

# SUICIDE OF A HEALTHCARE WORKER: IV SELF-INJECTION OF SODIUM PENTOTHAL

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Self-inflicted violence accounts for around half of the 1.6 million violent deaths that occur every year worldwide. Deliberate self-harm is one of the top five causes of acute medical admissions to hospital, and the most common subgroup of deliberate self-harm is deliberate self-poisoning. Suicide rates are higher in certain educational groups. The highest rates are generally found in healthcare workers. Nurses are the largest occupational subgroup of healthcare workers and the suicide rate is high in this group. A female nurse working in the intensive care unit of the cardiovascular surgery department attempted suicide by injecting herself with sodium pentothal via an IV catheter. She was followed in the intensive care unit for a month by mechanical ventilation support and at the end of the month she died. Healthcare workers under intensive physical and psychological working conditions may attempt suicide using lethal methods. Hospital managers and healthcare workers must develop strategies to handle stress and stay healthy and productive.

**Key Words:** Healthcare worker, Suicide, Sodium Pentothal.

## SAĞLIK ÇALIŞANINDA İNTİHAR: KENDİ KENDİNE İV YOLDAN SODYUM PENTOTAL ENJEKSİYONU

Dünya çapında her yıl 1.6 milyon kişi şiddet uygulanması sonucu hayatını kaybetmekte olup bu ölümlerin yaklaşık yarısı kendi kendine zarar verme sonucu meydana gelmektedir. Kasıtlı olarak kendine zarar verme, hastaneye acil başvuru nedenleri arasında ilk beş sırada yer almakta ve en yaygın alt grubunu kendini zehirlemeler oluşturmaktadır. İntihar oranları belirli meslek gruplarında daha yüksek olup en yüksek oranlar sağlık çalışanlarında gözlenmektedir. Hemşireler sağlık çalışanlarının en büyük alt grubunu oluşturmaktadır ve bu grupta da intihar çok yüksek oranda görülmektedir. Olgumuz bayan bir hemşiredir ve intihar metodu olarak intravenöz kateter yolu ile kendine sodyum pentotal enjekte etmiştir. Bir ay anestezi yoğun bakımında entübe olarak izlendikten sonra arrest olmuştur.

**Anahtar Kelimeler:** Sağlık çalışanı, İntihar, Sodyum Pentotal.

## INTRODUCTION

Self-inflicted violence accounts for around half of the 1.6 million violent deaths that occur every year worldwide.<sup>1</sup> Deliberate self-harm is one of the top five causes of acute medical admissions to hospital and the most common subgroup of deliberate self-harm is deliberate self-poisoning.<sup>2</sup> Deliberate self-poisoning in adults is a major public health problem in many industrialized countries. It accounts for more than 170,000 hospital attendances in England every year and is one of the commonest reasons for admission to a medical bed, imposing a considerable economic burden.<sup>3</sup> The case fatality for self-poisoning in the developing world is commonly 10-20%.<sup>4</sup>

Suicide rates are higher among certain educational groups. The highest rates are generally found in healthcare workers.<sup>5</sup> The health care industry employs a large proportion of the workforce in most countries. In the United States of America in 1984, there were seven million health care workers and this figure was estimated to rise to 11 million by 1990. Occupational risks vary in healthcare workers. Nurses are the largest occupational subgroup of healthcare workers and the suicide rate is high in this group. Psychological problems, alcohol and substance abuse, marital status, and mental disorders are some of the affecting factors.<sup>6</sup>

Our aim in this paper is to draw attention to fatal suicide attempts with potent drugs among healthcare workers.

## CASE REPORT

a female nurse, age 35, married and with two children, was found unconscious in the equipment depot of the cardiovascular surgery operating room. She was resuscitated and intubated in the intensive care unit. After successful resuscitation her cardiac circulation was restored. She was followed for one month with mechanical ventilation support in the intensive care unit. Her medical history was learned from her relatives. She had no known illnesses, and no alcohol or drug abuse. The only risk factor was smoking. On the day of the incident, she had asked another nurse that she was working with to insert in her arm an IV catheter, saying that "she would apply an IV antibiotic". An injector of 50 cc containing 2 cc of yellow liquid was found near the patient. The analysis of the liquid in the injector, gastric content, and blood samples, performed by the Ankara Branch of the Council of Forensic Medicine, showed that they contained sodium pentothal. It was thought that the patient had suffered cardiac arrest after injecting herself with sodium pentothal using the IV catheter in her arm.

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## DISCUSSION

In Turkey, intoxication is the third most common suicide method, following suicide by hanging and firearms.<sup>7</sup> In a study performed in England, of all the presentations for self-poisoning, 60% were by females.<sup>8</sup> Self-poisoning with drugs is the most common method of suicide in women, and the second most common in men. Analgesics and antidepressants are the substances most frequently ingested in fatal overdoses.<sup>9</sup> Studies carried out in Turkey reported that the majority of intoxication cases with the objective of suicide involved young females.<sup>10-12</sup> Males who attempted suicide used the most lethal and quickest methods, whereas females generally used nonlethal methods.<sup>13-15</sup> In a study performed in England, of individuals who attempted suicide by self-poisoning during the study period, 23% reached hospital alive. Those reaching hospital were more likely to be female. This could be related specifically to gender differences in suicidal behavior—men may make attempts of greater immediate lethality.<sup>9</sup> A greater proportion of female nursing suicides (58%) in England and Wales were due to overdoses.<sup>16</sup> Among women, self-poisoning as a suicide method is more common than among men.<sup>14</sup> In this case report the victim was a female nurse. She used self-injection. She was intubated and monitored in the intensive care unit of the anesthesiology department for one month and at the end of the month she had a cardiac arrest. Peschel, Betzard and Eisenmenger reported eight nursing suicides in which the nurses had all injected themselves with dangerous medical agents such as insulin and anesthetic agents.<sup>16</sup> The sodium pentothal that our subject injected herself with is a very potent anesthetic drug.

In a study carried out in Wisconsin noted above, most of the increased risk for suicide was in nurses over 50 years of age, many of whom were retired, whereas on the basis of a very small number of deaths it was noted that Icelandic nurses who died by suicide were generally in an earlier phase of their career. However, the Wisconsin study did suggest that in older nurses all marital groups were at elevated risk, whereas marriage appeared to be protective factor in those 18-50 years old.<sup>16</sup> In a Finnish study, the number of suicide victims was highest in the age group 35-44 years.<sup>14</sup> The fact that the age of our victim is 35 supports the results of the Icelandic and Finnish studies but conflicts with the study from Wisconsin.

Evidence of increased risk of depression has been found in nurses in general in some studies. In a study performed in the Midwest of the United States, 27% of a randomly selected sample of 30 nurses were depressed.<sup>16</sup> In the study from England, almost three-quarters of the sample showed evidence of a psychiatric disorder at the time of death.<sup>9</sup> In a population of hospital-treated deliberate self-harm patients in the UK, mood disorders were reported in 72% and personality disorder in 45.9% of patients.<sup>17</sup> More than half of a sample of 307 nurses in the United States were found to have depressive symptoms, the prevalence of these symptoms being inversely related to degree of social support.<sup>16</sup> In Turkey, nurses work for very low salaries in spite of their stressful and intense working conditions. Our subject had no known psychiatric disorder.

In a study conducted in Scotland, the prevalence of drug abuse among nurses was higher than that among the general population; and they reported that nurses working in psychiatry clinics consumed more alcohol than nurses working in other departments.<sup>16</sup> According to a US study, older and female nurses were more often dependent on alcohol, while younger and female nurses were more often on narcotic drugs. It has also been suggested that if there are relatively high levels of substance dependence in nurses, this could be the result of self-medication as a means of dealing with stress. Increased consumption of alcohol in nurses has been linked to increased symptoms of depression when sober. Moreover, it is well recognized that both alcohol and drug abuse are strongly linked with both suicide and attempted suicide.<sup>16</sup> Diazepam use was higher among the suicide cases than among the non-suicide cases. Diazepam use was significantly predictive of suicide.<sup>18</sup> The relatives of our subject reported that she had not been using drugs or alcohol.

In a large study carried out in the United States, it was reported that nurses who smoke 1-24 cigarettes per day had a two times higher risk of suicide, and those smoking 25 or more cigarettes per day had a four times higher risk.<sup>16,18</sup> The relatives of our subject reported that she had been smoking 10-20 cigarettes per day.

It is widely acknowledge that nurses face high levels of stress.<sup>16</sup> Stress is thought to be a major contributor to suicide. A stressful life event may trigger suicide.<sup>18</sup> Conflicts between family and career could be important stressors in female employees. According to a Swiss study, nurses identified the main sources of occupational stress in order of priority as patient care and commitment, team conflicts, role ambiguity, workload, lack of autonomy, relationships with superiors, and relationships with doctors. Other authors have identified a combination of high workload and low autonomy as being likely to cause job dissatisfaction and health problems.<sup>16,19,20</sup> In a study conducted in the USA, it was reported that the nurses who committed suicide were exposed to more occupational stress than the others, and there was no association between age and occupational stress.<sup>18</sup>

The victim in this case report was working in the intensive care unit of the cardiovascular surgery department, where the working conditions are very stressful.

For the prevention of suicide among nurses, first there is a need for more detailed studies of the epidemiology of both suicide and attempted suicide in nurses. This should focus not just on the degree of risk but particularly on which nurses are at risk. Second, and most important, there is clearly a need for a major psychological autopsy study of nurses who have died by suicide. This should examine the contribution of a range of factors, such as mental disorder, family history of mental disorder and suicide, personality factors, stress, social support, and access to means. Third, studies of large populations of nurses are required to identify the extent of suicidal ideation and history of attempted suicide behavior in nurses in order to determine the contribution of a range of factors and possible

mechanisms that prevent the translation of suicidal ideation into suicidal acts.

Protective measures must be implemented to restore and maintain the wellbeing of healthcare workers.

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