nursing services. They should conduct nursing job stress level surveys from time to time in order to achieve a good continuous quality improvement. Further studies are recommended to

determine why these differences occur and the response of different nationalities to stress should be taken into consideration when hiring and recruiting in the nursing service.

High school students (both males & females) should be encouraged to enroll for this profession which has excellent privileges in order to solve the problems of a shortage of nursing staff. Acceptance conditions in nursing colleges should be made easier and less complicated. Postgraduate (higher educational) studies should be encouraged to minimize the responsibilities on the attending of the few nurses in the nursing field who have Bachelor degrees and higher degrees because they are very few in comparison to those who have completed only a Diploma in nursing.

Hospital managers are advised to take into consideration the high demand (need) for nursing services in medical and surgical departments and to ensure safety and job security for nursing staff.

further studies in the same subject are recommended to be conducted in other hospitals in Saudi Arabia. These studies should include additional variables that may affect job stress levels in nursing work, in order to gain better and more reliable generalizations.

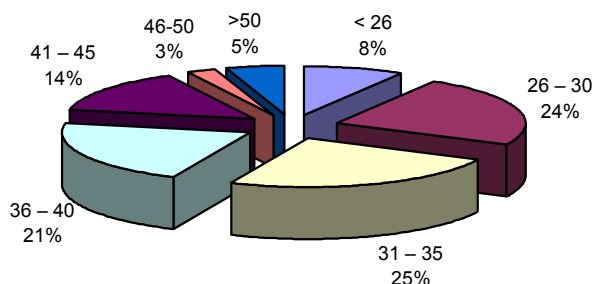
**Table ( ١ ) : Job stress level summary**

Question no.	Job stress level								mean	s.d.
	Never	%	Sometimes	%	Frequently	%	Almost always	%		
Q١	٦٠	٢,٥	١١٠	٤٦,٦	٤٤	١٨,٦	٧٦	٣٢,٢	٢,٨١	٠,٩٢
Q٢	٤٦	١٩,٥	١٤٧	٦٢,٣	٣٠	١٢,٧	١٣	٥,٣	٢,٠٤	٠,٧٤
Q٣	٤٩	٢٠,٨	١٢٥	٥٣,٠	٢٢	٩,٣	٤٠	١٦,٩	٢,٢٢	٠,٩٧
Q٤	٦٧	٢٨,٤	١١٦	٤٩,٢	٣٥	١٤,٨	١٨	٧,٦	٢,٠٢	٠,٨٦
Q٥	٩٢	٣٩,٠	١٢٦	٥٣,٤	١٤	٥,٩	٤	١,٧	١,٧٠	٠,٦٦
Q٦	٦٣	٢٦,٧	١٢٦	٥٣,٤	٣١	١٣,١	١٦	٦,٨	٢,٠٠	٠,٨٢
Q٧	١٠١	٤٢,٨	١١٤	٤٨,٣	١٧	٧,٢	٤	١,٧	١,٦٨	٠,٦٨
Q٨	٩١	٣٨,٦	١١٧	٤٩,٦	٢٣	٩,٧	٥	٢,١	١,٧٥	٠,٧١
Q٩	١٧	٧,٢	٩٠	٣٨,١	٥٣	٢٢,٥	٧٦	٣٢,٢	٢,٨٠	٠,٩٨
Q١٠	٨٢	٣٤,٧	١٢٢	٥١,٧	٢٢	٩,٣	١٠	٤,٢	١,٨٣	٠,٧٦
Q١١	٦١	٢٥,٨	١١٨	٥٠,٠	٤٠	١٦,٩	١٧	٧,٢	٢,٠٦	٠,٨٥
Q١٢	٩١	٣٨,٦	١٢٠	٥٠,٨	١٩	٨,١	٦	٢,٥	١,٧٥	٠,٧١
Q١٣	١٠٠	٤٢,٤	١٠٥	٤٤,٥	٢١	٨,٩	١٠	٤,٢	١,٧٥	٠,٧٦
Q١٤	١٠٩	٤٦,٢	٩٧	٤١,١	١٥	٦,٤	١٥	٦,٤	١,٧٣	٠,٨٤
total	٩٨٥	٩,٣٦	١٦٣٣	٤٩,٤	٣٨٦	١١,٦	٣١٠	٩,٣٥	٢,٠١	٠,٤٥

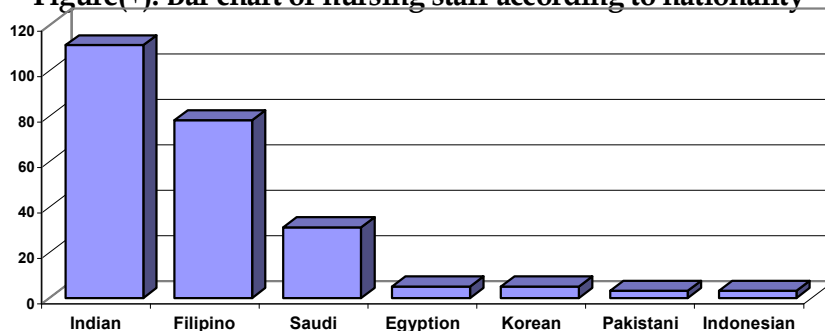
**Table ( ٢ ) : Distribution of nursing staff according to Age groups**

variable	description	frequency	percentage
age	< ٢٦	٢٠	٨,٥
	٢٦ - ٣٠	٥٦	٢٣,٧
	٣١ - ٣٥	٥٨	٢٤,٦
	٣٦ - ٤٠	٥٠	٢١,٢
	٤١ - ٤٥	٣٤	١٤,٤
	٤٦ - ٥٠	٦	٢,٥
	> ٥٠	١٢	٥,١
gender	male	٢٩	١٢,٣
	female	٢٠٧	٨٧,٧
educational level	Nursing diploma	١٤٣	٦٠,٦
	B.Sc. and above	٩٣	٣٩,٤
marital status	single	٦٥	٢٧,٥
	married	١٥٧	٦٦,٥
	Divorce	١١	٤,٧
	widow	٣	١,٣
job experience	less than ٦ years	٨١	٣٤,٣
	( ٦-١٠ ) years	٩٢	٣٩
	more that ١٠ years	٦٣	٢٦,٧
nationality	Saudi	٣١	١٣,١
	Egyptian	٥	٢,١
	Pakistani	٣	٣
	Filipino	٧٨	٣٣,١
	Indian	١١١	٤٧
	Indonesian	٣	١,٣
Korean	٥	٢,١	
total	-----	٢٣٦	١٠٠

**Figure(١): Pie chart of age groups**



**Figure(٢): Bar chart of nursing staff according to nationality**



**Table (٣): Distribution of nursing staff according to hospital department**

code	Department	Frequency	%
I	Prison	٣	١,٣
II	Spinal injury -Neuro surgery- Brain and neuro functions	٢١	٨,٩
III	Urology	٧	٣
IV	Emergency	٢٨	١٦,١
V	Plastic surgery - General surgery - Orthopedic surgery - Chest surgery	٥٠	٢١,١
VI	Male medical - Female medical - Nursing office - Nuclear medicine - Dental clinic - Private room - Blood unit - Diabetic clinic - ECG room	٥٧	٢٤,١
VII	Hemodialysis	١٩	٨,١
VIII	ENT	٧	٣
IX	Adult intensive care unit - Pedia intensive care unit - Burn ICU - Neonatal ICU	٣٣	١٤
X	Dermatology	١	٠,٤
	total	٢٣٦	١٠٠

**Table (٤): Correlation coefficient of Test-retest**

test	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14
Correlation	0.426	0.636	0.700	0.539	0.279	0.446	0.546	0.781	0.688	0.702	0.847	0.608	0.493	0.566
	*	**	**	**	ns	*	**	**	**	**	**	**	*	*
retest	QQ1	QQ2	QQ3	QQ4	QQ5	QQ6	QQ7	QQ8	QQ9	QQ10	QQ11	QQ12	QQ13	QQ14

Where (\*): significant at 5% level (\*\*): significant at 1% level (ns): not significant

**Table (5): Validity test**

Test	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14
Correlation	0.600	0.577	0.609	0.573	0.500	0.549	0.584	0.630	0.609	0.637	0.616	0.440	0.579	0.428

**Table(6): Correlation coefficients between Job stress levels and age and between job stress level and job experience**

Question number	age		job experience	
	Correlation coefficient	Significance level	Correlation coefficient	Significance level
Q1	-0.101*	0.06	-0.008	0.404
Q2	-0.170**	0.003	-0.149*	0.011
Q3	-0.026	0.348	-0.028	0.330
Q4	0.084	0.1	0.072	0.136
Q5	-0.118*	0.030	-0.103	0.057
Q6	-0.047	0.237	-0.033	0.31
Q7	-0.066	0.100	-0.047	0.238
Q8	-0.668	0.103	-0.049	0.226
Q9	-0.049	0.226	-0.03	0.322
Q10	-0.011	0.430	-0.008	0.401
Q11	-0.136*	0.018	-0.092	0.078
Q12	0.009	0.440	-0.018	0.391
Q13	0.036	0.294	-0.002	0.489
Q14	-0.088	0.088	-0.047	0.238

Where: (\*): significant at 5% level, (\*\*): significant at 1% level.

**Table(V): Kruskal-Wallis test for different types of nationalities**

Question number	Mean rank ( nationality)							Chi-square value	Significance Level
	Saudi	Egyptian	Pakistani	Filipino	Indian	Indonesian	Korean		
	Q1	2,70	1,70	3,00	3,08	2,77	2,00		
Q2	2,19	1,40	1,77	2,24	1,90	1,77	1,20	23,41	0,0007
Q3	2,32	1,40	2,77	2,38	2,11	2,00	2,40	7,88	0,3467
Q4	1,84	2,00	2,33	2,22	1,88	2,77	2,40	11,88	0,0647
Q5	1,74	1,00	2,00	1,77	1,70	2,00	2,00	11,78	0,0690
Q6	2,10	1,20	3,33	2,10	1,80	2,77	2,00	20,18	0,0026
Q7	1,08	1,00	2,77	1,83	1,70	1,77	1,70	14,07	0,0239
Q8	1,81	1,00	1,77	1,90	1,77	2,33	1,80	10,12	0,0193
Q9	2,71	1,80	2,77	3,08	2,72	3,00	2,20	14,84	0,0216
Q10	1,02	1,00	1,77	2,10	1,73	2,33	2,40	20,30	0,0003
Q11	2,32	1,70	2,77	2,18	1,92	1,33	2,00	13,20	0,0393
Q12	2,07	1,40	1,33	1,81	1,73	1,77	2,00	17,47	0,0077
Q13	1,02	1,80	1,77	2,04	1,09	1,77	2,20	18,07	0,0071
Q14	1,81	1,20	2,00	1,77	1,70	2,77	2,20	11,11	0,0802
TOTAL	2,01	1,39	2,24	2,18	1,91	2,12	2,03	19,30	0,0037

**Table(A): Kruskal-Wallis test for different types of departments**

Question number	Mean rank* ( Department)										Chi-square value	Significance level
	I	II	III	IV	V	VI	VII	VIII	IX	X		
Q1	3,00	2,77	3,07	2,08	3,24	2,77	2,79	2,87	2,08	2,00	22,97	0,0073
Q2	2,00	2,14	2,14	2,03	2,10	1,82	2,32	2,14	2,09	2,00	10,48	0,3134
Q3	3,00	2,19	2,07	2,03	2,37	2,32	2,00	2,43	2,03	2,00	0,788	0,7492
Q4	2,33	2,33	2,14	2,11	1,98	2,00	1,03	1,07	2,00	3,00	14,42	0,1079
Q5	2,00	1,07	1,87	1,71	1,92	1,77	1,32	1,14	1,77	1,00	20,04	0,0029
Q6	2,33	2,72	3,00	1,89	1,98	1,88	1,78	1,07	2,00	2,00	24,02	0,0043
Q7	2,77	1,81	2,00	1,71	1,92	1,08	1,27	1,29	1,77	1,00	21,77	0,0097
Q8	1,77	1,77	2,14	1,77	2,02	1,77	1,37	1,07	1,74	1,00	19,04	0,0210
Q9	3,00	2,72	3,14	2,79	3,12	2,71	3,00	2,07	2,08	3,00	12,02	0,1807
Q10	1,77	1,87	2,43	1,84	2,04	1,70	1,74	1,07	1,82	1,00	13,13	0,1070
Q11	2,33	2,19	2,07	1,84	2,22	2,00	2,00	1,07	2,03	3,00	13,97	0,1234
Q12	1,33	2,10	2,00	1,77	1,70	1,73	1,79	1,07	1,77	2,00	0,774	0,5708
Q13	1,77	1,90	2,14	1,71	1,82	1,81	1,03	1,43	1,77	3,00	9,41	0,4007
Q14	2,33	1,81	2,00	1,03	1,82	1,77	1,78	1,43	1,70	1,00	10,12	0,3408
TOTAL	2,24	2,12	2,41	1,92	2,17	1,90	1,87	1,77	1,90	1,93	18,79	0,0279

(\*) Where I, II, III, ..., X are defined in Table (3)

**Table(٩): Kruskal-Wallis test for different types of marital status**

Question number	Mean rank ( marital status)				Chi-Square value	Significance level
	Married	Single	Divorce	Widow		
Q١	٢,٧٥	٢,٩٠	٢,٠٠	٢,٠٠	١٢,١٢	٠,٠٠٧٠
Q٢	٢,٠٩	٢,٠٤	١,٧٣	٢,٠٠	٢,٤٨	٠,٤٧٩٤
Q٣	٢,٣١	٢,٢١	١,٩١	٢,٣٣	١,٥١	٠,٦٨,٤
Q٤	١,٩٤	٢,٠٧	١,٦٤	٢,٣٣	٤,٣٥	٠,٢٢٦٤
Q٥	١,٧٨	١,٧٠	١,٣٦	١,٣٣	٥,٧٥	٠,١٢٤٦
Q٦	٢,٠٨	٢,٠١	١,٦٤	١,٣٣	٦,٥٤	٠,٠٨٨٠
Q٧	١,٦٨	١,٦٨	١,٦٤	١,٦٧	٠,٠٦	٠,٩٩٦٥
Q٨	١,٨٥	١,٧٥	١,٥٥	١,٠٠	٧,٣٨	٠,٠٦٠٧
Q٩	٢,٨٠	٢,٨٧	١,٩١	٢,٠٠	١١,٦٣	٠,٠٠٨٨
Q١٠	٢,٠٣	١,٧٨	١,٣٦	١,٦٧	٧,٤٤	٠,٠٥٩١
Q١١	٢,١٢	٢,٠٦	١,٦٤	٢,٠٠	٣,٨٧	٠,٢٧٦٣
Q١٢	١,٨٦	١,٧٠	١,٦٤	٢,٠٠	٣,٥٢	٠,٣١٨٣
Q١٣	١,٩١	١,٧٠	١,٦٤	١,٣٣	٣,٩٦	٠,٢٦٦٠
Q١٤	١,٨٣	١,٧٣	١,٢٧	١,٣٣	٥,٢٩	٠,١٥٢٠
TOTAL	٢,٠٧	٢,٠١	١,٦٤	١,٧٤	٧,٥٨	٠,٠٥٥٦

**Table(١٠): Mann-Whitney U-test for different types of gender and for types of educational level**

Question number	gender				educational level			
	Mean rank		U	Significance level	Mean rank		U	Significance level
	Male	Female			Diploma	B.Sc. & above		
Q١	٢,٧٣	٢,٨٢	٣١٦٤	٠,٥٨١١	٢,٦٤	٣,٠٦	٥٠٤٢	٠,٠٠٠٧
Q٢	١,٩٧	٢,٠٥	٣١٠٥	٠,٤٣٦٣	١,٩٤	٢,٢	٥٤٦١	٠,٠٠٧٣
Q٣	٢	٢,٢٦	٢٨٥٩	٠,١٤٠٤	٢,١٤	٢,٣٥	٥٧٩٨	٠,٠٦٩٣
Q٤	١,٩١	٢,٠٣	٣٠٨٠	٠,٤٢٢٩	١,٩٤	٢,١٣	٥٧٢٤	٠,٠٥٠٧
Q٥	١,٧٣	١,٧	٣٢٢٧	٠,٧٠٣٣	١,٦٤	١,٨	٥٨٣١	٠,٠٧١٩
Q٦	٢,٠٦	١,٩٩	٣٣٠٩	٠,٩٠١٣	١,٩	٢,١٦	٥٣٣٧	٠,٠٠٤٨
Q٧	١,٧٣	١,٦٧	٣٢٩٨	٠,٨٧٤٩	١,٥٩	١,٨٢	٥٢٧٤	٠,٠٠٢٨
Q٨	١,٨٥	١,٧٤	٣٢١٤	٠,٦٨٠٨	١,٦٨	١,٨٧	٥٥٩٦	٠,٠٢٢٤
Q٩	٢,٦١	٢,٨٣	٢٩١٥	٠,٢٠٧٣	٢,٦٢	٣,٠٦	٥٠١٢	٠,٠٠٠٨
Q١٠	١,٥٨	١,٨٧	٢٦٨٧	٠,٠٤٤	١,٦٤	٢,١٣	٤٣٦٣	٠
Q١١	٢,٣٣	٢,٠١	٢٧٦٢	٠,٠٨	١,٩٤	٢,٢٣	٥٢٩٥	٠,٠٠٤٢
Q١٢	١,٧٩	١,٧٤	٣٢٣٦	٠,٧٢٨٩	١,٧١	١,٨	٦٢٦٠	٠,٣٩٨٦
Q١٣	١,٨٢	١,٧٤	٣٢٣٧	٠,٧٣٥	١,٥٧	٢,٠٢	٤٦٤٣	٠
Q١٤	٢,٠٣	١,٦٨	٢٧٦٥	٠,٠٧٨	١,٦٥	١,٨٥	٥٦٩٢	٠,٠٤٠٥
TOTAL	٢,٠١	٢,٠١	٣٣٣١	٠,٩٥٨٣	١,٩	٢,١٨	٤٥٥٥	٠

**Table( ١ ): summary testing of hypotheses**

No.	Null hypotheses(H.)	Groups or Elements	used test	decision
١	There is no effect with significance level for age on job stress level	٧ groups	Nonparametric correlation test	Accept H.
٢	There is no effect with significance level for nationality on job stress level	٧ elements	Kruskal-Wallis test	Reject H.
٣	There is no effect with significance level for gender on job stress level	٧ elements	Man-Whitney U test	Accept H.
٤	There is no effect with significance level for department on job stress level	١٠ elements	Kruskal-Wallis test	Accept H.
٥	There is no effect with significance level for educational level on job stress level	٧ elements	Man-Whitney U test	Reject H.
٦	There is no effect with significance level for experience on job stress level	٧ groups	Nonparametric correlation test	Accept H.
٧	There is no effect with significance level for marital status on job stress level	٤ elements	Kruskal-Wallis test	Accept H.

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