

The Effects of the Sleep Quality of 112 Emergency Health Workers in Kayseri, Turkey on Their Professional Life

Kayseri 112 Acil Sağlık Çalışanlarında Uyku Kalitesinin Mesleki Yaşam Üzerine Etkisi

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SUMMARY

Objectives

Sleep adequacy is one of the major determinants of a successful professional life. The aim of this study is to determine the sleep quality of emergency health workers and analyze its effects on their professional and social lives.

Methods

The study was carried out on 121 voluntary emergency health workers in 112 Emergency Aid Stations in Kayseri, Turkey, in 2011. The data was collected through the Socio-Demographics Form and the Pittsburgh Sleep Quality Index (PSQI) and analyzed via SPSS 18.00. The statistical analysis involved percentage and frequency distributions, mean±standard deviations, a chi-square test, correlations, and logistic regression analysis.

Results

The mean score of the participants according to the Pittsburgh Sleep Quality Index was 4.14±3.09, and 28.9% of participants had poor sleep quality. Being single and being a woman accounted for 11% (p=0.009, 95% CI: 0.111-0.726) and 7% (p=0.003, 95% CI: 0.065-0.564) of poor sleep quality respectively. There was a positive correlation between sleep quality scores and negative effects on professional and social life activities. Negative effects on professional activities included increased loss of attention and concentration (40.0%, p=0.016), increased failure to take emergency actions (57.9%, p=0.001), reduced motivation (46.2%, p=0.004), reduced performance (41.4%, p=0.024), and low work efficiency (48.1%, p=0.008). Poor sleep quality generally negatively affected the daily life of the workers (51.6%, p=0.004), restricted their social life activities (45.7%, p=0.034), and caused them to experience communication difficulties (34.7%, p=0.229).

Conclusions

One third of the emergency health workers had poor sleep quality and experienced high levels of sleep deficiency. Being a woman and being single were the most important factors in low sleep quality. Poor sleep quality continuously affected daily life and professional life negatively by leading to a serious level of fatigue, loss of attention-concentration, and low levels of motivation, performance and efficiency.

Key words: 112 Emergency Health Workers, professional life; sleep quality.

ÖZET

Amaç

Uyku yeterliliği başarılı iş yaşamının temel belirleyicilerindedir. Bu çalışmanın amacı acil sağlık çalışanlarında uyku kalitesini belirlemek, mesleki ve sosyal yaşam üzerine etkisini araştırmaktır.

Gereç ve Yöntem

Araştırma 2011 yılında Kayseri ilinde aktif hizmet veren 112 Acil Yardım İstasyonunda görev yapan gönüllü 121 Acil Sağlık Çalışanı üzerinde yürütüldü. Araştırmada, Sosyo-demografik Veri Formu ve Pittsburgh Uyku Kalitesi Ölçeği (PSQI) kullanıldı. Veriler SPSS 18.00 versiyonu ile değerlendirildi, istatistiksel analizde yüzde ve frekans dağılımları, ortalama±standart sapma, ki kare testi, korelasyon ve lojistik regresyon analizi kullanıldı.

Bulgular

Pittsburgh Uyku Kalitesi puan ortalaması 4.14±3.09 olan grubun %28.9'unun uyku kalitesi kötü idi. Kötü uyku kalitesinin %11'inden (p=0.009, %95 GA: 0.111-0.726) bekar olmak, %7'sinden (p=0.003, %95 GA: 0.065-0.564) ise kadın olmak sorumlu idi. Uyku kalitesi puanları ile mesleki ve sosyal yaşam etkinliklerinin olumsuz etkilenimi pozitif korelasyon gösterdi, uyku kalitesi kötü olan acil sağlık çalışanlarında, genellikle dikkat ve konsantrasyon kaybı (%40.0, p=0.016), acil müdahalelerde başarısızlık (%57.9, p=0.001), motivasyon (%46.2, p=0.004), performans (%41.4, p=0.024) ve iş verimi (%48.1, p=0.008) düşüklüğü yaşayanların oranı anlamlı düzeyde daha yüksekti. Düşük uyku kalitesi çalışanların günlük yaşam düzenini (%51.6, p=0.004) genellikle olumsuz etkiledi, sosyal yaşam sınırlılıkları (%45.7, p=0.034) ve iletişim güçlüğüne (%34.7, p=0.229) neden oldu.

Sonuç

Acil sağlık çalışanlarının üçte birinin uyku kalitesi kötü olup, grup düşük düzeyde uyku yeterliliği sorunu yaşamaktadır. Kadın ve bekar olmak uyku kalitesini düşüren en önemli faktörlerdir. Kötü uyku kalitesi hem günlük yaşam düzenini hem de ciddi düzeyde yorgunluk, dikkat-konsantrasyon kaybı, motivasyon, performans ve verim düşüklüğü yaratarak mesleki yaşamı sürekli olumsuz etkilemektedir.

Anahtar sözcükler: 112 Acil Sağlık Çalışanları; mesleki yaşam; uyku kalitesi.

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Introduction

Human beings have biological, psychological, social, and cultural needs that must be satisfied to maintain their existence. Sleep is one of such basic requirements.^[1,2] Sleep is linked to and compatible with the body's circadian rhythm.^[3] One of the main functions of the circadian rhythm is to prepare one for sleep, which is the rest period for the night. A disturbance to the circadian rhythm leads to a corresponding malfunction in one's sleep pattern. In fact, sleep quality, as well as its duration, is diminished by working at night, in shifts, or for irregular hours.^[4] Prolonged sleeplessness has adverse impacts on human life. Therefore, it is inevitable that a health worker suffering from prolonged sleeplessness owing to the shift system will experience negative influences on his/her mental and physical health.^[5]

Emergency care service delivery is a profession that requires the shift system. Working during the night influences the extent to which one is ready for and adapted to the next day. Subsequent outcomes may include work accidents and traumas. For example, nurses working in the night shift are commonly observed to experience work accidents associated with scalpel cuts and pricks with injector needles later in the day.^[6] Emergency health workers have to work beyond ordinary working hours or days, have duties and responsibilities that potentially pose fatal threats, compete with time, use different technologies, and cause a great deal of stress and pressure. Currently, most work on a 24-hour basis, meaning they are continuously working for 24 hours. They have to cope not only with occupational risks caused by the nature of the night shift but also with the risk of making mistakes brought about by overworking. It is a known fact that long hours and overworking puts one at greater the risk of making mistakes is at work. In fact, it is reported in the literature that nurses who work in 12.5-hour shifts are three times as likely to make mistakes as those who work for 8.5 hours, and that the former group is more susceptible to medication-related mistakes and injuries associated with needles.^[7]

To sum up, research suggests that working in shifts has an adverse impact on one's physiological and psychological health, thus negatively affecting the security of both workers and patients.^[8] There is compelling evidence that working in shifts has a permanent influence on sleep quality. According to the findings of a study on nurses, daytime sleep following the night shift is of rather low quality.^[9] Those working during the night sleep two to four hours less than daytime workers and suffer from sleep deficiency, functional disturbances and fatigue.

All this information suggests that emergency health workers likely have impaired sleep quality as a result of working in a way not compatible with their natural biological rhythms.

Additionally, impaired sleep of emergency health workers may possibly be reflected in their professional and social life.

The purpose of the present study is to identify the sleep quality of emergency health workers and to determine its effects on professional and social life.

Materials and Methods

The study was conducted on a total of 121 voluntary emergency health workers who worked for 112 Emergency Aid Stations that actively operated in Kayseri in 2011. The data were collected through face-to-face interviews and two instruments, namely the Socio-Demographics Form and the Pittsburgh Sleep Quality Index (PSQI).

The PSQI is comprised of 24 questions. 19 questions are based on self-report and the remaining five are answered by the spouse or roommate. The scored 18 questions contain 7 domains (subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction). Each component is assigned a score ranging from zero to three. The sum of the scores in the seven domains yields the score for the whole scale. Thus, the overall score varies between zero and 21, with higher scores representing poorer sleep quality. A score of ≤ 5 in the overall PSQI suggests high sleep quality whereas a score of >5 stands for poor sleep quality. For the present study, the effect of sleep quality on professional and social life was measured on a four-point scale (0=Never, 1=Rarely, 2=Often, 3=Always); however, the options often and always were merged into generally in the discussion section.^[10]

Statistical analysis

The continuous variables were represented in mean scores and standard deviation values whereas the discrete variables were expressed in terms of percentage and frequency distribution. The correlation among the categorical variables was studied via a chi-square test.

The correlation between the scores in sleep quality and variables in professional and social life was tested through a Pearson correlation analysis, while a logistic regression analysis was performed in order to identify the factors accounting for poor sleep quality. Sleep quality was identified as a dependent variable. Participants with a PSQI score of zero to five was assigned good=0 as a reference value whereas participants with a PSQI score of six to 20 was assigned poor=1 as a reference value. In addition, such variables as age, gender, educational status, marital status, length of service, and weekly working hours were accepted into the model as independent variables. The level of significance was $p < 0.05$.

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