

EXAMINATION OF NURSES' STATE ANXIETY AND THEIR TENDENCY TO MEDICAL ERROR IN DIFFERENT WORKING HOURS

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This research is a master's thesis.

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Nursing needs more mental health professionals than other professions, because it deals with people.



- Ocaktan ME. Keklik A. Çöl M, [Abidinpaşa Sağlık Grup Başkanlığı'na Bağlı Sağlık Ocaklarında Çalışan Sağlık Personelinde Spıelberger Durumluk ve Sürekli Kaygı Düzeyi]. AnkaraÜniverstesi Tıp Fakültesi Mecmuası, 2002; 55 (1): 21-28.
- Yılmaz S. Hacıhasanoğlu R. Çiçek Z, Hemşirelerin Genel Ruhsal Durumlarının İncelenmesi, STED, 2006;15(6): 63-73.
- Karahan A. Gürpınar K. Özyürek P, [Hizmet Sektöründeki İsletmelerin Örgüt İçi Stres Kaynakları: Afyon İl Merkezindeki Hastanelerde Çalısan Cerrahi Hemşirelerinin Stres Kaynaklarının Belirlenmesi]. Ekonomik Ve Sosyal Araştırmalar Dergisi 2007; 3(1)3:27-44.
- Atasoy A. Yorgun S. Aksoy S. İka H, [Hasta Guvenliği İklimi, Ekip Calışması, İş Yuku Ve İş Kontrolu, İş Stresi Arasındaki İlişkiler]. III. Uluslararası Sağlıkta Performans Ve Kalite Kongresi Poster Bildiriler Kitabı, Ankara, 2011; 13-23.

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Long working hours cause the mental, emotional, social and health problems and depression on nurses.

Rogers NL. Dinges FD, Shiftwork Circadian Disruption And Consequences, Primary Psychiatry 2002; 9(8): 50-56

Ardekani ZZ. Kakooei H. Ayattollahi SM. Choobineh A. Seraji GN, Prevalence Of Mental Disorders Among Shift Work Hospital Nurses In Shiraz, Iran. Pak J Biol Sci 2008; 11:(12) 1605-1609.

Preto VA. Pedrao LJ, Stress Among Nurses Who Work At The Intensive Care Unit, Rev Esc Enferm USP 2009; 43(4):838-45.

Selvi Y. Özdemir PG. Özdemir O. Aydın A. Beşiroğlu L, [Influence of night shift work on psychologic state and quality of life in health workers]. Düşünen Adam Psikiyatri ve Nörolojik Bilimler Dergisi 2010; 23: 238-243.

Urhan B. Etiler N, [The Gender Analysis Of Women's Labour İn Health Sector]. Çalışma ve Toplum 2010: 2; 191-216.

Zencirci AD. Arslan S, Morning-Evening Type And Burnout Level As Factors İnfluencing Sleep Quality Of Shift Nurses: A Questionnaire Study. Roat Med J 2011: S2:52-3

Goswami R, Shıft Work And Its Effect On Socıal And Personal Lıfe of Shift Workers, IJRMEC201;2: 5, ISSN: 2250-057X

Saksvık-Lehouıllıer L. Bjorvatn B. Hetland H. Sandal G.M. Moen B.E. Mageroy N. at all, Individual, Situational And Lifestyle Factors Related To Shift Work Tolerance Among Nurses Who Are New To And Experienced In Night Work, Journal of Advanced Nursing 2012; 69(5): 1136–1146.



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International Council of Nurses

International Council of Nurses recommends that nurses are running into eight -hour shifts. It has pointed out that nurses are made to work overtime or long hours and this is considered as human rights violations. It is pointed out that the health status of nurses are threatened severely [ICN].



Demir A, [The Investıgatıon of The Effects of Shıft Workıng on Nurses' Anxıety and Arterıal Blood Pressure]. Atatürk Üniv. Hemşirelik Yüksekokulu Dergisi, 2005; 8(2): 40-54

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The high rates of medical errors and injury of employees are a serious challenge in the healthcare industry worldwide.

Currently, experts put the blame on working in shifts for many accidents and disasters.



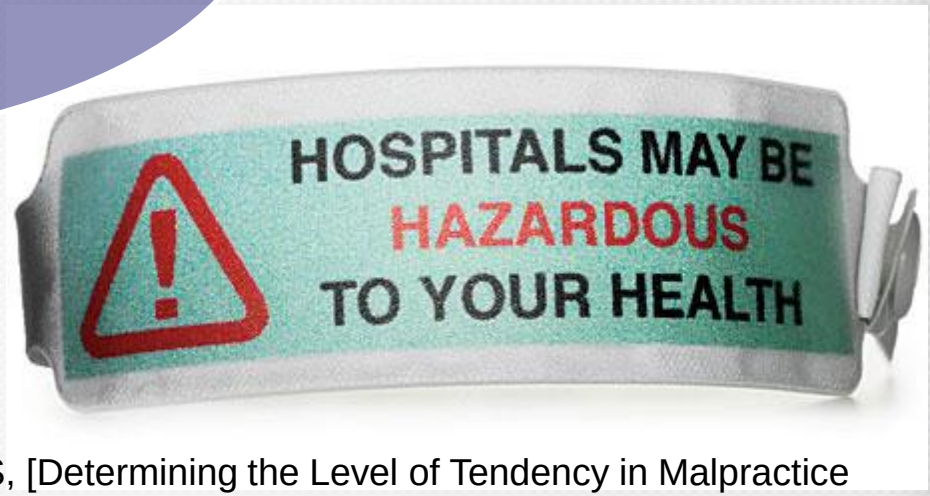


Barker LM. Nussb MA, Fatigue, Performance And The Work Environment: A Survey Of Registered Nurses, Journal Of Advanced Nursing 2011; 67 (6): p1370-1382.
Goswami R, Shıft Work And Its Effect On Socıal And Personal Lıfe of Shift Workers, IJRMEC201;2: 5, ISSN: 2250-057X

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Medication errors are the most common types of errors which threaten the patient safety.





Cebeci F, Gürsoy E, Tekingündüz S, [Determining the Level of Tendency in Malpractice Among Nurses]. Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi 2012; 15(3): 188-196.

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Objective







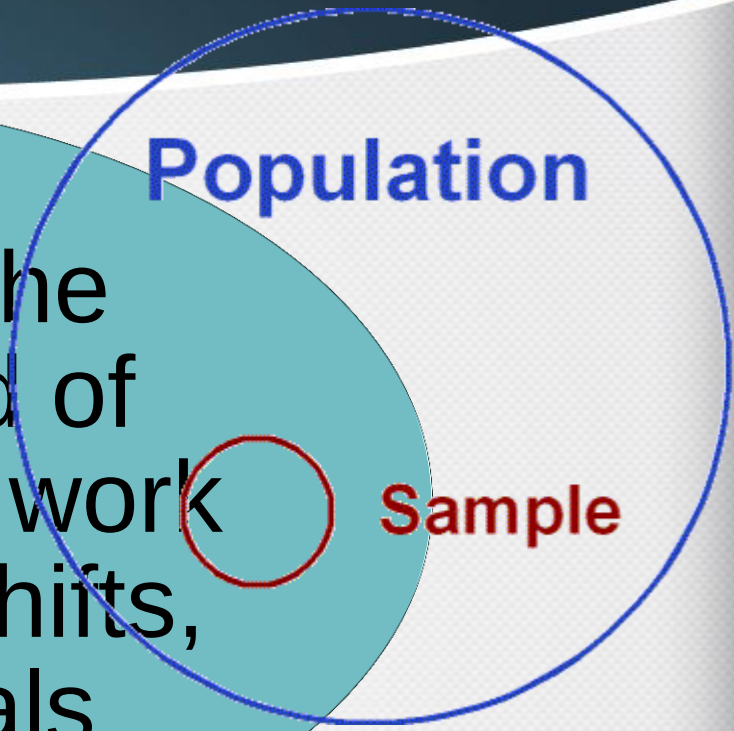
This prospective, descriptive and cross sectional study research was implemented with the aim to compare the state anxiety and the tendency for nursing medical mistake during day working and night shift.

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METHODS

Population of the study consisted of 585 nurses, who work in two different shifts, at state hospitals.





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SAMPLE

The sample of the study consisted of 317 nurses who accepted to participate in research.

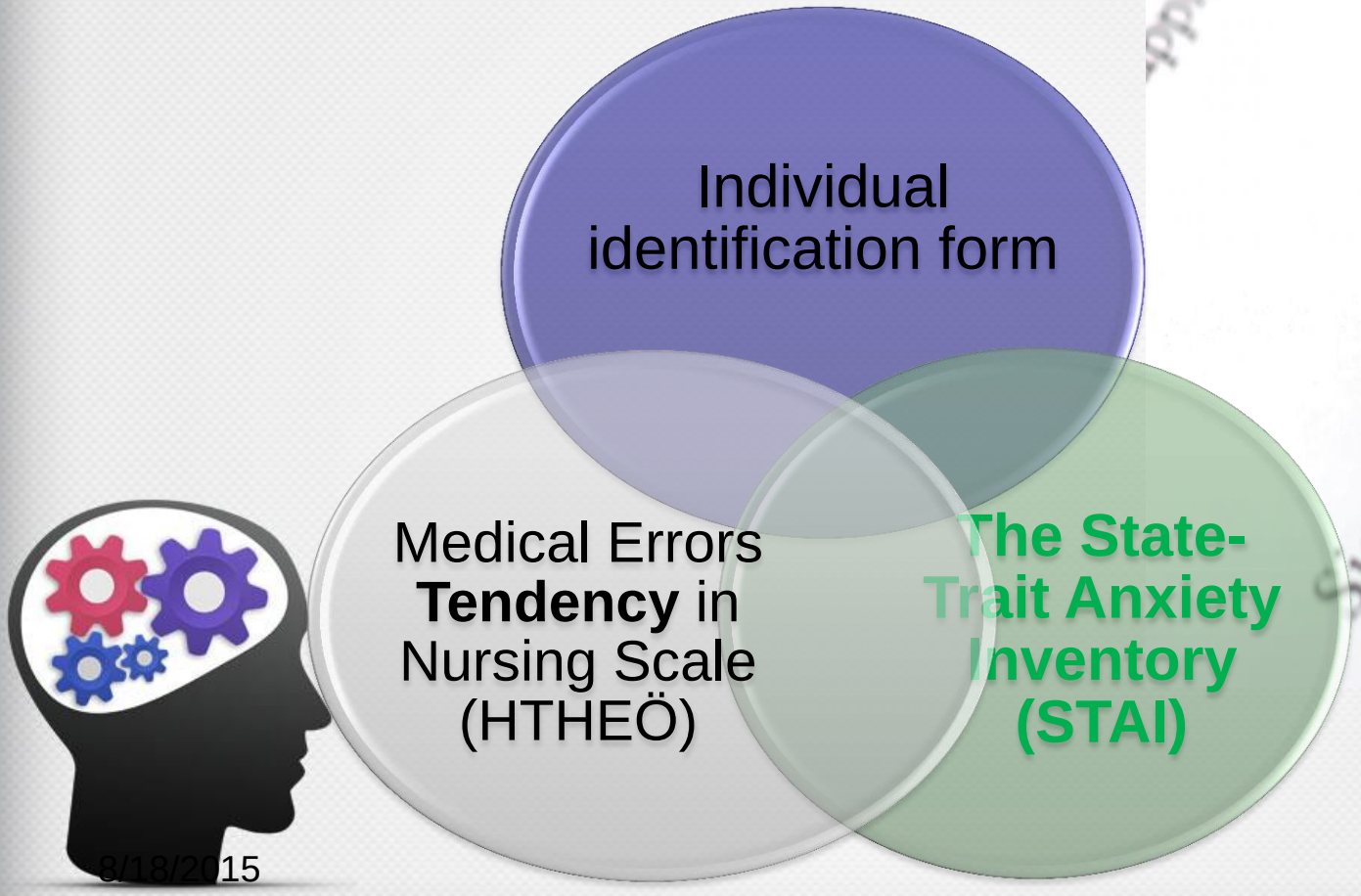


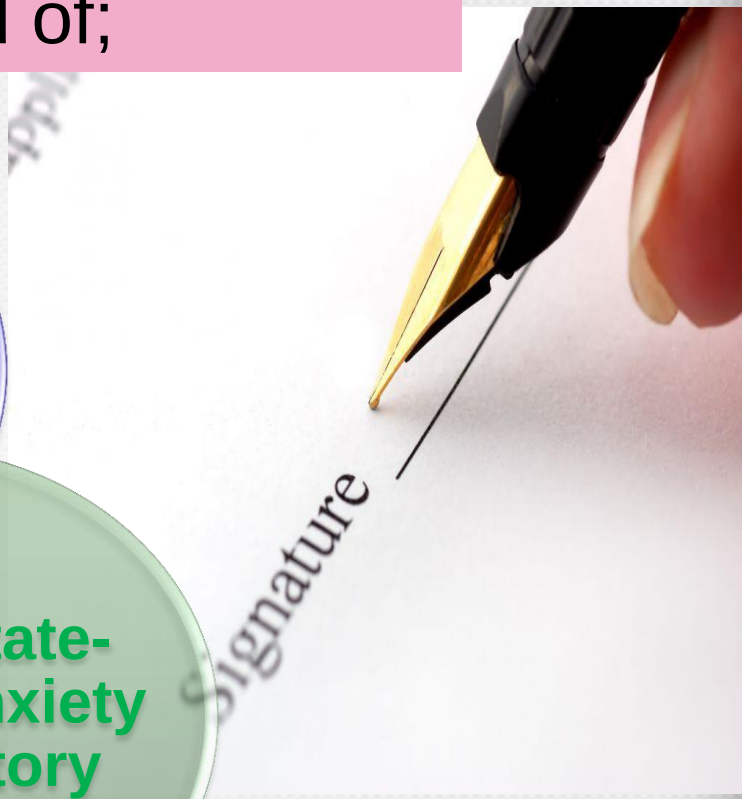


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Data Collection Tools:

Data were collected by a questionnaire. The questionnaire consisted of;





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1. In Individual Identification Form;

There are 17 questions relating to descriptive characteristics of nurses.





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2. Medical Errors Tendency in Nursing Scale (HTHEÖ)

Turkish validity and reliability study of **Medical Errors Tendency in Nursing Scale (HTHEÖ)** was conducted by Özata and Altunkan (2010).

The scale consists of five subscales and 49 items and includes the activities which they perform daily as routine in patient care.



Özata M. Altunkan H, [Frequency of medical errors in hospitals, determination of medical error types and medical errors: Konya sample] Tıp Araştırmaları Dergisi, 2010; 8(2): 100 -111

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These subscales are;

- Drugs and blood transfusion practices (18 items),
- Nosocomial infections (12 items),
- Patient monitoring and safety of materials (9 items),
- Falls (5 items) ,
- Communication (5 items).



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Increase in the total score of the scale is interpreted as the way that nurses are likely to less make medical errors.



Özata M. Altunkan H, [Frequency of medical errors in hospitals, determination of medical error types and medical errors: Konya sample] Tıp Araştırmaları Dergisi, 2010; 8(2): 100 -111

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3. The State-Trait Anxiety Inventory

Turkish adaptation and validity, reliability studies of **State-Trait Anxiety Inventory** (STAI) were made by Le Compte (Öner and Le Compte 1983).



Öner N. Le Compte A, Durumluluk- Süreklilik Kaygı Envanteri El Kitabı. 1. Baskı. Boğaziçi Üniversitesi Yayınları No: 333, İstanbul, 1983

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Transaction:



Oral permission was obtained from nurses who attended to the study.

The nurse were asked to fill up Individual Identification Form State Anxiety Inventory and **Medical Errors Tendency in Nursing Scale** between 8-12 in the morning in the day shift.



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The same nurses were asked to fill up the same forms **at** the second time when they work between 16-20 at night shift.

Follow-up of the forms are made individually by the researcher.

Incomplete filled forms were excluded from the assessment.



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Analysis of data

Mann-Whitney U, Wilcoxon, Kruskal -Wallis tests and correlation analysis were used in the analysis of data.



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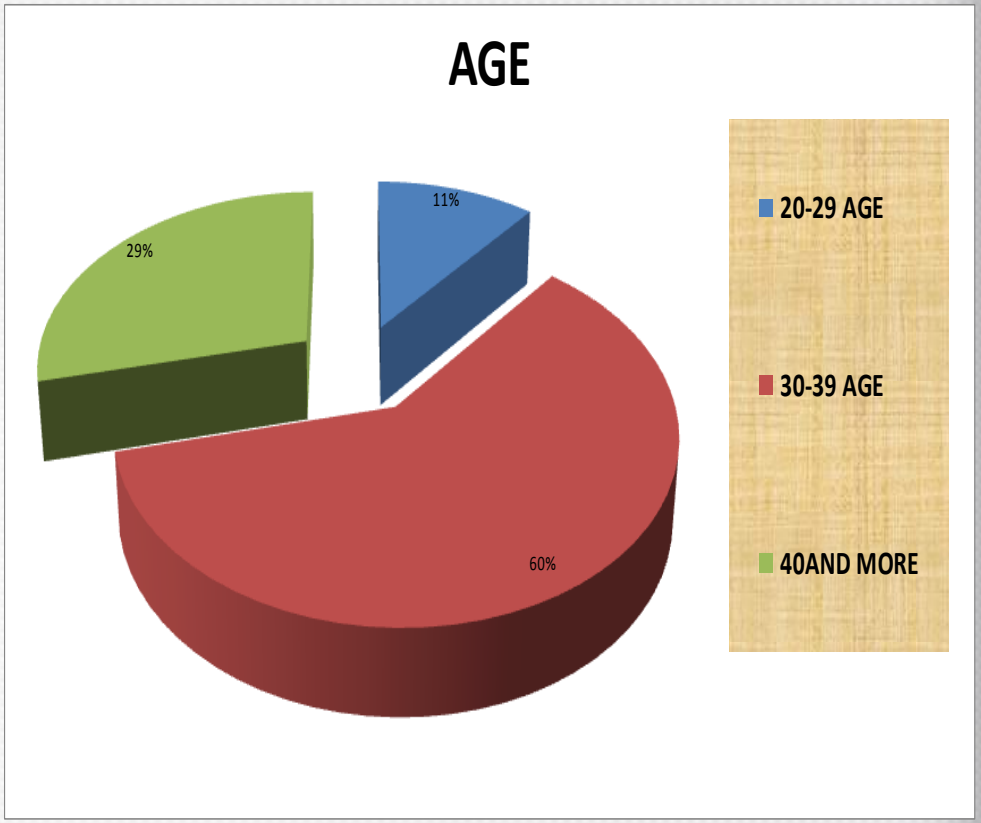
Permission was taken from the managers to carry out the research.



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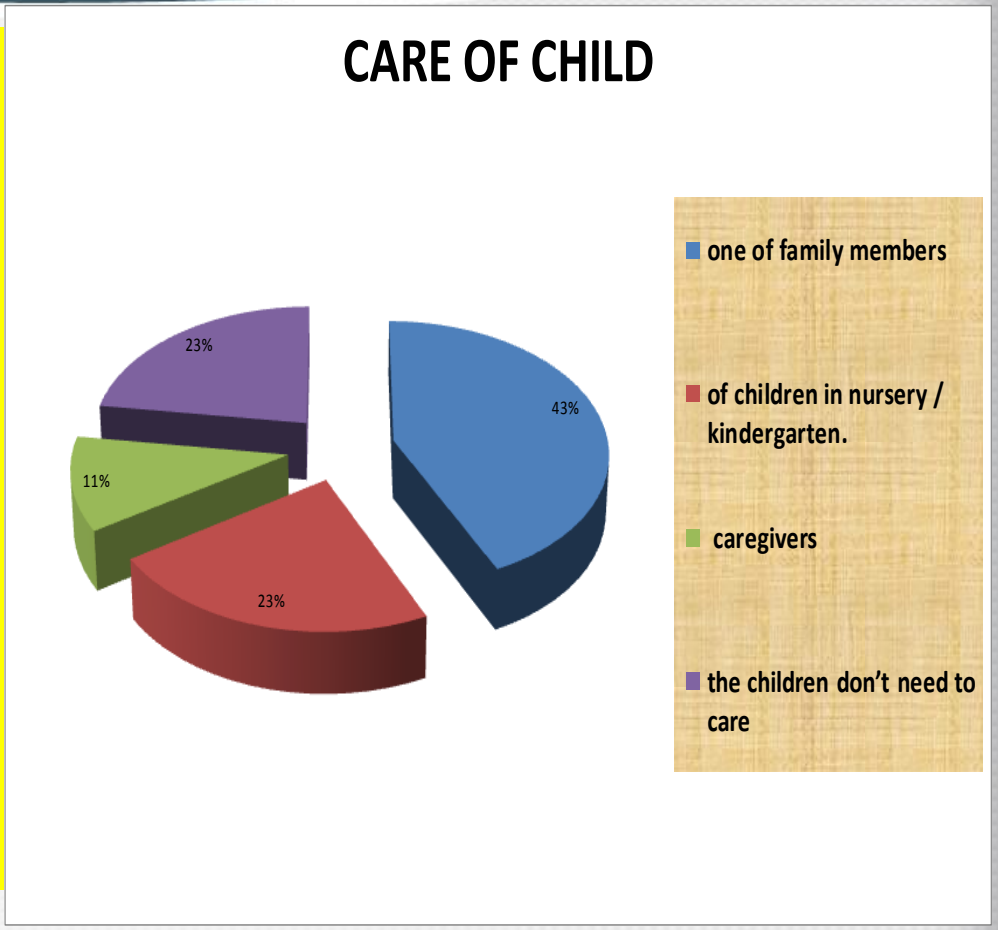
RESULTS

Age of the nurses who joined the research were
•between 20-29 years (11%),
•30- 39, (60.3 %) and
•40 years and older (28.7%).



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- 81 % are married.
- 79 % of the nurses have children.
- The children of nurses were look after by one of family members 33.8 %,
- 8.5 % of them by caregivers,
- 18.3% of children in nursery.
- 18.3% of the children don't need to care.



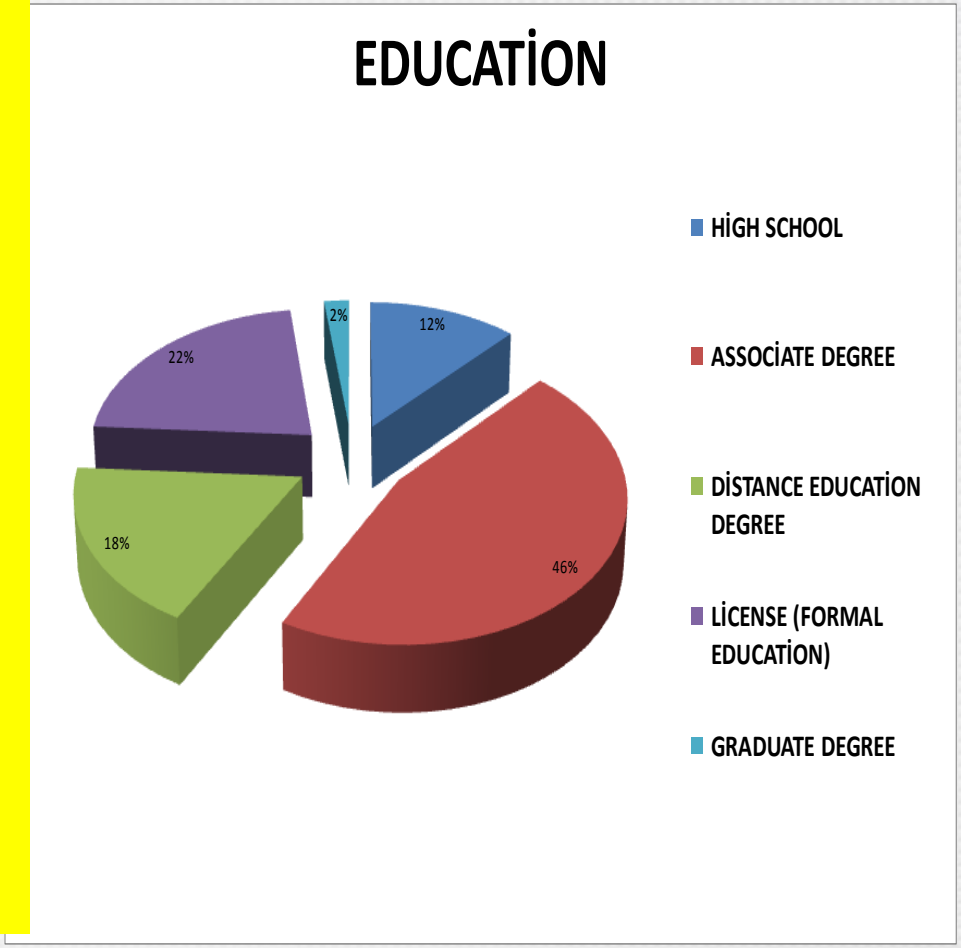
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As for the nurses' level of education,

- 11.7 % of the nurses is high-school gradute,
- 45.7 % associate degree ,
- 18% bachelor's degree (distant learning),
- 22.1% of the license (formal education)

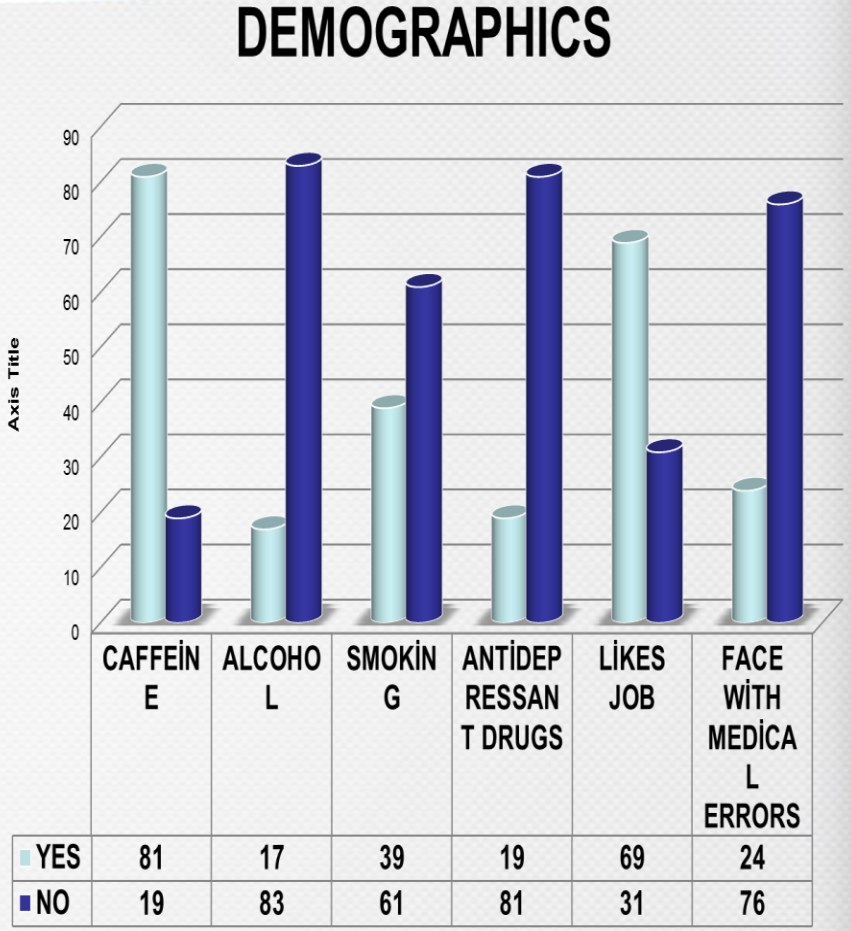
and

2.52 % master degree.



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Nurses use
•81.4 % of caffeine,
•38,5 % of them smokes cigarette,
•17% of them use alcohol,
•18.6 % of them use antidepressants and
•68.8 % of them love their profession.
•24% of them were faced with at least one medical error throughout their career.



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Findings Regarding The Nurses' State Anxiety Score

40.7% of the nurses exhibits intermediate level of anxiety, and 59 % heavy level of anxiety during the day shift; 50.2 % of them middle level and 49.2 % of them heavy level during the night shift.

Table 1 . Anxiety levels of nurses in the night shift

Anxiety level	Score ranges	Anxiety on the day shift		Anxiety at night shift	
		Number (n)	Percent (%)	Number (n)	Percent (%)
1. Light Levels	0-19 score	-	-	-	-
2. Intermediate Level	20-39 score	1	0,3	1	0,3
3. Middle Level	40-59 score	129	40,7	159	50,2
4. Heavy Level	60-69 score	187	59,0	156	49,2
5. Panic	80 score and more	-	,	1	0,3
Total		317	100.0	317	100.0

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Factors Affecting The Anxiety Of Nurses

It was found that;

- age groups,
- marital status,
- education levels,
- unit where they are working
- having the children,
- have a smoke,
- consuming caffeine,
- Nurses' consuming alcohol influences the experienced state anxiety during daytime hours and night shift ($p>0.05$).



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The state anxiety scores of nurses whose children were cared by a childminder was higher than those whose children were not.



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Nurses using antidepressants were found to have experience less anxiety in day shift (p=0.005).



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2. Findings Related to Medical Errors Tendency

In night shift;



- It was found in the Wilcoxon test that
- the error tendency 'drug and transfusion practices of nurses increased ' (p=0.000),
  the error tendency in ‘nosocomial infections reduced (p=0.000),
  the error tendency ‘Patient Follow-up and Material Safety reduced (p=0.000),
- the error tendency 'falls' does not change (P=0.016),
- the error tendency ‘Communication’ does not change (p=0.003).

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Nurses Medical Errors Affecting Factors Trends

- Nurses having children,
- Smoking,
- caffeine and alcohol consumption,
- Using antidepressants,
- Their love to nursing profession
- and encounter cases with the medical errors in daytime hours and night shift (p>0,05).



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AGE

According to the age groups of nurses , differences were found between the subscales and avarege scores of medicine and transfusions practising (P=0,001) , hospital infections (P=0,030) during the day shift



Tablo3. Yaş grubuna Göre Tıbbi Hata Eğilim Puanı Ortalamaları					
Gündüz mesaisi tıbbi hata eğilimi puan ortalamaları					
Yaş grubu	İlaç ve Tr. Uy.	Has. Enf.	Has İzl ve Mal. Güv	Düşmeler	İletişim
20-29 yaş	73.28	54.94	38.54	22.11	23.02
30-39 yaş	75.01	56.30	40.63	22.82	23.28
40 yaş üstü	76.25	57.07	40.59	23.96	23.10
	P=0,001 KWX^2=13,59	P=0,03 KWX^2=6,49	P=0,14 KWX^2=3,83	P=0,18 KWX^2=3,40	P=0,85 KWX^2=0,3
	Gece Nöbeti Tıbbi Hata Eğilimi Puan Ortalamaları				
Yaş grubu	İlaç ve Tr. Uy.	Has. Enf.	Has İzl ve Mal. Güv	Düşmeler	İletişim
20-29 yaş		49,28	30.45	22.02	22.91
30-39 yaş	81.22	49.88	31.74	22.48	22.72
40 yaş üstü	83.05	50.16	31.65	22.42	22.76
	83.23				
	P=0,30 KWX^2=2,35	P=0,67 KWX^2=0,79	P=0,33 KWX^2=2,20	P=0,79 KWX^2=0,44	P=0,86 KWX^2=0,30

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WORKING UNIT

According to the units of nurses , the differences between subscales and avarege scores of tending to medical errors , applying medicine and practising transfusions, hospital infections, patient follow-ups and material safety and falls have been found significant . Differences of avarage scores of communication were not found .



Tablo4. Çalıştıkları Birimlere Göre Tıbbi Hata Eğilim Puanı Ortalamaları

	Gündüz mesaisi tıbbi hata eğilimi puan ortalamaları				
Çalıştıkları birim	İlaç ve Tr. Uy.	Has. Enf.	Has İzl ve Mal. Güv	Düşmeler	İletişim
Dahili birimler	76.39	57.75	40.93	23.28	23.55
Cerrahi birimler	74.14	55.32	39.24	22.41	22.96
Diğer birimler	74.98	56.07	40.79	22.67	23.11
	P=0,04 KW X^2=6,15	P=0,01 KWX^2=9,03	P=0,04 KWX^2=6,44	P=0,04 KWX^2=6,23	P=0,48 KWX^2=1 ,43
	Gece Nöbeti tıbbi hata eğilimi puan ortalamaları				
Çalıştıkları birim	İlaç ve Tr. Uy.	Has. Enf.	Has İzl ve Mal. Güv	Düşmeler	İletişim
Dahili birimler	84.25	50.67	32.10	23.11	23.10
Cerrahi birimler	81.93	49.12	30.63	22.20	22.52
Diğer birimler	82.55	49.85	31.85	22.03	22.66
	P=0,56 KWX^2=1 ,13	P=0,26 KWX^2=2,66	P=0,02 KWX^2=7,12	P=0,03 KWX^2=6,67	P=0,36 KWX^2=2 ,02

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EDUCATION STATUS

According to the education level of nurses who participated in the study; the difference between the day shift and night shift medical error tendency related to scale mean scores of the subscales were not found significant.



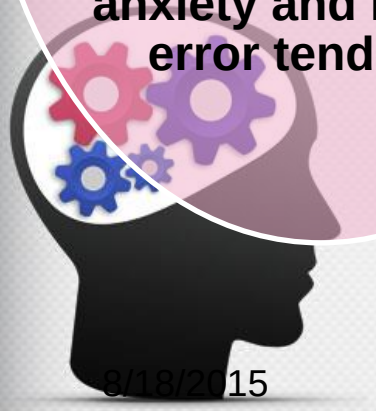
Tablo 5. Hemşirelerin Eğitim Durumlarına Göre Gündüz mesaisi ve Gece Nöbetinde Tıbbi Hata Eğilim Alt Ölçek Puan Ortalamalarının İncelenmesi

	Gündüz mesaisi				
Eğitim durumu	İlaç ve Tr. Uy.	Has. Enf.	Has İzl ve Mal. Güv	Düşmeler	İletişim
Lise	75.00	55.78	40.85	22.35	22.97
Ön lisans	75.32	56.44	40.62	22.91	23.23
Uzaktan	75.70	56.96	40.22	22.77	23.40
Eğit.Lisans	74.11	55.88	39.50	22.60	22.94
Lisans(Örgün Eğitim)	79.00	58.12	43.00	24.37	24.75
Yüksek lisans	P=0,26 KW X^2=5,20	P=0,52 KWX^2=3,18	P=0,47 KW X^2=3,55	P=0,56 KWX^2=2,94	P=0,35 KWX^2=4,40
	Gece Nöbeti				
Eğitim durumu	İlaç ve Tr.Uy.	Has. Enf.	Has İzl ve Mal. Güv	Düşmeler	İletişim
Lise	80.64	47.97	31.89	21.24	21.78
Ön lisans	83.95	50.53	31.74	22.75	23.14
Uzaktan	82.92	50.17	31.31	22.50	22.98
Eğit.Lisans	82.08	48.45	31.56	22.14	22.24
Lisans(Örgün Eğitim)	81.25	49.12	33.62	23.50	23.25
Yüksek lisans	P=0,43 KW X^2=3,80	P=0,47 KWX^2=3,54	P=0,54 KW X^2=3,10	P=0,45 KWX^2=9,7	P=0,18 X^2=11,8

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Relation between medical error tendencies and stable anxiety scores of nurses

A negative directioned weak relationship has been determined between avarages of medical and transfusion applications and hospital infections in day time shift anxiety and medical error tendency.



	Gündüz Mesaisi Tibbi Hata Eğilimi Puanlari				
	İlaç ve Tr. Uy. Alt. Öl.	Has. Enf. Alt. Öl.	Has İzl ve Mal. Güv. Alt. Öl.	Düşmeler Alt. Öl.	İletişim Alt. Öl.
Gündüz mesaisi anksiyete puanı	r= -0,135 **P=0.01**	r= -0,154 **P=0.006**	r= -0,108 P=0.056	r= -0,47 P=0.40	r= -0,026 P=0.65
Gece nöbeti anksiyete puanı	r= -0,032 P=0.56	r= -0,14 P=0.81	r= -0,19 P=0.73	r= -0,040 P=0.47	r= -0,066 P=0.24
	Gece Nöbeti Tibbi Hata Eğilim Puanlari				
	İlaç ve Tr. Uy. Alt. Öl.	Has. Enf. Alt. Öl.	Has İzl ve Mal. Güv. Alt. Öl.	Düşmeler Alt. Öl.	İletişim Alt. Öl.
Gece nöbeti anksiyete puanı	r= 0,067 P =0,236	r= +0,037 P=0,506	r=-0,035 P=0,539	r= +0,149 **P=0,008**	r= +0,136 **P=0,015**
Gündüz mesaisi anksiyete puanı	r= -0,121 P =0.31	r=-0,142 **P =0.01**	r=-0,110 P =0.051	r=-0,159 **P =0.005**	r=-0,136 **P =0.01**

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A positive directioned weak relationship has been determined through the avarages of falls and communication in night shift anxiety and medical error tendencies in Sperman’s Correlation Analysis



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RESULTS AND SUGGESTIONS

Consequently , the state anxiety rate has been determined as 100 % among our nurses who are located in an important situation for healt practises in our country and this anxiety increases their medical error tendencies.



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The medical error tendencies and anxieties of nurses have been determined to be various during day shifht and night shift .



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In this context;

Organizing social activities for reducing anxiety levels

Quality training programmes should be organized to prevent medical errors, and instead of punishment, rewarding should be applied to those who inform the managers about medical errors. Thus, level of medical errors can be determined properly.



Nurses' working hours should be regulated so as not to increase anxiety and the tendency to medical errors.

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