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*Research Article -Araştırma Makalesi*

# PRE-HOSPITAL WORKERS' APPROACH TO INDIVIDUALS UTULIZING AMBULANCE SERVICE WITH THE DIAGNOSIS OF SUICIDE ATTEMPT

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## ABSTRACT

**Objective:** The aim of this study is to reveal the rates of pre-hospital staff encountering suicide attempts, whether they feel themselves competent about the intervention, and what they most want to learn while working with these cases, based on their socio-demographic characteristics.

**Materials and Methods:** This study was designed as a descriptive study and was administered between September 2018 and November 2019. Data were collected using a sociodemographic data form and a questionnaire consisting of 3 open-end questions developed by the researchers. A total of 781 EMS professionals were included in the study. Data were evaluated by chi-square test using IBM SPSS Software version 21.0.

**Results:** Almost every employee has encountered and cared for at least one suicide attempt case. (95%). Significant differences were determined in the answer categories given to the questionnaire according to gender, education level and position ($p < 0.05$). In the study, it is seen that male employees feel more competent compared to women in intervening suicide attempts, physicians feel more inadequate than other groups, and as the level of education increases, the level of self-sufficiency decreases. Participants stated that they mostly needed to learn the causes of suicide and their legal and judicial responsibilities in suicide cases.

**Conclusion:** Training programs are needed to develop the skills of workers to develop the intervention skills of individuals who attempted suicide, to teach their legal responsibilities, and to keep detailed records of these cases in the field. More studies are needed to discuss the difficulties, risks and needs of employees in providing care to cases.

**Keywords**: Suicide, Suicide Attempt, Pre-hospital Care

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# HASTANE ÖNCESİ ÇALIŞANLARININ İNTİHAR GİRİŞİMİ TANISIYLA AMBULANS HİZMETİ ALAN BİREYLERE YAKLAŞIM DURUMU


## ÖZ

**Amaç:** Bu çalışmanın amacı Hastane öncesi çalışanlarının intihar girişimi vakalarıyla karşılaşma oranlarını, müdahale konusunda kendilerini yeterli hissedip hissetmediklerini, bu vakalarla çalışırken en çok neyi öğrenmek istediklerini sosyo-demografik özelliklerine göre ortaya koymaktır.

**Gereç ve Yöntemler:** Tanımlayıcı bir çalışma olarak tasarlanan bu çalışma, Eylül 2018 ile Kasım 2019 tarihleri arasında gerçekleştirildi. Veriler, sosyodemografik veri formu ve araştırmacılar tarafından geliştirilen 3 açık uçlu sorudan oluşan bir anket kullanılarak toplandı. Çalışmaya toplam 781 EMS uzmanı dâhil edildi. Veriler IBM SPSS Software versiyon 21.0 kullanılarak ki-kare testi ile değerlendirildi.

**Bulgular:** Neredeyse her çalışan en az bir kez intihar girişimi vakasıyla karşılaşmış ve bu kişilere bakım vermiştir. (% 95). Ankete verilen cevap kategorilerinde cinsiyet, eğitim düzeyi ve pozisyona göre anlamlı farklılıklar vardır. ($p < 0.05$). Araştırmada erkek çalışanların intihar girişimlerine müdahale etmede kadınlardan daha yeterli, hekimlerin kendilerini diğer gruplara göre daha yetersiz hissettikleri ve eğitim düzeyi arttıkça yeterli hissetme düzeylerinin azaldığı görülmüştür. Katılımcılar en çok intiharın nedenlerini ve intihar vakalarındaki yasal ve adli sorumluluklarını öğrenmeye ihtiyaç duyduklarını belirtmişlerdir.

**Sonuç:** Çalışanların intihar girişiminde bulunan bireylere müdahale becerilerini geliştirmek, yasal sorumluluklarını öğretmek ve alanda bu vakaların ayrıntılı kayıtlarını tutmayı sağlayacak becerileri geliştirmek için eğitim programlarına ihtiyaç vardır. Çalışanların vakalara bakım sağlamadaki zorluklarını, risklerini, ihtiyaçlarını tartışacak daha fazla çalışmaya ihtiyaç vardır**.**


**Anahtar kelimeler:** İntihar, İntihar Girişimi, Hastane Öncesi Bakım

## INTRODUCTION

Suicide is among the top ten causes of death in the world and is an important public health problem (Glenn et. al.,2020). There were an estimated 793,000 suicide deaths worldwide in 2016, and the number represents an annual suicide rate of 10.5 per 100,000 populations (World Health Organization 2016). This ratio increased by 35% in 2018 to 14.2 per 100,000. The average annual percentage increase in the national suicide rate increased from approximately 1% per year from 1999 to 2006 to 2% per year from 2006 through 2018 (Hedegaard et al., 2020). In a study conducted by Tatlı and his friends, the suicide cases reflected in 112 in Ankara between years 2017 and 2018 was studied. In this study, the crude suicide rate of 15 years and over was found to be 2.9 per 100,000 and the rate of crude suicide attempts to be 50.4 per 100,000 (Tatlı et al., 2020). In our country, which compiles data for the suicide statistics and data released according to TUIK 2018 crude suicide rate of 3.88 per hundred thousand in Turkey (TUIK, 2019). Therefore, efforts to reduce suicide rates are

among the important health goals worldwide (Zhou et al., 2020). The World Health Organization (WHO) classifies suicides into two groups: completed suicides and suicide attempts. While suicide attempts resulting in death are defined as completed suicide, suicide attempts that did not result with death are defined as self-harming behaviors for fatal purposes and may require urgent medical intervention (Tureçki et al., 2019). For this purpose, determining risk factors for suicide is very important. Studies show that self-harming behavior is an important risk factor for suicide (Ahmedani et al., 2014; Diane et al., 2020). When completed suicides were examined, it was found that approximately 20% to 25% of these patients visited an emergency department (ED) one year before their deaths due to intentional self-harm (Ahmedani et al., 2014; Diane et al., 2020). When examined emergency room admissions due to self-harming behavior, it was found that such patients were likely to commit suicide within 6 months after discharge from the hospital (Stanley et al., 2018). Suicidal attempt and non-suicidal self-harming behavior are frequently seen together. (Whitlock et al., 2013). While the differences and intersections of self-harm behavior and suicide have been discussed, studies suggesting that self-harming behavior may be a strong sign for suicide have gained weight in recent years (Klonsky & Glenn, 2013; Boxer 2010; Sinclair et al., 2010). Especially repetitive self-harming behavior should be considered as a precursor to suicide (Küçük & Çetinkaya, 2019).

Suicide is a complex behavior pattern in which many biological, psychological, sociological, cultural, existential, historical, religious, philosophical and economic factors are intertwined. It can be seen in a wide range of society, from normal people who react to stressful living conditions to patients with severe mental illness (Sadock & Sadock, 2008). The person who attempted suicide may really want to die, or he may have aimed to express his pain, despair and hopelessness in this behavior. With these aspects, it is possible to evaluate suicide as a person's call for help (Can & Sayıl, 2004). Those who attempt suicide sometimes try to portray the incident as an unimportant accident, and sometimes go into denial. For this reason, the possibility of suicide should definitely be considered in accidents that invite suspicion. Sometimes the patient is unaware of the unconscious self-destructive impulses. Sometimes they can be aggressive towards the environment (Can & Sayıl, 2004). In all these cases, it is important that first responders be equipped with the necessary information and know how to react to a suicide incident. Professionals (police officers, forensic workers, and Emergency Health Services (EMS) workers, etc.) who are likely to make early contact with cases can have a significant influence, for better or worse, against the individual who attempted suicide. They can be supportive and compassionate, provide the necessary information and link to other resources, or focus solely on the technical needs of their jobs, rather than helping the people they serve and healing the shock and tragedy of suicide, taking an uninterested, angry, or even hostile attitude (Norton, 2017).

Emergency Health Services (EMS) is the first unit to apply for suicide cases. EMS, simply known as the 112 ambulance service in Turkey and is a public service including emergency medical

services and traumatic. EMS workers are the first to come into contact with patients who have attempted suicide. (Çelebi, 2016). EMS professionals tend to give priority to physical problems during the first intervention of suicide (Güçlü, 2019). This may be because EMS provides services for trauma and urgent physical problems, and EMS professionals are not trained on psychiatric cases. Although physical intervention is extremely important in terms of affecting survival rates, individuals with suicide attempted experience psychiatric problems as well as physical problems. Therefore, providing both physical and psychosocial health care is extremely important for the future life and treatment of the suicidal patients (Güçlü, 2019; Macit et al., 2018). It is very important for the physical and psychological health of this vulnerable group of patients that EMS professionals can establish positive therapeutic interactions during the intervention. However, studies show that it is emotionally difficult to treat patients who self-harm or suicide. In addition, EMS professionals feel hesitant and weak, and are inadequate to evaluate individuals with suicidal behavior. The main reason for this may be the negative attitude and not adequate training of professionals towards these patients (Rayner et al., 2019; Rees et al., 2017). Professionals often show limited empathy and negative feelings towards self-harming people (Rayner et al., 2019). Some studies showed that EMS professionals did not have adequate training in approaching suicidal individuals (Rees et al., 2017). Therefore, EMS professionals should be trained on the causes, forms, function, assessment and management of self-harming behavior (Rayner et al., 2019).

While there are many studies on "suicide" (Ahmedani et ll., 2014; Stanley et al., 2018; Çevik & Özcan, 2012; Stevens & Nies, 2018; Pajonk et al., 2002; Palmieri et al.,2008) and “self-harm behavior" (Diane et al., 2020; Rayner et al., 2019; Rees et al., 2017; Egan et al., 2012) in the literature there are very few studies examining the attitudes of EMS professionals towards such patients (Rees et al., 2014; Norton, 2017). EMS case records can contain many data on suicide attempts and may be important for predicting and taking action in future suicide attempts. Studies on this issue emphasize that EMS and ED's should have written protocols for the examination of these patients (Zhou et al., 2020; Lygnugaryte-Griksiene et al., 2017). There are serious gaps in the field of EMS on suicide, self-harming, psychosocial interventions and protocols. Considering that, ems employees frequently provide care to patients who have attempted suicide, it is important to know the Workers' thoughts about this situation and what they need for pre-hospital studies. When the relevant literature is examined, it has been observed that studies on the situation of workers in our country are insufficient. This study may be accepted as a preliminary study for studies to determine the status of pre-hospital workers regarding suicide cases. The aim of this study was to observe EMS professionals' reveal the rates of encountering with suicide attempt cases, whether they feel themselves competent about the intervention, what they most want to learn while working with an individual who attempted suicide, and whether these issues differ according to their socio-demographic characteristics.

## 1. MATERIAL AND METHODS

This descriptive study was conducted between September 2018 - November 2019. The universe of the study consisted of the health workers (1757 professionals) working in the Ankara Provincial Ambulance Service. Simple random sampling method was used in this study. The questionnaires were distributed to all healthcare professionals by the researcher and was recollected again after they answered. Participants signed the voluntary consent form that they wanted to participate in the study. Total 755 professionals refused to participate in the study and 221 professionals were excluded due to leave from work or rest report taken.

In this context, 781 healthcare workers were included in the study. Working as a health professional in Ankara 112 ambulance service and volunteering to participate in the study were determined as the criteria for participation in the study. The exclusion criterion is not to work actively at the time of the research (annual permit, medical report, maternity leave, etc.). Data on the number of suicide attempts were obtained from case records in 112 "Emergency Health Automation System" (ASOS). Patients' diagnoses were recorded to the system by healthcare professionals according to the International Classification of Disease-10 (ICD-10) diagnosis classification system. In the system, the diagnosis of "suicide attempt" is defined as "Intentional self-harm". Therefore, the diagnosis of deliberate self-harm was defined and classified as suicidal attempt in the data analysis. The opinion of "suitable" was obtained from three field experts working in the management of 112 ambulance services on the subject.

**Statistical analysis:**

A socio-demographic data and a questionnaire form consisting of three open-ended questions developed by the researchers were used to collect the data.

The questionnaires were distributed to the employees by the researchers, and the filled questionnaires were recollected later. A standard scale was not used in the study. These questions were as following:

1. "Have you encountered a patient who attempted suicide while doing your job?"
2. "How do you evaluate yourself about how to approach a patient who has attempted to suicide?"
3. "What would you most need to learn when working with a patient who has attempted suicide?"

The answers given to the open-ended questions were grouped by the researchers. Results were evaluated in IBM SPSS 21.0 statistical package program (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version21.0. Armonk, NY: IBM Corp.), Pearson chi-square ($\chi 2$) test was used to compare qualitative data. Statistical significance level was accepted as $p<0.005$. Paired comparisons was made in the post-hoc analysis of the groups with significant differences. Pairwise comparison results are shown in the tables as "a" and "b".

Ethical approval of the study was obtained from the Ethics Committee of Yıldırım Beyazıt University (Date: 18.09.2018-No: 41).

## 2. RESULTS

**Table 1. EMS Cases Diagnosed as "Intentional Self-Harm" in Ankara Between 2014-2018 (n = 16.323)**

| | 2014<br>n - % | 2015<br>n - % | 2016<br>n - % | 2017<br>n- % | 2018<br>n - % | Total<br>n - % |
|---|---|---|---|---|---|---|
| **Number of patients transported to ED** | 3914<br>85% | 3064<br>84% | 2739<br>85% | 2079<br>85% | 2090<br>86% | 13886<br>85% |
| **Number of patients treated on scene** | 102<br>2% | 71<br>2% | 43<br>1% | 181<br>2% | 19<br>1% | 253<br>2% |
| **Number of patients refused to be transported** | 514<br>11% | 409<br>11% | 349<br>10% | 241<br>9% | 212<br>95% | 1725<br>10% |
| **Number of patients died and transferred to morgue** | 91<br>2% | 88<br>3% | 86<br>4% | 91<br>5% | 106<br>4% | 462<br>3% |
| **Total** | 4621 | 3632 | 3217 | 2429 | 2427 | 16323 |

Table 1 shows that in the last 5 years, 16,323 people benefited from Ankara EMS with the diagnosis of "intentional self-harm". While 3% of the patients died, 85% were transported to a hospital, 2% were treated on the scene, and 10% refused to be transported to a hospital. While the question "Have you encountered a patient who attempted suicide while doing your job?" was answered as "yes" by 737 professionals (95%) and answered as "no" by 44 professionals (5%).

**Table 2. Sociodemographic Characteristics of the Participants (n=781)**

| | n | % |
|---|---|---|
| **Age** | | |
| 18 – 25 years | 175 | 23% |
| 26 – 35 years | 484 | 62% |
| 36 – 45 years | 89 | 11% |
| 46 – 55 years | 33 | 4% |
| **Gender** | | |
| Female | 495 | 63% |
| Male | 286 | 37% |
| **Educational status** | | |
| High-school graduate | 228 | 29% |
| Undergraduate | 553 | 71% |
| **Marital Status** | | |
| Married | 586 | 75% |
| Single | 152 | 20% |
| Others | 43 | 5% |
| **Profession** | | |
| Physician | 28 | 3% |
| Nurse | 134 | 17% |
| Emergency Medical Technician | 434 | 56% |
| Paramedics | 185 | 24% |
| **Work experience in EMS field** | | |
| 0 – 9 years | 539 | 69% |
| 10 – 19 years | 219 | 28% |
| 20 – 29 years | 23 | 3% |

Considering the general characteristics of the participants, 63% of them were females, and the mean age was 31 ± 6.3 years. While 71% of the participants were undergraduates, and 75% of them were married. The mean work experience of EMS field the participants was 7.5 ± 4.5 years.

**Table 3. Demographic Characteristics of the Respondents of the *Question "How Do Evaluate Yourself About How to Approach a Patient Who Has Attempted Suicide?"* (n=683)**

| Variables | *"How do you find yourself about how to approach a patient who has attempted suicide?"* | | | Test statistics | |
|---|---|---|---|---|---|
| | I feel self-sufficient. **n (%)** | I don't feel self-insufficient. **n (%)** | I feel partly self-sufficient. **n (%)** | $\chi^2$ | **p** |
| **Age** | | | | | |
| 18 – 25 years | 117 (66.9%) | 7 (4.0%) | 51 (29.1%) | 7.046 | 0.317 |
| 26 – 35 years | 303 (62.6%) | 29 (6.0%) | 152(31.4%) | | |
| 36 – 45 years | 51 (57.3%) | 10 (11.2%) | 28 (31.5%) | | |
| 46 – 55 years | 22 (66.7%) | 3 (9.1%) | 8 (24.2%) | | |
| **Gender** | | | | | |
| Female | 295 (59.6%) [a] | 29 (5.9%) [a] | 171 (34.5%) [a] | 9.907 | **0.007** |
| Male | 198 (69.2%) [b] | 20 (7.0%) [a] | 68(23.8%) [b] | | |
| **Educational status** | | | | | |
| High-school graduate | 161(70.6%) [a] | 15 (6.6%) [a] | 52 (22.8%) [a] | 9.303 | **0.010** |
| Undergraduate | 332 (60.0%) [b] | 34 (6.1%) [a] | 187 (33.8%) [b] | | |
| **Marital Status** | | | | | |
| Married | 366 (62.5%) | 40 (6.8%) | 180 (30.7%) | 3.637 | 0.457 |
| Single | 95 (62.5%) | 7 (4.6%) | 50 (32.9%) | | |
| Others | 32 (74.4%) | 2 (4.7%) | 9 (20.9%) | | |
| **Profession** | | | | | |
| Physician | 8 (28.6%) [a] | 4 (14.3%) [a, b] | 16 (57.1%) [a] | 27.594 | **<0.001** |
| Nurse | 88 (65.7%) [b] | 15 (11.2%) [b] | 31 (23.1%) [b] | | |
| Emergency Medical Technician (EMT) | 276 (63.6%) [b] | 17 (3.9%) [a] | 141 (32.5%) [b] | | |
| Paramedic | 121 (65.40%) [b] | 13 (7.00%) [a, b] | 51 (27.60%) [b] | | |
| **Work experience in EMS field** | | | | | |
| 0 – 9 years | 337 (62.5%) | 36 (6.7%) | 166 (30.8%) | 1.851 | 0.763 |
| 10 – 19 years | 140 (63.9%) | 13 (5.9%) | 66 (30.1%) | | |
| 20 – 29 years | 16 (69.6%) | 0 (0.0%) | 7 (30.4%) | | |

*[j2-a, b]: Paired Comparison*

Among all professionals, 683 answered the "How do you find yourself about how to approach a patient who has attempted suicide?" While 394 (58%) of them feel self-sufficient, 49 (7%) did not feel self-sufficient, and 240 (35%) feel partly self-sufficient.

According to the gender, "How do you find yourself about how to approach a patient who has attempted suicide? "There is a difference in the distribution of the answers given to the question ($\chi^2$= 9.907; p = 0.007) (Table 3). As a result of binary comparisons; The percentage of those who give an adequate response is higher in men and the percentage of women who give a partial answer is higher. The percentage of respondents who gave an insufficient answer is similar.

According to the education level, "How do you find yourself about how to approach a patient who has attempted suicide? "The distribution of the answers given to the question varies ($\chi^2$= 9.303; p= 0.010). While the percentage of those who gave insufficient answer to the relevant question was similar in education level groups; The percentage of those who said sufficient in high school graduates and partially responded to those who graduated from university is higher.

**Table 4. Demographic characteristics of the respondents of the question *"what would you most need to learn when working with a patient who has attempted suicide?"* (n=781)**

| **Variables** | *"What would you most need to learn when working with a patient who has attempted suicide?"* | | | | | **Test statistics** | |
|---|---|---|---|---|---|---|---|
| | **Causes of Suicide n (%)** | **Medical issues n (%)** | **No training needed n (%)** | **Legal responsibilities n (%)** | **Moral issues n (%)** | **$\chi^{2*}$** | **p** |
| **Age** | | | | | | | |
| 18 – 25 years | 107 (68.6%) | 24 (15.4%) | 8 (5.1%) | 3 (1.9%) | 14 (9.0%) | 6.695 | 0.877 |
| 26 – 35 years | 283 (71.1%) | 63 (15.8%) | 12 (3.0%) | 7 (1.8%) | 33 (8.3%) | | |
| 36 – 45 years | 47(68.1%) | 12(17.4%) | 4 (5.8%) | 0 (0.0%) | 6 (8.7%) | | |
| 46 – 55 years | 17 (65.4%) | 3 (11.5%) | 2. (7.7%) | 0 (0.0%) | 4 (15.4%) | | |
| **Gender** | | | | | | | |
| Female | 291(68.8%) [a] | 82 (19.4%) [a] | 10(2.4%) [a] | 5 (1.%) [a] | 35 (8.3%) [a] | 20.186 | **<0.001** |
| Male | 163 (72.1%) [a] | 20 (8.8%) [b] | 16(7.1%) [b] | 5 (2.2%) [a] | 22 (9.7%) [a] | | |
| **Educational status** | | | | | | | |
| High-school graduate | 140 (74.1%) | 19 (10.1%) | 10 (5.3%) | 1 (0.4%) | 19 (10.1%) | 9.449 | 0.051 |
| Under-graduate | 314(68.3%) | 83(18.0%) | 16(3.4%) | 9(2.0%) | 38 (8.3%) | | |
| **Marital Status** | | | | | | | |
| Married | 348 (72.0%) [a] | 72 (14.9%) [a] | 12 (2.5%) [a] | 5 (1.0%) [a] | 46 (9.5%) [a] | 25.587 | **<0.001** |
| Single | 76 (58.90%)[b] | 26 (20.2%) [a] | 13 (10.1%) [b] | 4 (3.1%) [a] | 10 (7.8%) [a] | | |
| Others | 30(81.1%) [a] | 4 (10.8%) [a] | 1 (2.7%) [a, b] | 1 (2.7%) [a] | 1 (2.7%) [a] | | |
| **Profession** | | | | | | | |
| Physician | 7 (31.8%) [a] | 7 (31.8%) [a] | 2 (9.1%) [a] | 3(13.6%) [a] | 3 (13.6%) [a] | 41.496 | **<0.001** |
| Nurse | 81 (76.4%) [b] | 11 (10.4%) [a] | 7(6.6%) [a] | 0 (0.0%) [b] | 7 (6.6%) [a] | | |
| EMT | 261 (70.5%) [b] | 60 (16.2%) [a] | 9 (2.4%) [a] | 6 (1.6%) [b] | 34 (9.2%) [a] | | |
| Paramedic | 105 (69.5%) [b] | 24 (15.9%) [a] | 8 (5.3%) [a] | 1 (0.7%) [b] | 13 (8.6%) [a] | | |
| **Work experience in EMS field** | | | | | | | |
| 0 – 9 years | 311 (69.0%) | 72 (16.0%) | 16 (3.0%) | 6 (1.0%) | 42 (9.4%) | 6.605 | 0.580 |
| 10 – 19 years | 129 (70.0%) | 29 (15.0%) | 8 (4.0%) | 4 (2.0%) | 12 (6.6%) | | |
| 20 – 29 years | 14 (70.0%) | 1 (5.0%) | 2 (10.0%) | 0 (0.0%) | 3(15.0%) | | |

[a, b]*: Paired Comparison*

In the position groups, "How do you find yourself about how to approach a patient who has attempted suicide?" The distribution of the answers given to the question is significantly different ($\chi^2$= 27.594; p<0.001).While the percentage of physicians who gave an adequate response was lower than the other groups, the percentage of physicians who gave a partial response was higher. While the percentage of physicians and paramedics who gave their insufficient response was similar in other groups, this value was higher for nurses than for Emergency Medical Technician EMT.

There was significant difference between EMS professionals who have answered the question *"What would you most need to learn when working with a patient who has attempted suicide?"* according to gender, marital status and profession (p <0.05). Paired comparison results are shown in Table 4.

## 3. DISCUSSION

In this study, we tried to understand how often EMS professionals encountered cases of suicide attempt, whether they felt themselves competent in the intervention, what they most wanted to learn while working with an individual who attempted suicide, and the distribution of these issues according to socio-demographic characteristics. There are very few studies in the literature about the thoughts of EMS workers towards individuals who have attempted suicide and the care they can provide.

Table 1. shows that 3% of suicide attempts result with death. Therefore, EMS professionals provide care to individuals who have attempted suicide at a rate of 97%. When evaluated by years, it is seen that these cases are increasing gradually. It is reported that suicide attempts are 10-20 times more than completed suicides, and therefore create a much more important public health problem (Teti et al., 2014). While the question "Have you encountered a patient who attempted suicide while doing your job?" was answered as "yes" by 737 professionals (95%) and answered as "no" by 44 professionals (5%). It can be said that almost every EMS professionals has encountered a suicide attempt at least once and gave care to these individuals.

EMS professionals have to do the first intervention in the environment where more incidents are happening and when there are family members or whistleblowers around the person. Since suicide attempt is an unexpected and negative event, it is an expected situation for those around to be confused and angry. This situation may cause the EMS professionals to experience additional stress and inadequacy. Considering that, suicidal behaviors are situations

in which anger and depressive feelings are intense, workers' development of psychosocial care skills for these individuals and their families can provide significant contributions to the field for the patient and the EMS professionals. In addition, it is possible to repeat suicide attempts that not results by death. It is very important to determine the risk, perform the essential evaluation and interventions without losing time for the people who are under risk of suicidal attempt. In many articles it has been reported that suicide attempt has a repetitive nature and it is important to increase the awareness of healthcare workers about the issue (Kıymet et al., 2020). This repetition may be experienced immediately after the incident, even in an ambulance, and intervening in such situations can be quite challenging (Çelebi, 2016). EMS professionals should be alert to these and similar situations and have developed coping skills.

Considering the general characteristics of the participants, 63% of them were females, and the mean age was 31 ± 6.3 years. While 71% of the participants were undergraduates, and 75% of them were married. The mean work experience of EMS field the participants was 7.5 ± 4.5 years (Table 2).

Socio-demographic characteristics of the respondents of the question "How do you evaluate yourself about how to approach a patient who has attempted suicide?" are shown in Table 3. There is a significant difference between the respondents of this question in terms of gender ($\chi2$= 9.907; p= 0.007) (Table 3). While most of the male participants feel self-sufficient, most of the females feel partly self-sufficient. The ratio of those who did not feel self-sufficient was the same in both genders. According to a study by Stevens et al., socio-demographic characteristics of EMS workers have no effect on their approach to suicidal patients (Stevens & Nies, 2018). There is a significant difference between the respondents of the question "How do you evaluate yourself about how to approach a patient who has attempted suicide?" in terms of educational status ($\chi2$= 9.303; p= 0.010). The ratio of those who did not feel self-sufficient was the same among educational status groups. While most of the high school graduates feel self-sufficient, most of the undergraduates feel partly self-sufficient.

According to the study of Egan et al., as education level rises, the approach of the professionals to suicide patients is positively affected (Egan et al., 2012). In this study, it is observed that as the level of education rises the level of self-sufficiency decreases. This situation should be explained by the increased awareness of a more professional approach to suicide with the increase in education level. Because in many studies, the positive effects of special education on suicide have been revealed (Norton, 2017). Another study suggests that the effectiveness of psychosocial care will increase both as the education level increases and staff were trained on approaching suicidal patients (Rees et al., 2014). Some studies have shown that

there is a relationship between lack of education, negative attitudes towards suicide and poor health and psychosocial care (Pajonk et al., 2002; Lygnugaryte-Griksiene et al., 2017, Palmieri et al., 2008).

There is a significant difference between the respondents of the question "How do you find yourself about how to approach a patient who has attempted suicide?" in terms of professions ($\chi 2$= 27.594; p= 0.001). While physician felt less self-sufficient than other groups, they mostly felt partly self-sufficient. While the ratio of those who felt self-sufficient was similar in the physician and the paramedic groups, this value was higher in the nurse group than the EMT group. In a multidisciplinary study, Palmieri et al. found that psychiatrists and psychiatric nurses were significantly more effective than general practitioners, nurses, and especially EMS professionals in approaching suicidal patients (Palmieri et al., 2008). Special training is required to gain intervention skills on approaching suicidal patients. These trainings are very important for EMS professionals regardless of their profession.

Professionals have stated that they mostly need training on causes of suicide. This can be interpreted that the psychological and social dimension of the cases is important for employees. This also shows that employees are concerned with the psychological aspects of suicidal patients. In a study by Pajong et al., it was stated that the psychological causes of suicide cases were not recorded (Pajonk et al., 2002). In Turkey, as in other countries, psychiatric and other important records of suicide cases are not kept systematically or this registration is left to the discretion of healthcare professionals. Developing an EMS recording system that records the psychiatric cause of suicide can make positive contributions to the field.

Suicide attempts are a process that has a judicial aspect as well as healthcare aspects. Workers have to take into account forensic facts while providing services. If the suicide attempt resulted in death, collecting evidence, crime investigation, definitive diagnosis of suicide, etc. Many issues may come up. Therefore, it is important to know legal and judicial responsibilities (Kıymet et al., 2020). In the study, it is seen that the physician group has a desire to get more information about the legal and judicial responsibilities than the other workers. This situation can be explained by the fact that physicians have more responsibility in the decision-making process. In a study conducted by Rees et al., It was revealed that there are gaps in the application and understanding of ethical and legal principles among ems employees in terms of intervening in a suicide attempt (Rees et al., 2017). Our study is compatible with the literature in this context. The awareness of the employees on this issue can be increased and trainings can be organized.

**Limitations of the study**

This study is limited to the Ankara province and can't be generalized to other provinces. Because our study was cross-sectional and participation required volunteering, not all of the healthcare workers in 112 the population could be reached. The fact that there are very few studies on the subject in the literature has created difficulties in comparing and discussing the results.

## CONCLUSION

It is concluded that almost every EMS professionals encountered suicide attempt at least once and gave care to these people (95%). Significant differences were determined in the answer categories given to the questionnaire according to gender, education level and position ($p < 0.05$). In the study, it is seen that male employees feel more competent than women in intervening suicide attempts, physicians feel more inadequate than other groups, and as the level of education increases, the level of self-sufficiency decreases. Participants stated that they mostly needed to learn the causes of suicide and their legal and judicial responsibilities in suicide cases. According to these results, there is a need for training programs to develop the skills of employees to provide the necessary psychosocial care in approaching individuals who have attempted suicide and to learn their judicial and legal responsibilities. There are no studies in the literature that discuss the psychosocial care skills of employees, their difficulties in providing care, or the effectiveness of care. Further research is needed in this field.

**Author Contributions**

Concept İŞ, GU; Design İŞ, GU; Materials İŞ, GU, BO; Data Collection&/or Processing İŞ, GU; Analysis/ Interpretation İŞ, GU, BÖ; Literature Search İŞ, GU, BÖ; Writing İŞ, GU, BÖ.

**Conflict of Interest**

There isn't conflict of interest.

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