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Investigating some of the Occupational Stressors and Their Stressor Rate among Emam Ali Teaching Hospital of Karaj Nurses

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Abstract

Background and purpose: Occupational stress is the most important factor in reducing the efficiency of organizations. Nurses as an important component of the health system, their important role in improving and Promotion community health, need to exact skill and concentration and strong teamwork in providing 24-hour care are exposed to many stressors and occupational stressors that affect physical and mental health and the quality of their work. Materials and methodology: The current research was a descriptive-cross sectional study. The census sampling method was performed on employed nurses in Emam Ali hospital different wards of Alborz Medical Sciences University with determining the amount effectiveness 9 stressors and their stressor rate in 2018. To collect data, HSS standard questionnaire (α =84%) was utilized. Data were analyzed using SPSS 20 software, statistical methods [frequency distribution, mean, correlation tests (Pearson, Goodman and Kruskal), Chi-square and Fisher tests]. Results: The findings indicated that there was a positive relationship between occupational stress and age as well as job experience(P-Value = 0.05). Overall, 19% of samples didn`t have occupational stress and 81% had moderate stress. It indicated that most of the nurses of this center had experienced the stress in the moderate level. The highest stressors were increased workloads and fear of transferrable disease. Conclusion: According to the results of the study, managers and health authorities should have optimal planning for holding classes such as time management, infection control and training use of personal protective equipment appropriate, regular vaccination, nutrition and Personnel sleep to prevent decreased immunity and Decreased working hours of older and senior nurses.

Key words: Occupational stress, Nurse, Occupational stressors.

Introduction

To satisfy some of their needs, individuals try to work. Earning money, purposive physical and psychical activity, creating opportunities for social communication and interaction as well as feeling worthiness and self-respect are among individual needs toward working(Zahedi and Zareon, 2001).

A healthy organization`s characteristic is such that its personnel`s physical and psychical health is as importantly considered by the manager of the organization as the production and efficiency. Since, effective managing is not obtained without considering and believing in psychical health of the personnel. Nowadays, stress have been confronted the personnel with a psychical health factor danger in the organizations (Moher, 2003).

Occupational stress is a kind of stress in which a certain individual experiences it while doing a certain job. This means that, the mutual action between the working condition and individual characteristics of the worker is such that the desires of the working environment and as a result, its related pressures are higher than to be managed by the individual (Kawano, 2008).

Occupational stress may be accompanied by various psychical problems including stress, depression, neural fatigue, emotionality, apathy, violence, sudden empathetic catharsis, crapulence, traumatic behavior, neural laughing, unable to decide, weak concentration, less attention, mental pauses, sensitive to be criticized. This may also have physical problems like migraine headaches, increasing heart rate and blood pressure, cardiovascular disease, musculoskeletal pains, pulmonary-gastrointestinal disorders, kidney disease and

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artritisreumatoide. Moreover, organizational problems regarding this issue include transposition, low production, alienation with coworkers, occupational dissatisfaction, decreasing commitment and loyalty to the organization, reducing working performance and quality (Azman, 2010; Jennifer, 2006).

According to national institute for occupational safety and health, due to occupational pressures, 30% of workers suffered from backaches, 28% complained about stress, 20% felt fatigue, 17 % had myalgia or muscular pains, and 13% had headaches (Bartram, Joiner and Stanton, 2004)[1].

Annually, excessive capitals are lost due to the lack of physical and psychical health of personnel, their increased efficiency, occupational turnover and changing the job due to occupational stress. Stress and its complications, annually causes the loss of a hundred working days. On average, one million people prevent to go to work daily due to the complications of stress. This has been well evident that, almost 30% of the manpower in developed countries suffer from occupational stress. International labor organization has estimated the imposed costs of occupational stress in these countries to be 1 to 3.5% gross domestic product, which is currently increasing (Zare et al., 2009; Soori, Rahimi andMohseni, 2006).

Principally, all jobs dealing with the health of human beings, are stressful and threaten the physical-psychical health of them. Nursing is one of these stressful jobs (Rahimi, Ahmadi andAkhod, 2004). Since, nurses are those responsible for controlling and 24 hours monitoring of the patients. Thus, they are naturally and constantly exposed to various difficult and easy stressful factors. Nursing is a dynamic and supportive job following certain moral regulations, whose roots are hidden in taking care of the patient, i.e. its concepts lie beyond four fields of operational, educational, managerial, and research works (Mehrabi et al., 2005; SamadporAmlashi andKianMehr, 2006). Nursing is a kind of job that exposes people toward stress. Stress resources in nurses include facing with mortality, confronting with coworkers, inadequate preparation toward facing patients` needs and their families, not being supported, high workload, differing treatment programs, facing patients` pains and sufferings, taking care of contaminated patients (contacting with blood and contaminated excretions,…), lacking occupational security, dissatisfaction with the authorities` appraisal, insufficient knowledge and skill regarding the job, concerning about job faults and its consequences. Other factors that have been regarded stressful regarding nursing include: increasing new roles of nursing, new managing principles, new regulations and laws for presenting nursing services and changing the process of educating nurses, which makes nurses accept more responsibilities and increase their knowledge and skill for the survival of their occupation (Blegen and Mueller, 1987). American national security occupation association, has introduced nursing at the top of 40 stressful jobs. Undoubtedly, these factors would make occupational stress in the long term, and would leave side-effects on the occupational activity process of this proletarian people (Hinds et al., 2003; Muscroft and Hicks, 1998).

According to the statistics of Iranian nursing organization, 75% of nurses are depressed and have various physical and psychical problems. There are only a few nurses that have not faced physiological, infectious or psychical diseases after 12 years of working (Khodaveici, Mohammadi and omidy2005 ,). Most of the nurses, in their retired age, are damaged and disabled people, since they have done some duties while working that were out of their responsibility (payamy, 1998).

According to the aforementioned statements, after mining work, nursing is known to be the most difficult job. Meanwhile, nurses have the least salary and privileges in the country and the status of this job have not been yet well introduced in our society (Esfandiari, 2002).

In our country, 80 % of the health and treatment systems` workers are consisted of nurses. Additionally, 80% of the responsibility of the works are on their shoulders. Given the fact that physical and psychical health of nurses and their stress intensity have been among determinant factors in quantitate and qualitative reduction of the occupational efficiency and is related to the quality of their performance when taking care of the patients, reducing occupational performance, would have lots of physical and psychical problems to nurses and would cause occupational stress in them (Muscroft and Hicks, 1998).

Regarding the costs of occupational stress, International Council of Nurses have published statistics as the following:

- Occupational stress costs of America are annually 200-300 million dollars.
- 60-90% of medical problems of personnel are due to occupational stress.

Workers and personnel that had reported high stresses, faced occupational accidents more than 30% (ICN, 2000).
Every nurse differs from the others in the way he treats and adjusts himself to the work-related stress in his job environment, also the stressful situations he faces like various occupational responsibilities (night shift), occupational conditions and stressful status (excitement range and death of patients), demands different reactions by different nurses (Sveinsdo´ttir, Biering and Ramel2006 ,).

Personnel satisfaction and the occupational life quality, directly affects organizations` ability toward appropriate servings to their customers, and if not measured, it can`t be effectively developed and maintained. Measuring the quality of occupational life causes positive attitudes of the personnel toward the job and organization, and improves the efficiency, internal motivation and effectiveness of the organization (Walton Richard2005 ,).

[1]The national institute for occupational safety and health. Are you a working teen? Availible from: www.edc.gov/niosh

Regarding the aforementioned statements, it seems that nurses would continue their job under high stresses, and is not with doubting that these factors would affect their occupational quality. Since nursing is one of the stressful jobs, recognizing stressful factors would be an effective step toward preventing and treating and reducing stress. To this end, the current research aimed at investigating some of the occupational stressors of nursing and their stressor rate in Karaj ShahidBahonar Hospital as well as examining effective factors on the occupational stress in the light of nurses to have a role in improving the information associated to existing occupational problems of the nurses. Doing so, managers, authorities and planners would prevent occupational side-effects using these data.

Materials and Methodology

This research was a descriptive-cross sectional study aimed at investigating some of the occupational stressors of nurses and their stressor rates in Emam Ali Teaching Hospital of Medical Science and Healthcare Services University of Alborz in 2018.

The statistical population of this research included working nurses having associate, bachelor and master degrees in this teaching treatment center. The sampling was done through census method.

Data collection instrument included a questionnaire having two parts: the first part was about individuals and social characteristics such as age, gender, marital status, number of children, a child having certain disease, educational degree and the type of ward (general-private), the second part consisted occupational factors including 31 questions derived from the standard questionnaire of HSS.

This questionnaire had been norm referenced by Bedaghi in 2009 having reliability and validity of 84%. The validity of the mentioned questionnaire was obtained 79.7% according to Cronbach alpha. This questionnaire calculated the occupational stress regarding 9 fields of: the amount of salary and privileges (3 questions), the physical status of the working environment (including light, noise, trembling, hotness and coldness) (3 questions), not being aware of describing duties and responsibilities (3questions), high workload (4 questions), insufficient skill regarding the job (3 questions), fear of being infected to transferrable disease (2 questions), frequent observation of patient pains (4 questions), not being supported and respected by authorities and hospital coworkers (7 questions) and working shift (2 questions). As the questions had 5 items based on Likert scale, the posistive questions were scaled as 1. Always, 2.Most of the times, 3.Sometimes, 4.Rarely and 5. Never and negative questions were scaled vise a versa. Hence, higher scale indicated higher stress. To measure stress in various fields, the scores related to each field were summed together and were then divided into three groups. The first group included those not having occupational stress, second group included those having moderate stress and the third group included those having acute stress.

Data were collected through researchers` referring to various treatment wards of the hospital. They had assured nurses that their data would remain confidential and there was no need to mention their names and surnames. Rather they had to fill out the conscious consent form, then the research procedure and questionnaire were introduced to them. Questionnaires were completed in occupational environments during morning, evening and night shifts by the nurses. Questionnaires were collected after being completed.

Out of 160 questionnaires, 108 questionnaires were completed, among which 3 questionnaires were put aside of being analyzed due to incomplete answers to the most of the questions. The results were analyzed using SPSS, version 20, software. Having utilized SPSS, version 20, software, the distribution frequency and dispersion index were obtained. To measure the intensity of the relationship between occupational stress variables and dependent variables (age, marital status, …), Pearson correlation coefficient were used. Moreover, for measuring the rankedspp occupational stress variables with nominal variables, Goodman and Kruskal`s gamma correlation coefficient were used. Additionally, for identifying factors affecting occupational stress, Chi-squared and Fishers exact test had been utilized.

Results

The total number of nurses including surgery, operating room, neonatal, pediatric, PICU and emergency wards, were 160 individuals, among which only 108 questionnaire had been completed and 3 questionnaire were eliminated from being analyzed since most of the questions had remained unanswered. The collected data, were analyzed using descriptive statistical indexes (mean, standard deviation, frequency, percentage, …), Pearson correlation coefficient, Goodman, Kruskal`s gamma, Chi-squared and Fishers exact tests in SPSS, version 20, software. The obtained results are shown in the following tables and figures.

Among 105 studied nurses, the age of participants was between 22-52 having the mean of 31.8 and standard deviation of 6.48.

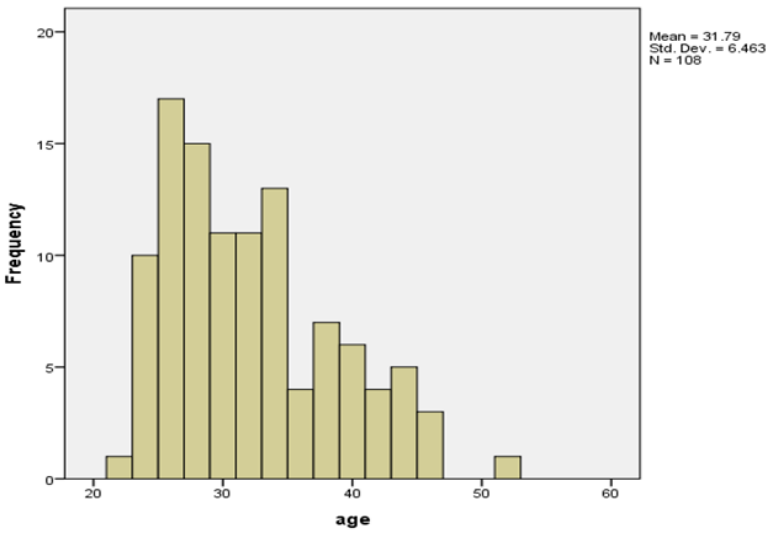

Figure 1. Rectangular figure of the age of participants in the study

Among all participants, 102 individuals were females (97%) and 3 individuals were males (3%). 29 individuals were single (28%) and 76 individuals were married (72%). Regarding their educational degree, 8 individuals had associate (7.6%) and 97 individuals had bachelor degrees (92.4%). Regarding the number of children, 60 individuals had no child (57.1%), 42 individuals had one or two children (40%) and 3 individuals had three to five children (2.9%). Regarding nurses` working wards, 27 individuals worked in surgery and operation rooms (25.7%), 27 individuals were working in neonatal and pediatric wards (25.7%), 42 individuals worked in PICU and emergency (40%) and 9 individuals worked in other wards. Regarding their occupational experience, 50 individuals had less than 5 years of experience (47.6%), 26 individuals had 6 -10 years of experience (24.8%), 14 individuals had 11-15 years of experience, 12 individuals had 16-20 years of experience (11.4%) and 3 individuals had more than 21 years of experience (2.9%). Regarding working shift, 17 individuals always worked in the morning (16.2%), 1 individual always worked in the evening (1%), 8 individuals always worked at night (7.6%) and 76 individuals had changing shifts (75.2%). Regarding physical conditions of the working environment such as noise ,… 30 % didn`t have stress and 73 % had moderate stress. Regarding psychical terms and observing patients` pain, 18% didn`t have stress, 79 % had moderate stress and 3% had acute stress. Regarding high workload, 2% didn`t have stress, 65% had moderate stress and 32 % had acute stress. Regarding unawareness of the duties and responsibilities, 97 percent didn`t have stress and 3% had moderate stress. Regarding having few skill related to the job, 87 % didn`t have stress and 13% had moderate stress. Regarding the appropriateness of salary and privileges, 70 % didn`t have stress and 30 % had moderate stress. Regarding the fear of being infected by transferrable disease, 11% didn`t have stress, 46% had moderate stress and 43 % had acute stress. Regarding the satisfaction with working shifts, 42% didn`t have stress, 47% had moderate stress and 9% had acute stress. Regarding not being supported by authorities and coworkers, 8% didn`t have stress, 88% had moderate stress and 5 percent had acute stress.

Table 1. Distributing stress in various fields

Field	Didn`t have stress	Had moderate stress	Had acute stress
Frequent observation of patients` pain	19%	79%	2%
High workload	3%	65%	32%
Fear of being infected	11%	46%	43%
Physical status of the working environment	31%	69%	0
Unawareness	97%	3%	0
Lack of skills	87%	13%	0
Not being supported	6%	88%	6%
Working shift	42%	49%	9%
Salary	71%	29%	0
Total	19%	81%	0

All in all, 19% od the samples didn`t have occupational stress and 81% had moderate occupational stress. Regarding frequent observations of patients` pain, 19% didn't have occupational stress, 79% had moderate and 3% had acute occupational stress. Regarding high workload, 3% didn`t have occupational stress, 66% had moderate and 32 % had acute occupational stress. Regarding the fear of being infected, 11 % didn`t have occupational stress, 42% had moderate and 43% had acute occupational stress. Regarding physical status of the working environment, 31% didn`t have occupational stress and 69% had moderate occupational stress. Regarding

unawareness, 97% didn`t have occupational stress and 3% had moderate stress. Regarding the lack of skills, 87% didn`t have occupational stress and 13% had moderate stress. Regarding not being supported, 6% didn`t have occupational stress and 88% had moderate and 6% had acute occupational stress. Regarding working shift, 42% didn`t have occupational stress and 49% had moderate and 9% had acute occupational stress. Regarding salaries, 71% didn`t have occupational stress and 29% had moderate stress.

For measuring the intensity of the relationship between total occupational stress variables and dependent variables of age and working experience, Pearson correlation coefficient was used. In case the value of this coefficient be positive, it would indicate a direct relationship between two variables, and if this value be negative, it would show converse relationship between two variables. In the current study, correlation coefficient between two variables of occupational stress and age was 0.325, which indicated a significant relationship between age and occupational stress, P-Value=0.05. Since the amount of this value was positive, increasing age would also increase the amount of occupational stress. Moreover, the correlation coefficient between occupational stress and working experience was 0.290, which indicated that this relationship was positive and significant at P-Value =0.05, thus it indicated a positive relationship between occupational stress and working experience.

For measuring the intensity of the relationship between ranked occupational stress variables and nominal variables such as gender, marital status, having or not having children, working shift, working ward and occupational stress, the total occupational stress variable ranked under Goodman and Kruskal`s gamma have been utilized. The intensity of the relationship between gender and occupational stress was significant at P-Value=0.05. However, there were no significant relationship between other variables and occupational stress.

Discussion

The results of the current study indicated that the relationship between age and amount of stress was significant and positive, as the age increased, so did the occupational stress. Moreover, there was a significant and positive relationship between occupational stress and working experience. There was also a significant relationship between gender and occupational stress, so that women had more occupational stress. However, there was no significant relationship between other variables (marital status, having or not having a child, working shift and working ward) and occupational stress.

Furthermore, the findings of this study indicated that, all in all, 19% of nurses didn`t have occupational stress, 81 % had moderate occupational stress and there were no acute occupational stress. The amount of nurses` occupational stress regarding frequent observations of patients` pain, high workload, fear of being infected, physical status of working environment, unawareness, lack of skills, not being supported, working shift and salary were respectively, 19, 3, 11, 31, 97, 87, 6, 42, 71 not having occupational stress, 79, 65, 46, 3, 69, 13, 88, 49 and 29 had moderate occupational stress and 2, 32, 43, 0, 0, 0, 6, 9 and 0 had acute occupational stress. Ultimately, the results of the analyses indicated that most of the nurses of this center had experienced occupational stress in the moderate level and the most occupational stress were in terms of high working loads 98%, fear of being infected 89%, and the least were regarded in unawareness 3%, lack of skill 13% and salary 29%.

In a study conducted by Sherbafinezhad et al. it was well evident that the most important occupational stressors of nurses were observing the death and pain of patients, working load and not trusting the treatments. Moreover, among demographic variables, only age, had a significant and converse relationship with occupational stress, and age increase imposed less occupational stress to nurses. While in the present research, there was a significant and positive relationship between age and occupational stress (Sharbafinejadet al., 2008).

In their study, Rezai et al. (2007) indicated a significant relationship between the type of shift and occupational stress, which was contrary with the present research. In their study, 59% of the studies wards had high stresses, while in the current study none of the studied nurses had acute stress. Thus Rezai et al.`s study were inconsistent with the current study(Rezaei, 2004).

In a study conducted by Malazem et al. (2006), there was no significant relationship or difference between gender, type of ward, working experience, type of employment, marital status, amount of salary and privileges and being native with that of occupational stress. Only the nominal variable of gender was not consistent with the current study, other nominal variables were consistent with this study. Additionally, in this study the acute occupational factors of nurses were respectively, dissatisfaction with salary and privileges, high workload, working in holidays, not acceptance of the job by the society as well as sleeping and resting disorder. The least stressful factors were introduced to be the unawareness of the application and lack of skills regarding the job. While in the current study, the most occupational stresses were in the domain of high load working, fear of being infected and its transmission to others and the least occupational stress included unawareness , lack of skills and salary, which was consistent with the current research in terms of high workload, lack of skill and salary(Molaram et al., 2005). The employment type was not considered in the current research.

Mehrabi et al. (2006) conducted a study, in which only marital status and working hours had significant statistical relationship with the intensity of occupational stress. The conflict with doctor factor had the highest relationship with the total intensity of occupational stress, which was inconsistent with the current research. Moreover, in this study, most of the nurses 73.47 % had experienced moderate occupational stress, which was consistent with the current research (Mehrabi et al., 2006).

The results of Samadpour and KianMehr study indicated that occupational stressors including pain, patient` suffering and death, high workload and concerning and untrusted treatments of nurses had more stress than other stressors. This was consistent with the current research only in terms of high workload. There were also controversial and significant relationship between the variable of age, working experience and occupational stress, which is not consistent with the current research`s results in terms of controversial relationship (Samadpour and KianMehr, 2006).

In a study conducted by MirtaghiGhasemi et al. most of the nurses had moderate and less degree of occupational stress, while in the current study, most of the nurses had moderate occupational stress and didn't have acute occupational stress (Ghasemi et al., 2011).

In their study, Faraji et al. indicated that nurses mostly experienced acute occupational stress regarding the three criteria of acute, moderate and less, which was not consistent with the current research (Faraji et al., 2012).

The results of the research conducted by Rahimi et al. (2003) showed that among all samples, 44.1% had acute stress, 54.1% had moderate and 1.8% had low stress. This indicated that most of the nurses had experienced moderate stress, Moreover, there was a significant relationship between working experience and the amount of stress, which was consistent with the current research (Rahimi, Ahmadi andAkhod, 2003).

In a study conducted by Ghasemi and Attar, patient`s pain and suffering and high workload were introduced as acute stressors, while in the current research, high load work and fear of being infected were introduced as the acute stressors. Thus, this study was in line with the investigated study. Most of the nurses in this research, had experienced moderate occupational stress, which was consistent with the current research[2].

Conclusion

The results of this study depicted that, the amount of stress among studied nurses was moderate. In those cases having infused occupational stress among nurses, high workload and fear of being infected to transferrable disease, were introduced as the highest stressors. In terms of the stress caused by high load working, it was necessary to hold time management classes by authorities especially for more referent wards. Doing so, personnel would benefit from time management skills, and would use them in their business works and organize high load of their works, which would reduce the effect of stressors to a large extent.

Regarding the fear of being infected to transferrable disease, it necessitated health authorities and contamination controlling authorities to regularly vaccinate nurses and hold classes about the ways of controlling contamination and ways of transferring the disease, so that they could be more informed in this regard. Nurses can also be educated on using individual preserving tools proportional to the type of disease and observing needle stick points for protecting themselves against transferrable disease. Moreover, considering and paying attention to nurses' diet and sleep programs at night shifts would protect them against reducing the security system. This would decrease the effect of these stressors to some extent.

According to the results mentioning that there was a significant and positive relationship between age, working experience and occupational stress, it was suggested to have optimal planning by Health organizations' authorities in terms of aged and highly experienced nurses, to lower their working hours in a week and increase their annual leaving and other facilities.

Likewise, given the results, there was a significant relationship between gender and amount of occupational stress. Due to contradictions between occupational, family and personality responsibilities (psychological and physiological), women were more exposed to acute stress. Therefore, it was needed to pay attention to the proportion of scientific and technological abilities with their professional conditions as well as using individuals based on their experiences and according to efficient and effective management strategies.

Since, 97% of the participants in this research were females, due to the low number of male participants, not emphasis could be made on the significant difference among them.

Using questionnaire may not provide comprehensive data regarding individuals` attitudes and beliefs. Hence, it is suggested to conduct a research using face to face interviews.

Another limitation of this study was that only 67.5% of the questionnaires were returned after being filled out. This means that one third of the individuals didn`t participate in the study, which may be different in terms of demographic and other features with other participants of the study. It is suggested to provide monetary or non-monetary rewards to encourage coworkers participate in the study through drawing. Doing so, the coefficient of the participants would increase and more reliable results would be obtained.

Advices and suggestions for reducing the occupational stressors of nurses

[2]Ghassemi SA, Attar M. investigate job stressor intensity of nurses' Hospital towns of Babol, and sari and BehshahrBetsa engineering site .. www.betsa.ir

- Increasing people`s knowledge level and general information regarding nursing culture for social supporting of the nurses to provide values for their real status
- Providing appropriate timely planning and optimal using of time through holding time management classes for solving time-related and work load problems
- The planning of health sectors` authorities of the country for providing facilities and spiritual resting moments and updating mental fields of the nurses for trusting the treatment
- Authorities considerations toward scientific and technological proportional abilities of individuals with their professional conditions and using individuals based on their experiences and planning according to efficient and effective management strategies for reducing stress in female nurses
- Using experienced counselor`s help and experience in treatment conditions for improving mental health and treatment of nurses
- Using appropriate strategies for coordinating among nurses and hospital
- Planning of health and treatment sector authorities for increasing employees for reducing forced extra working and load of extra workings.
- Planning of health sector authorities for regular vaccinating nurses for protecting the transferrable disease
- Holding classes regarding contamination controlling and way of transferring the disease for increasing the awareness in terms of the ways of transferring the disease as well as educating how to use individual preserving tools proportional to the type of disease for protecting the transferrable disease.

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