

# Occupational Stress, Job Satisfaction and Cervical Screening Intention of Maternity Oncology Nurses

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## **Abstract**

**Background:** Cervical Cancer could be a preventable disease, and a key aspect of its interference is that the detection of the premalignant form by cervical screening. Nursing could be a skilled job characterized by high stress. Stress could be associated with less practice of health promoting behaviors; however, no study has investigated the relationship between job stress and health screening behaviors among nurses in Egypt. **Aim:** describe the rate of Pap smears in hospital nurses and assess the effects of job stress on receiving cervical cancer screening. **Subject and Methods:** Purposive sampling included 30 nurses who worked in gynecological inpatient and outpatient department in all general hospitals in Beni-Suef city. Data collection was carried out by self-administered structured questionnaire, Job stressors & Job Satisfaction Scales for Nurses. **Results:** 86.7% of staff nurses working in maternity oncology units never Performed cervical screening pap smear Previously. 90% & 93.4% of the nurses, respectively, were unsatisfied with their salary and job. 70% of them had an occupational stress and 100% Perceived occupational health risks. **Conclusion:** The great majority of nurses has unsatisfied and job stress. Most of them never Performed pap smear Previously and absolutely refuse to do in future. The main cause for refusing cervical screening as mentioned by nurses was a high flow rate of positive cases.

## **Keywords**

occupational stress, job satisfaction, pap smear, oncology

## **1. Introduction**

Cancer is that the most significant worldwide pathological health problem with wide geographical variation in incidence and it has additionally become an important item in each country's health agenda. Cancer is that the unlimited growth and spread of cells, the expansion most often invades

surrounding tissue and might metastasize to distant sites. It will have an effect on any part of the body (World Health Organization, 2015; American Cancer Society, 2015; Hassan et al., 2016a). Cancer begins once cells in a part of the body begin to grow out of control. There are many types of cancer, however, all of them begin because of out-of-control growth of abnormal cells (American Cancer Society, 2015; Hassan, 2016a).

Cancer cervix could be a malignant uncontrolled growth of epithelium cells within the transformation zone that is that the space between the endocervix and ectocervix (Jhingran et al., 2013). It is the third most common cancer in women worldwide (Farshbaf-Khalili et al., 2015). An estimated half million new cases of cervical cancer are diagnosed every year worldwide, leading to annual mortality of 270,000 (Farshbaf-Khalili et al., 2015; World Health Organization, 2014; Su et al., 2016). The American Cancer Society's estimates for cervical cancer in the United States for 2015 reported about 12,900 new cases of invasive cervical cancer will be diagnosed, about 4,100 women will die from cervical cancer (World Health Organization, 2015; American Cancer Society, 2015; Hassan, 2016a). The average age-adjusted mortality rate is doubled as high in developing as in developed countries (9.8 compared to 4.1 per 100,000 women). The mortality is as high as 24.2 in East Africa, while in the Caribbean and Central America 17.0 per 100,000 women (Qalawa et al., 2015).

Cancer of the cervix could be a preventable disease, and a key aspect of its interference is that the detection of the premalignant form by cervical screening (Qalawa et al., 2015). The cervical cancer death rate has gone down by more than 50%, only over the last thirty years. The increased usage of the diagnostic Pap test was the main reason for this change (World Health Organization, 2015; American Cancer Society, 2015; Hassan et al., 2016a). The benefits of this screening include diagnosing and treating of the disease in pre-invasive stages, as well as a shift in the incidence of invasive disease from advanced to early (treatable) stages (Qalawa et al., 2015). Additionally, Pap smear screening will decrease the incidence & mortality of cancer cervix by 60% & 90%, respectively. Therefore, a regular screening will have an effect on the reduction of cancer incidence (Qalawa et al., 2015).

Job stress is caused by a mismatch between workers' job demands and their ability and resources to try and do the work. Studies have reported that the job stress among nurses is caused by significant workloads, shift schedules, role conflicts, social issues, inadequate preparation, violent attacks, and uncertainty about treatment outcome (Su et al., 2016). Stress within the nursing profession has been a most significant worldwide problem for quite some time currently. A study among a large sample of Swedish nurses discovered that more than eighty percent of the nurses reported high to terribly high job strain. A study among the personnel of a United Kingdom health authority reported that, nurses were under the greatest pressure among all health care personnel (Irene, 2007). In the case that the nurses working in the oncology units, many circumstances like crucial and critical decision-making, managing the treatment having a serious aspect of side effects, patients' problems with anger and disobedience with treatment, monitoring patients having pain & suffering, terminal care, stressful situations experienced in connection with the death of patients, emotional difficulties with patients and conflicts

within the team can cause stress. Burnout syndrome often occurs as a result of chronic work stress seen in these units (Baykal et al., 2009).

## **2. Significance of the Study**

Nurses having a vital role within the health care system as well as play an important role in this area as educators as well as health promoters of patients. Additionally, they should also collaborate with other different health professionals to determine the effectiveness of therapy. They are considered to be members of a stressful job as a profession as a result of they look after for a stressful group comprising patients or those at health risk (Tessa et al., 2011; Spooner & Patton, 2007; Hassan & Nasr, 2017; Hassan, 2016).

Today, cancer is thought to be a chronic health problem that has an impact on psychological, physical and sexual life (Hassan et al., 2016a; Pinar et al., 2015). Every year, worldwide, more than twelve million individuals are newly diagnosed with cancer (Torpy et al., 2010). Eight point two million deaths caused by the cancer were kept. (Pinar et al., 2015) Sixty-five percent occurred in less developed areas (Chan & Ismail, 2014). Gynecologic cancer is observed on the top among women that has resulted in death (Hassan et al., 2016a; Pinar et al., 2015).

Egypt holds a population of 30.55 million women ages fifteen years and older who are in peril of getting cervical cancer. Current estimates show that 373 women are dying from cervical cancer and 866 women are diagnosed with the disease every year. In Egypt, Cervical cancer ranks as the thirteenth most frequent cancer among women & the tenth most frequent cancer among adult females between fifteen & forty-four years old. Data from Egyptian studies offer wide varied estimates of the prevalence of pre-invasive cervical lesions ranging from 1% to 8% with an age range from twenty to sixty years. According to reports of the Egyptian National Cancer Institute, invasive lesions represented 59.6% of all feminine genital tract malignancy (National Cancer Registry, 2002; Human Papilloma virus and Related Cancers, 2015).

Nursing could be a skilled job characterized by high stress. Stress could be associated with less practice of health promoting behaviors; however, no study has investigated the relationship between job stress and health screening behaviors among nurses in Egypt. This study aimed to describe the rate of Pap smears in hospital nurses and examine the effects of job stress on receiving cervical cancer screening (Pap smear) in Beni-Suef general hospitals.

## **3. Subjects and Methods**

### *3.1 Design*

A descriptive design was utilized in this study.

### *3.2 Subjects*

Purposive sampling technique was used. The study included 30 nurses who worked in gynecological inpatient and outpatient department in all general hospitals in Beni-Suef city. Participants should have

had experiences not less than 3 years and willing to participate in the study.

### 3.3 Setting

Data were collected from all general hospitals. The data were collected for a period of 3 months, from the period of January 2016 until March 2016.

### 3.4 Tools

1) The Self-Administered Structured Questionnaire, developed by the researcher after reviewing the relevant literature, was used to collect the data for the present study. It was composed of four parts: -

a) Socio-demographic profile of the nurses as age, marital condition, educational level, nurses who received a Pap smear during the previous 5 years.

b) Occupational profile of the nurses as rotating shift duties, working days per week and length of working as a nurse (years of experience).

2) The Job stressors scale (Güngör et al., 1997) was used to establish the level job stress of oncology nurses. This Scale is comprised of 3 sub dimensions, “Work Role Ambiguity”, “Work Role Conflict” and “Work Role Overload”.

3) Job Satisfaction Scale for Nurses (Hung, 1993). It indicated 4 main domains of job-related experience (a) administration (management style, quality of leadership, work schedule), (b) professional practice (autonomy, patient care, communication with patients and other health professionals, relationship with coworkers), (c) professional development (ongoing education, recognition and promotion), and (d) environment (working environment and equipment).

## 4. Pilot Study

Pilot Study: A pilot study, which was carried out on 3 nurses (10%) from the study subjects.

## 5. Data Analysis

Data analysis: According to the aims of the study, data entry and analysis was conducted using SPSS 16.0.

- i Frequencies, means and standard deviations used for quantitative variables.
- ii Qualitative data were expressed as number and percentage (number and percent).
- iii Data were analyzed by applying chi-square.
- iv The graphical presentation included 3D Pie chart.
- v All those tests were used as tests of significance at p-value <0.05.

P value >0.05 insignificant.

\* P<0.05 mild Statistical significant.

\*\* P<0.01 moderate Statistical significance.

\*\*\* P<0.001 highly Statistical significant.

## 6. Results

Table 1 presents the distribution of the studied nurses, according to their socio-demographic profile. It shows that the age of participant nurses was ranged between 18 (6.7%) to 50 (6.7%) years, with mean score  $31.6 \pm 6.62$ . Sixty percent of nurses had diploma course, and the majority of them (96.7%) had insufficient income. Their experience years in maternity oncology units were ranged between 1 years (40%) to 20 years (6.7%), however the majority of the nurse's experience years were ranged between 5 to 10 years (43.3%) with mean score  $6.6 \pm 4.1$ .

The distribution of the studied nurses, according to their occupational profile displayed in Figures (1, 2, 3). Figure 1 illustrates the nurse's rotating shift duties. More than half (53.3%) of nurses had performed rotating shift duties. In addition, Figure 2 Shows that, the majority of nurses (86.7%) had performed overtime duty. Moreover, Figure 3 demonstrates that two thirds (66.7%) of them working almost all day per week and had not vacated.

Table 2 presents that the majority (26) 86.7% of staff nurses working in maternity oncology units never Performed cervical screening pap smear Previously. Only (4) 13.3% of them preformed pap smear and 3 nurses (75%) their results were positive. The finding revealed that the main cause for refusing cervical screening as mentioned by nurses was a high flow rate of positive cases (53.8%).

The distribution of the nurse's job stress and satisfaction is illustrated in Table 3. According to salary and job satisfaction, the great majority (90% & 93.4%) of the nurses, respectively, were unsatisfied. Seventy percent of them had an occupational stress and all of them (100%) Perceived occupational health risks.

**Table 1. Distribution of the Studied Nurses According to Their Socio-Demographic Profile**

Socio-demographic characteristics	N	%
Age (years)		
Less than 20	2	6.7
20-<30	9	30.0
30-<40	17	56.6
40-≤50	2	6.7
Range	18-50	
Mean±SD	31.6±6.62	
Level of education		
Barcarole degree	12	40.0
Diploma course	18	60.0
Family income		
Not enough	29	96.7
Enough	1	3.3

Number of years of experience in oncology units

Less than 5	12	40.0
5-<10	13	43.3
10-<15	3	10.0
15≤	2	6.7
Mean±SD	6.6±4.1	

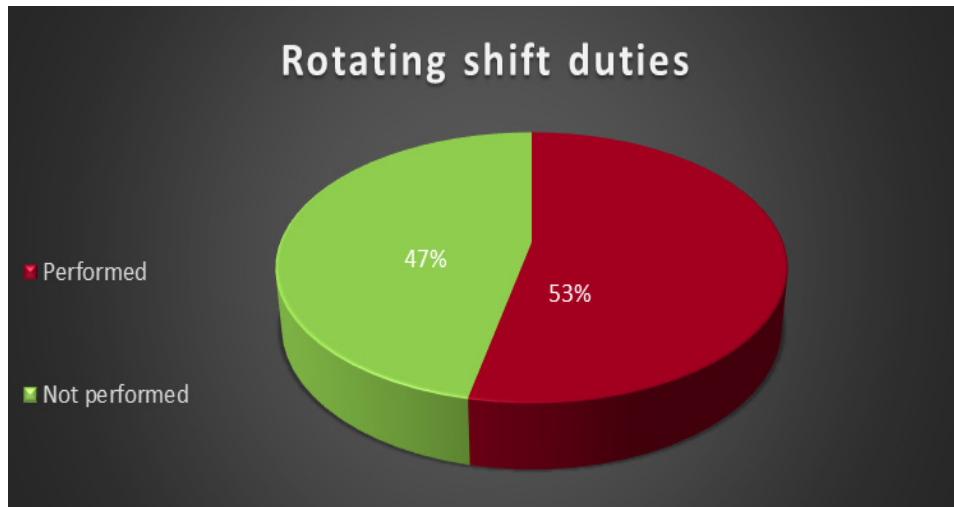


Figure 1. The Nurse's Rotating Shift Duties

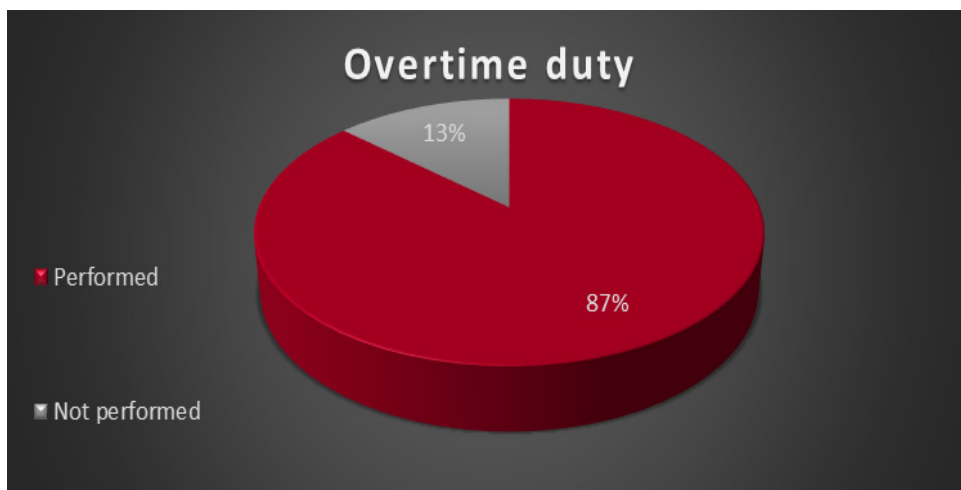


Figure 2. The Performed Overtime Duty

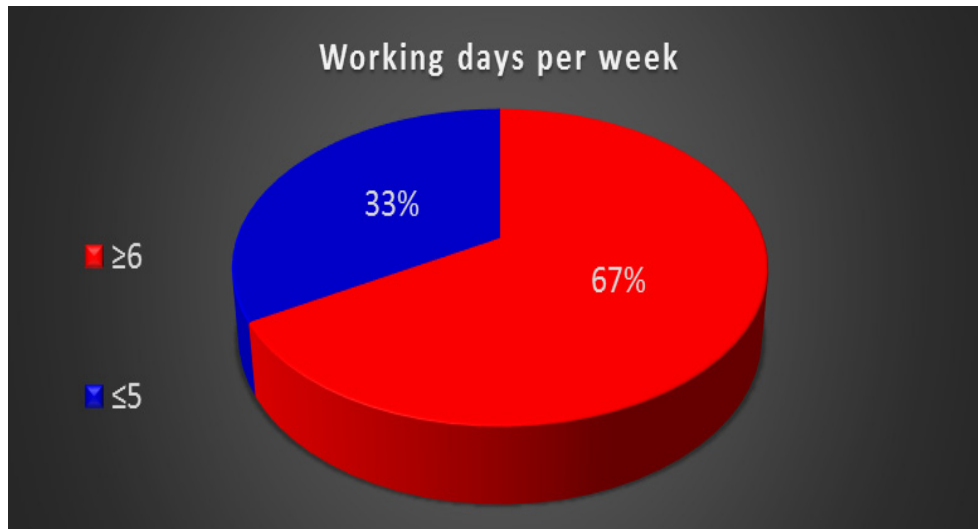


Figure 3. Working Days per Week

Table 2. Distribution of Nurse's Performance of Cervical Screening (Pap Smear)

Item	N	%
Previous Performed pap smear		
Yes	4	13.3
No	26	86.7
If yes , how many (4)		
Once	2	50.0
Twice	1	25.0
Three	1	25.0
If yes, what its result (4)		
Positive	3	75.0
Negative	1	25.0
If no, why (26)		
I don't want to pass this distress & dilemma	5	19.2
I have a bad history in my family	4	15.5
I fear that I suspect it will be positive	3	11.5
Every day I sea high flow rate of positive cases	14	53.8
Do you plan to perform a pap smear in the future (26)		
Yes	0	0.0
No	26	100.0

**Table 3. Distribution of the Nurses' Satisfaction and Their Job Stress**

Items	Yes		No		Chi-Square	P-value
	N	%	N	%		
Salary satisfaction	3	10.0	27	90.0	19.18	< 0.001 ***
Satisfaction regarding shift work	0	00.0	30	100.0	-----	-----
Job satisfaction	1	6.6	29	93.4	18.18	< 0.001 ***
Perceived work environment	30	100.0	0	00.0	-----	-----
Occupational stress	21	70.0	9	30.0	13.793	< 0.01 **
Perceived occupational health risks	30	100.0	0	00.0	-----	-----
Management of household and nursing chores simultaneously	24	80.0	6	20.0	17.875	< 0.001 ***

\*\* moderate Statistically significant at  $P < 0.01$ ;

\*\*\* highly Statistically significant at  $P < 0.001$ .

## 7. Discussion

According to a recent report, developing countries accounted for 820,265 cases (77.7%) of world estimates for new cases of the most common gynecologic cancers as well as ovarian, corpus and cervical cancer. This made up 12.1% of the 6.8 million cases of the malignant neo plastic disease in developing countries (Breakaway, 2009). For American women, cancer cervix was once one of the commonest causes of cancer death. However, the death rate, resulting from cancer cervix, has gone down by more than 50% over the last thirty years as a result of the increased use of the Pap smear test. This screening procedure will realize changes within the cervix before cancer develops. Additionally, it may realize cancer cervix early in its most curable stage (American Cancer Society, 2015).

The results observed in the current study made it possible to analyze levels of job stress and satisfaction. The foregoing current study finding regarding the demographic profile of the participant nurses are in the agreement with Su et al. (2016) who have studied the association between pap smear screening and job stress in Taiwanese nurses (Su et al., 2016).

Related to the occupational figure of the studied nurses, the results of the present study showed that more than half of nurses had performed rotating shift duties. In addition, the majority of nurses had performed overtime duty. Moreover, two thirds of them working six or seven days per week and had not vacated. This result may reflect why the majority of nurses who working in maternity oncology units has a high level of job stress and job dissatisfaction. These results did not in line with Gupta (2017) study found, the author has reported that the majority (93.8%) of nurses hadn't performed rotating shift duties, the majority (82.5%) of nurses hadn't performed overtime duty. Moreover, around two thirds of them (61.3%) working less than five days per week and had 2 or more days' vacation.

Although Luszczynska et al. (2011) emphasized the benefits of cancer screening include the diagnosis



and treatment of disease in pre-invasive stages, yet as a shift in the incidence of invasive illness from advanced to treatable stages. Surprisingly, the results of the present study declare that, the intention of the majority of nurses was very low. The majority (86.7%) of staff nurses working in maternity oncology units never Performed cervical screening pap smear Previously, and all of them assure that they will never screen even in future. This result was in accordance with Su et al. (2016) who found of the studied nurses, 28.4% had never received a Pap smear, 62.4% had received a Pap smear during the previous 3 years, and 9.2% had a Pap smear more than 3 years ago (Su et al., 2016). In the same line the National Health Insurance database in Taiwan reported that 48.9% of nurses received a Pap test during the previous 3 years (Chung et al., 2011). This result was amazing since the oncology worker is the main one who know the importance of screening, but this may be attributed to their fear as, unfortunately, their college, 13.3% of them preformed pap smear and 3 nurses their results were positive this may be attributed to nurses' refusal to perform cervical screening.

Nursing is seen as an associate inherently stressful occupation, as nurses assume not solely the role of caregivers, supervisors for his or her patients, and administrators, however additionally they become strong advocates, role models as well as educators for his or her families, work environments, and their communities (Letvak, 2014). These multiple work roles expose them to many work-related stress, including the emotional demands of the patients & their families, the experience of death, long working hours, shift-work, a continuously changing work environment and budget cuts. A significant amount of occupation-related stress is seen amongst nursing staff, particularly nurses working at the bottom of the hierarchy, those who end up sharing the most of the work burden, such as nursing sisters, bedside nurses and staff nurses. Furthermore, nurses working in large city hospitals show more strain & lower levels of job satisfaction, morale and quality of work life than others. Additionally, it has been seen that nurses who working in general governmental hospitals are more stressed than their counterparts working in private hospitals (Su et al., 2016; Gupta, 2017).

The study performed by Ratner et al. (2009) declare that, nurses are reported to have higher job stress levels (Ratner et al., 2009). According to salary and job satisfaction, it was noticed, from the findings of the present study that, the great majority (90% & 93.4%) of the nurses, respectively, were unsatisfied. Seventy percent of them had an occupational stress and all of them (100%) Perceived occupational health risks. This result was not amazing as majority of nurses (96.7%) in the present study had inadequate income and 90.0% are unsatisfied by their salary. Stress symptoms were more prevalent among poor women than rich ones (Hassan et al., 2016b). Moreover, high turnover rate, overload of the work and a severe shortage of staff nurses in the oncology care units. In the same line Su et al. (2016) reported the mean job stress score in their study was 53.21 (SD=13.93). The average item score was 2.80 on a Likert-scale of 1-5. Those nurses who had received a Pap smear throughout the previous three years had a lower mean job stress score than those that failed to (52.28 versus 54.75,  $t=-5.14$ ,  $p<.001$ ). In addition, job stress negatively affected Pap screening behavior among nurses (Su et al., 2016). Hassan (2016b) reported that, the woman has much psychological distress related to the burden of her

job. Tucker et al. (2012) added that the level of job stress is negatively associated with health promoting behaviors among nurses.

## 8. Study limitations

The primary limitation of this study is the small number of participants.

## 9. Conclusion

### *Based on study findings, it can be concluded that:*

The great majority of maternal oncology nurses has unsatisfied and job stress. Most of them never performed cervical screening pap smear previously. The main cause for refusing cervical screening as mentioned by nurses was a high flow rate of positive cases.

## 10. Recommendations

- 1) Hospital-based worker health promotion programs may incorporate cancer screening components to raise the Pap screening rate among nurses.
- 2) Additional attention is paid to take measures for health worker and safety in oncology departments as a result of their risky nature, thus it may be reduced oncology nurses' job stress.

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