Managerial Stress Levels of Nurse Managers and Factors Affecting Stress Levels

Yönetici Hemşirelerin Yönetsel Stres Düzeyleri ve Bunları Etkileyen Faktörler

Serap ALTUNTAŞ, Assis.Prof.Dr.,[a]
Şeyda SEREN İNTEPELER, Assoc.Prof.Dr.,[b]
Ülkü BAYKAL, Assoc.Prof.Dr.[c]

[a]Department of Nursing Management
Atatürk University
Faculty of Health Sciences, Erzurum
[b]Department of Nursing Management,
Dokuz Eylül University
Faculty of Nursing, İzmir
[c]Department of Nursing Management,
İstanbul University
Florence Nightingale School of Nursing,
İstanbul

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Yazışma Adresi/*Correspondence:*
Serap ALTUNTAŞ, Assis.Prof.Dr.
Atatürk University
Faculty of Health Sciences,
Department of Nursing Management,
Erzurum,
TÜRKİYE/TURKEY
serap342002@yahoo.com

ABSTRACT Objective: This descriptive study aims to identify nurse managers' managerial stress levels and the factors influencing nurse managers' managerial stress levels. **Material and Methods:** The study population is composed of nurse managers (head-nurse of unit, head nurse/manager of nursing services and deputy nurses) employed in 17 hospitals that have different patients of 100 or over bed capacity in European Side of Istanbul (10 private hospitals, 5 Ministry of Health hospitals and 2 hospitals of a university). And the study sample is composed of 300 nurse managers, of whom 100 nurse managers were selected by quota sampling method from each hospital group of different managerial characteristics. Study data were collected between January-June 2007. A questionnaire of 14 items and a five-point Likert type "Managerial Stress Scale" comprising six subscales and 40 items were used as data collection instruments. After the permission and consent of the ethics committee were obtained, the data collection instrument was applied to nurse managers who agreed to participate in the study. The completed forms (n=213) were transferred into computer documents and evaluated by means of frequency analysis, t-test and one-way ANOVA in SPSS 11.5. **Results:** The mean age of participant nurses was 35 years (SD=6.55), and the mean professional experience was 15 years (SD=6.53), while the mean managerial experience was 8 years (SD=6.05). Furthermore, 35.2% of nurses were determined to have a two-year degree, 35.2% were employed in private hospitals, 73.2% were employed as head-nurse of unit, 40.8% regarded the management in their institutes as "counseling-democratic", and 74.4% did not plan to change job. The mean total and subscale managerial stress scores of nurse managers were determined to be over the level that should be taken from the scale (M=15.23±29.78), and this level of stress was determined to change in accordance with their institutes (p=0.049 in "work" subscale), position (p=0.023 in "general" subscale), management mentality of institutions (p<0.05 in "work", "relation" and "workplace" subscales), desire to change job (p<0.05 in "management" and "work" subscales) and some other variables. In addition, it was determined that managerial stress score was not affected by certain variables including age, work experience, managerial experience, marital status, education level, having a child (p>0.05). **Conclusion:** Nurse managers were determined to experience mid level of managerial stress, and this was affected by their institutions, positions, management mentality of institutions, and desire to change job.

Key Words: Nursing administration research; health services administration; hospital administration

ÖZET Amaç: Bu çalışma, yönetici hemşirelerin yönetsel stres düzeylerini ve yönetsel stres düzeylerini etkileyen faktörleri belirlemek amacıyla tanımlayıcı olarak gerçekleştirilmiştir. **Gereç ve Yöntemler:** Araştırmanın evrenini İstanbul'un Avrupa yakasında faaliyet gösteren ve 100 yatak ve üzeri kapasiteye sahip olan 17 hastanede (10 özel hastane, 5 Sağlık Bakanlığı Hastanesi ve bir üniversiteye bağlı 2 hastane) görevli yönetici hemşireler (servis sorumlu hemşiresi, başhemşire/hemşirelik hizmetleri müdürü ve yardımcıları) oluşturmaktadır. Araştırmanın örneklemini ise, yönetsel özellikleri açısından farklılık gösteren her bir hastane grubundan kota örneklem yöntemine göre seçilen 100 yönetici hemşire olmak üzere toplam 300 yönetici hemşire oluşturmaktadır. Araştırma verileri Ocak-Haziran 2007 tarihleri arasında toplanmıştır. Veri toplama aracı olarak 14 sorudan oluşan bir soru formu ile altı alt boyut ve 40 maddeden oluşan beşli likert tipi "Yönetsel Stres Ölçeği" kullanılmıştır. Araştırmanın yapılacağı kurumlardan gerekli izin ve etik kurul onayı alındıktan sonra veri toplama aracı araştırmaya katılmayı kabul eden yönetici hemşirelere uygulanmıştır. Eksiksiz doldurulmuş olan 213 soru formu bilgisayar ortamına aktarılmış ve SPSS 11,5 istatistik paket programı ile yüzdelik hesaplama, t testi ve one way (ANOVA) testleri kullanılarak değerlendirilmiştir. **Bulgular:** Araştırmaya katılan yönetici hemşirelerin ortalama 35 yaşında (SS=6,55) olduğu, ortalama 15 yıllık mesleki deneyime (SS=6,53) ve 8 yıllık yöneticilik deneyimine sahip olduğu belirlenmiştir. (SS=6,05). Ayrıca hemşirelerin %35,2'sinin ön lisans mezunu olduğu, %35,2'sinin özel hastanede ve %73,2'sinin servis sorumlu hemşiresi olarak çalıştığı, %40,8'inin çalıştıkları kurumdaki yönetim anlayışını "danışmacı-demokratik" olarak değerlendirdikleri ve %74,4'ünün iş değiştirmeyi düşünmediği saptanmıştır. Yönetici hemşirelerin, yönetsel stres ölçeği toplam ve alt boyut puan ortalamalarının ölçekten alınması gereken ortalama puan düzeyinde olduğu (X=15,23±29,78); bu stresin çalıştıkları kurum ("iş" alt boyutunda p=0,049), pozisyon ("genel" alt boyutunda p=0,023), çalıştıkları kurumun yönetim anlayışı ("iş", "ilişki", "işyeri" alt boyutlarında p<0,05), iş değiştirme isteği ("yönetim", "iş" alt boyutlarında p<0,05) değişkenleri açısından bazı alt boyutlarda farklılık gösterdiği belirlenmiştir. Ayrıca yönetsel stres puanının, yaş, mesleki deneyim, yöneticilik deneyimi, medeni durum, eğitim durumu çocuk sahibi olma değişkenlerinden etkilenmediği (p>0,05) de bulunmuştur. **Sonuç:** Yönetici hemşirelerin, orta düzeyde yönetsel stres yaşadıkları, bu stresin çalıştıkları kurum, pozisyon, çalıştıkları kurumun yönetim anlayışı, iş değiştirme isteği değişkenlerinden etkilendiği belirlenmiştir.

Anahtar Kelimeler: Hemşirelik yönetimi araştırması; sağlik hizmetleri yönetimi; hastane yönetimi

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Managers experience increasing level of stress than their staff, due to competitive and exhausting work life caused by the technological developments and changes in modern working conditions as well as the crises that they have to manage.[1,2]

Diseases due to the increasing stress levels cause unhappiness among employees, high accident and error rates, low quality of decisions, high health costs, low productivity and managerial activities in organizations, all of which make stress management even more important at present.[2]

According to the World Health Reports issued by the World Health Organization, 666.2 billion dollars were spent in the United States of America on health in 1990 and most of them were spent on diseases caused by the unmanaged stress. It has been reported that the costs of treatments for stress-related diseases will increase and yearly financial losses due to work stress will reach 150 billion dollars. Stress-related costs in England were reported to be ten times higher than the costs of other problems due to the relationships between employers and employees.[3]

In a study about working women, health professions were reported among the most stressful jobs.[2] Another study from Turkey emphasized that work stress levels were higher among nurses than in other health professionals.[4]

It has been reported that life-or-death situations, fear of making mistakes, high number of patients, overworking, negative relationships between people, especially the conflicts with doctors, role confusion, role conflicts, problems with patients and their companions and work shifts are the most frequent sources of stress among nurses.[4-7] It has been also emphasized that such factors as insufficient autonomy, insufficient social support, discrimination and working in special units (intensive care units, emergency departments etc.) cause not only stress among nurses but also absenteeism.[8-10] In addition, Nurse Managers (NMs) were reported to experience stress due to managerial reasons including political and bureaucratic pressures, managerial problems, lack of support from top administrations, management style, insufficient rewarding, time constraints, taking excessive managerial responsibilities, problems that cannot be brought under control, insufficient resources and few opportunities for professional development.[5,7,8,11]

In Turkey, in addition to the above mentioned factors, there are other causes of stress among NMs. In fact, nursing is still in its infancy in terms of professionalism, and considered as an occupation only for women; however, women are not given the respect by the society they deserve, motherhood roles of working women cause problems, team work does not have the desirable standards and nurses do not have clear and precise job definitions.[10,12] Understaffing and unqualified staff despite excessive work, insufficient respect from the society, poor working conditions, long working hours, inability to keep track of technological developments in hospitals and low pay rates are other factors effective in stress.[10,11-13]

The foregoing factors cause stress both in registered nurses and NMs leading them to have negative and undesirable attitudes towards work life.[14] These negative and undesirable attitudes are high alcohol consumption, smoking irritability, sleeping problems, changes in eating habits, complaining about work, slowing down the work flow, being late for work, absenteeism, giving up working, occupational mistakes and accidents, low quality services, feeling inadequate at work and in turn, low productivity, high health costs, insufficient organizational communication, distressing relationships at work, conflicts with colleagues, low quality of nursing care, inability to make effective decisions, failure to cooperate with other health staff, lack of participation in professional activities, loss of enthusiasm for the nursing profession, tendency to seek for another job, low work quality, low performance, lack of job satisfaction, low organization commitment and burnout.[1,2,9,15-18]

Previous studies on the stress condition of managers working in different fields have demonstrated that male managers experience higher level of work stress than female counterparts, and the managers with strong personality could cope with stress more

easily; in addition, job satisfaction is negatively correlated with work stress, and control centers act as a buffer and have a calming effect.[19-21]

On the other hand, studies on the stress level of nurse manager have reported that they have a moderate job-related tension and suffer from moderate level of stress.[4,18] In addition, factors including age, managerial experience, position, marital status and kid ownership were determined to have no effect on stress level of nurses.[18,22] However, education level and managerial style were found effective on stress level.[6,20]

Administrators of organizations should primarily determine the stress level and take necessary preventive precautions in order to avoid the occurrence of undesirable, negative situations and to provide healthy work environment with high job satisfaction and low stress level as well as to create more positive and productive work environment. This study investigates the stress level of nurses in present-day conditions and determines the personal and professional characteristics associated with stress level. Due to the limited number of studies on stress level of nurse managers, this study is thought to make significant contributions to literature.

This is a descriptive study to determine the stress levels and effective factors among NMs.

MATERIAL AND METHODS

The study population is composed of nurse managers (head-nurse of unit, head nurse/manager of nursing services and deputy nurses) employed in 17 hospitals that have different patients of 100 or over bed capacity in European Side of Istanbul (10 private hospitals, 5 Ministry of Health hospitals and 2 hospitals of a university). The study sample is composed of 300 nurse managers, of whom 100 nurse managers were selected by quota sampling method from each hospital group of different managerial characteristics. Study data were collected between January-June 2007.

Data were collected using a questionnaire composed of 14 questions about personal and professional features of NMs and Managerial Stress Scale composed of 40 items. Managerial Stress Scale was first developed by Ertekin in 1993 and its validity and reliability were tested for nurses.[23] The scale included 6 subscales-general (11 items), management (5 items), work (8 items), clients (6 items), relationships (4 items) and workplace (6 items). It was a five-point Likert scale (1=never causes stress, 2=rarely causes stress, 3=sometimes causes stress, 4=frequently causes stress, 5=always causes stress) and the total score of the scale ranges from 40 to 200. Stress level increases in parallel with the total score obtained from scale (over 120). Cronbach Alpha coefficient was 0.96 in this study.

Study data was collected between January and June 2007. Before data collection, necessary approvals were obtained from the administrations and ethical committees of the hospitals where the study was conducted. Data collection tool was distributed to all nurse managers who agreed to participate in the study and were employed in the hospitals included in the study after the necessary explanations were made by researchers in accordance with the "Informed Consent Form", and subsequently, the tools were collected through visiting hospitals again. Completed forms were accepted.

Out of 300 questionnaires and scales, 213 were completed without any missing information. The response rate was 71%. The completed forms (n=213) were transferred into computer documents and evaluated by means of frequency analysis, t-test and one-way ANOVA in SPSS 11.5.

RESULTS

The mean age of participant nurses was 35 years (SD=6.55), and the mean professional experience was 15 years (SD=6.53), while the mean managerial experience was 8 years (SD=6.05). Furthermore, 35.2% of nurses were determined to have a two-year degree, 35.2% were employed in private hospitals, 73.2% were employed as head-nurse of unit, 40.8% regarded the management in their institutes as "counseling-democratic", and 74.4% did not plan to change job.

The means of the total and subscale scores received by the participants showed that the NMs had mid-level stress (Table 1).

There was a significant difference only in the work subscale between the participants from different types of hospitals ($p<0.05$) (Table 2). Further analyses showed that the difference resulted from private hospitals. The NMs working in the private hospitals had higher scores for all subscales than NMs in the other hospitals, though the differences were not significant.

As shown in Table 3, there was a significant difference in the general subscale between the NMs with different positions ($p<0.05$) and the lower level NMs got higher scores for the general subscales than the top level NMs.

There was no significant difference in the mean total scores and the mean subscale scores for managerial stress levels between the NMs with dif-

TABLE 1: The means of the total subscales scores for managerial stress scale and Cronbach Alpha coefficients.

Subscales	Min.	Max.	Mean (SD)	Cronbach Alpha
General (11 items)	11	55	31.20 (8.72)	0.89
Management (5 items)	5	25	15.37 (4.04)	0.74
Work (8 items)	8	40	21.42 (6.08)	0.81
Clients (6 items)	6	30	17.30 (5.62)	0.85
Relationships (4 items)	4	20	10.19 (4.14)	0.86
Workplace (6 items)	6	30	19.03 (5.32)	0.81
Total stress scores (40 items)	40	200	115.23 (29.78)	0.96

TABLE 2: The means of the total and subscales scores by types of hospitals (n=213).

Types of hospitals	Private Hospitals (n=75)	Governmental Hospitals (n=56)	University Hospitals (n=82)		
Subscales	Mean (SD)	Mean (SD)	Mean (SD)	F	p
General	32.37 (9.51)	30.41 (8.29)	30.67 (8.22)	1.061	0.348
Management	15.41 (4.39)	15.34 (3.73)	15.35 (3.96)	0.007	0.993
Work	22.77 (6.59)	20.34 (5.29)	20.93 (5.95)	3.068	0.049* (p<0.05)
Clients	17.69 (6.37)	16.46 (4.57)	17.51 (5.54)	0.869	0.425
Relationships	11.23 (4.49)	10.57 (3.96)	10.85 (3.94)	0.413	0.662
Workplace	19.61 (5.53)	18.73 (4.88)	18.69 (5.42)	0.700	0.498
Total stress scores	119.09 (32.73)	111.86 (25.26)	114.01 (29.78)	1.059	0.349

*p<0.05.

TABLE 3: The means of the total and subscales scores for managerial stress scale by the participants' positions (n=213).

Position	Lower level (n=156)	Top level (n=57)		
Subscales	Mean (SD)	Mean (SD)	t	p
General	31.02 (8.51)	28.96 (8.96)	2.287	0.023*
Management	15.43 (3.93)	15.19 (4.35)	0.388	0.699
Work	21.39 (6.09)	21.51 (6.11)	0.125	0.901
Clients	17.47 (5.38)	16.84 (6.24)	0.719	0.473
Relationships	10.91 (4.10)	10.91 (4.27)	0.003	0.997
Workplace	19.24 (5.09)	18.46 (5.90)	0.949	0.344
Total stress scores	116.46 (28.64)	111.88 (32.75)	0.994	0.321

*p<0.05.

ferent ages, nursing experience and managerial experience (p>0.05). However, the NMs under 30 years of age had higher scores for the general subscales, work, clients and relationships (the mean of total stress scores=117.24±32.59, p=0.771). The mean of total scores decreased with increasing age. The NMs with less than 10-year experience had higher scores for the subscales management, work, clients and relationships (the mean of total stress scores=117.60±32.25, p=0.771), while the NMs with less than 5-year experience had higher total scores and higher subscale scores (the mean of total stress scores=116.74±29.59, p=0.792).

The NMs with a postgraduate education degree had lower total scores and subscale scores than the graduates of a two-year nursing programs and the school of nursing graduates. There was a significant difference in the workplace subscale between the groups and this difference resulted from the school of nursing graduates (p=0.026, Mean=21.26±5.43). However, there was no significant difference between the means of their total and the subscale scores of NMs in terms of marital status and having children (p>0.05).

As presented in Table 4, there was a significant difference in the mean total scores and the mean scores for the subscales work, relationships and workplace between the NMs working in the hospitals with different managerial approaches (p<0.05). According to the further analyses, the difference resulted from the NMs who found their organizations participative-democratic. In addition, the NMs working in the hospital with participative-democratic managerial approach had higher scores in all the subscales and as the managerial approach became more democratic, the means of the total and subscale scores increased.

As shown in Table 5, there was a significant difference in the means of total scores and the mean scores for the management and work subscales between the NMs who wanted to change their job and those who did not (p<0.05). In addition, the nurses who received high total scores and high subscale scores did not want to change their job.

DISCUSSION

It was aimed to determine managerial stress levels and the factors affecting the stress levels among NMs and most of the NMs were middle-aged and had considerable clinical experience, lower level managerial positions and lower education levels.

Consistent with the results of other studies from Turkey, the NMs were found to have mid-level managerial stress and mid-level organizational commitment.[4] Similarly, a study performed in the United States of America reported that the nurses had moderate levels of stress.[18]

The NMs working in private hospitals had higher stress levels. This is not surprising since the operation style of the health system in private

TABLE 4: The means of the total and subscale scores regarding managerial approach of their organizations (n=213).

Managerial approach	Autocratic (n=23)	Benevolent Autocratic (n=67)	Consultative Democratic (n=87)	Participative Democratic (n=36)		
Subscale	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	F	p
General	28.87 (8.65)	30.70 (9.29)	31.05 (8.02)	34.00 (8.96)	1.892	0.132
Management	14.48 (4.07)	14.61 (4.19)	15.79 (3.73)	16.33 (4.23)	2.198	0.089
Work	19.61 (5.05)	19.85 (6.16)	22.00 (5.35)	24.11 (7.15)	5.053	0.002*
Clients	16.96 (6.60)	16.61 (5.56)	17.48 (5.45)	18.36 (5.50)	0.820	0.484
Relationships	9.74 (4.23)	9.98 (3.85)	11.51 (3.89)	11.94 (4.74)	3.178	0.025*
Workplace	17.39 (5.25)	18.06 (5.52)	19.62 (4.85)	20.44 (5.69)	2.744	0.044*
Total stress scores	107.04 (28.88)	109.82 (30.27)	117.45 (27.43)	125.19 (32.52)	2.895	0.036*

* p<0.05.

TABLE 5: The means of the total and subscale scores by the nurses' intention to change their jobs (n= 207*).

Intention to change job Subscales	The nurses wanting to change their jobs (n=53) Mean (SD)	The nurses not wanting to change their jobs (n=154) Mean (SD)	t	p
General	29.57 (7.62)	31.87 (8.80)	1.699	0.091
Management	14.41 (3.47)	15.73 (4.10)	2.095	0.037**
Work	19.72 (5.22)	22.06 (6.09)	2.505	0.013**
Clients	16.60 (4.90)	17.56 (5.83)	1.076	0.283
Relationships	10.19 (3.33)	11.17 (4.32)	1.715	0.089
Workplace	18.40 (4.39)	19.32 (5.53)	1.229	0.222
Total stress scores	108.88 (24.37)	117.73 (30.57)	2.127	0.036**

* The number of nurses who expressed his intention to change job.
** $p<0.05$.

hospitals and employment of nurses were considered. In fact, they do not have job security, and overwork due to the programs conducted to achieve high quality standards, which require high patient satisfaction; in addition, they have to cope with understaffing due to the rapid turnover rate of nursing staff; therefore, they are expected to work with few staff and fulfill a lot of work. On the other hand, administrations of private hospitals and patients in private hospitals have high expectations and their autonomy is high.[24]

In the study of Glazer and Gyurak investigating stress sources of nurses in 5 different countries, inadequate number of staff was determined as one of the most significant sources for stress creation, which suggests that the inadequacy of nurses is a global and therefore, a common problem of every country.[5]

Professional and managerial experiences increase with age among NMs. The NMs who were awarded with better positions for their high professional and managerial experiences were found to cope with problems more easily, completed their adaptation to the management post, played a more important role in the decisions made by the hospital administrations, and as a result, they had lower levels of stress than younger and lower level NMs with less professional and managerial experiences. Although there was no significant relation between stress levels and age, professional and managerial experiences increased with age, which led the nurses to have better managerial positions and lower levels of stress in turn, and the result was consistent with the literature. There have been studies with conflicting results on the relation between stress and age and experience. Kennedy showed that age and professional experience had no effect on stress levels.[18] However, Arıkan and Karabulut found that the nurses aged 34 years and over and the nurses with 16-year experience had lower stress scores than other nurses.[1]

The NMs with a postgraduate education degree had lower managerial stress levels. It may be attributed to the fact that high level of knowledge and experience increased their self-confidence and enabled them to make use of more effective strategies to overcome stress, which reduced their stress levels in turn.

Siu, Lu and Cooper carried out a study on managerial stress levels of managers working in different fields in Taiwan and Hong Kong and determined that education level had no health or strain effect on Taiwan managers; however, it was significantly and positively correlated with physical well-being and negatively correlated with absenteeism and quitting intentions in Hong-Kong managers.[25] Scores on job satisfaction, and physical and mental well-being were found to increase with work experience in both groups of managers, and the quitting intentions were decreased in both groups of managers.[25]

Marital status and having children did not affect managerial stress levels, which is consistent with the literature. In addition, Kennedy found that marital status was not a predictor for stress levels.[18]

Stress levels varied with managerial approaches of the hospitals and the stress levels were increased with the democratic managerial approach. It may be attributed to the fact that NMs in the autocratic hospitals focused on work, only fulfilled with given duties, not involved in decision-making processes, not given many responsibilities and had a formal relationship with top administrations. However, NMs in the more democratic hospitals focused on both work and relationships, had more responsibilities and were more involved in decision-making processes, all of which might have increased their stress levels. In a review of work stress in nursing, Mc Vicar found six work stressors, one of them was management.[6]

A study carried out in Greater China reported that stress sources perceived by the managers in China, where an autocratic administration structure is adopted, were determined to be lower compared to the sources perceived by the managers in Hong Kong and Taiwan.[21]

The NMs who do not want to change their jobs had higher managerial stress levels, which is suggestive of their intention to continue working despite the stress they had. In addition, most of the participants were working in governmental and university hospitals. As a matter of fact, the nurses working in these hospitals have job security and being a NM in these hospitals is prestigious. Therefore, they may not want to change their jobs despite the serious work stress. They may also want to get promote and retire with a higher pension. These results are similar to other research findings.[26]

CONCLUSION

As a result of the study, nurse managers were determined to have mid-level of stress, while the nurse managers who were employed in private hospitals, in low level positions, young, had low level of experience, stated to be governed with participatory-democratic were determined to have higher levels of managerial stress, but they did not want to change their job. However, managerial stress level of nurse managers was not affected by age, work experience, managerial experience, marital status, educational status and having a child.

If the top administrators have knowledge about the managerial stress levels of nurse managers in their institutions and the factors affecting the stress level, the measurements could more easily be planned to reduce stress levels of nurse managers. It is suggested that further studies should be made to investigate the stress sources of nurse managers in detail, and thus to prepare action plans.

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