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A Comparison of The Modified Sad Persons Scale with Psychiatric Recommendations for Deciding On Hospitalization In Patients Admitted To Ed Due To Suicide

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Abstract

Background: There are scales to decide hospitalization or follow up in patients presenting to the emergency department after suicide attempt. Modified Sad Persons scale (MSPS) is the scaling system for adult suicide generated using the initials of 10 major demographic risk factor in the literature. The aim of our study is to investigate the reliability of the MSPS patients who are evaluated in the emergency department after suicide attempt for deciding admission or discharging of patients in our population.

Materials and methods: Patients admitted to our emergency department with suicide attempts was evaluated by MSPS. All patients were evaluated by MSPS also consulted to a psychiatrist concurrently. MSPS suggestions are compared with psychiatry decisions. All data were inputted into SPSS analyzed statistically.

Result: There were 205 patients totaly and 147of them were female. Psychiatrics decide hospitalization for 95% of patients MSPS score higher than 8. 131 patients MSPS score less than 6 are evaluated by psyhiatrics and 5 (3.8%) of them were decided for hospitalization. MSPS has sensitivity 90%, specificity 84%, positive predictive value 67%, negative predictive value 96% for deciding hospitalization when compared with psychiatric evaluation.

Conclusion: Giving the decision of discharging or hospitalization of patients presenting in the emergency department after suicide attempt is a serious dilemma for doctors working in the emergency department. There is a need for objective evaluation of such patients of in the emergency department. Although MSPS does not meet all the requirements but can be used in the emergency department.

Keywords: Suicide, Modified Sadpersons Scale, Emergency Service

Introduction

Suicides constitute 1.4% of total mortality and 15% of injury-related mortalities all over the world. Approximately 700,000 suicide-related deaths occur each year. The rate of suicide was calculated as 9 per 100000 in 2019 (1). It has increased by 60% in the last 50 years (2).

There is no enough data on the rates of suicide in our country, however, the data determined are very scarce compared to the rest of the world. According to the data of the State Institute of Statistics, the rate of suicide in the general population is 2-3 per 100,000 (3). It is believed that these rates will increase if unofficial data are added. Suicide is considered as the 10th cause of mortality according to official data in our country (4).

Thousands of patients who have attempted suicide present to emergency departments every day. Most of the patients who present with suicide attempts need psychiatric follow-up and treatment as well as medical treatment. In emergency departments, emergency physicians decide on the discharge or follow-up of patients who present with suicide attempts. Patients whose treatment and follow-up in the emergency department are completed should be referred to a psychiatrist for psychiatric assessment. Emergency physicians need various scales to quickly assess the patients and detect the patient who should not be discharged home, due to the intensity of the emergency department and the difficulty in reaching psychiatrists in all hospitals.

The modified SAD PERSONS scale (Table 1) evaluates the risk of attempting suicide of patients with suicidal attempts or thoughts (5). Modified "SAD PERSONS" Scale (MSP): This assessment tool consists of 10 items in the "SAD PERSONS" acrostic. Positive responses to the items of depression or hopelessness, impairment in reality assessment, organized or serious suicide attempt, suicidal intention in the future, other items (male gender, < 19 or > 45 years old, history of previous suicide attempt or psychiatric treatment, Positive responses (using excessive amounts of alcohol or substance, addiction or increased frequency of recent use, being separated, divorced or widowed, lack of social support) correspond to 1 point. A score of 6 or higher on the MPSS is considered moderate risk (5).

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Table 1: The Modified Sad Persons Scale

Faktor	Points
S = Sex (male)	1
A = Age (<19 or >45 years)	1
D = Depression or hopelessness	2
P = Previous suicide attempts or psyhiatric care	1
E = Excessive alcohol or drug use	1
R = Rational thinking loss	2
S = Separated, divorced, or widowed	1
O = Organized or serious attempt	2
N = No social supports	1
S = Stated future intent	2

In our study, we compared the recommendation of the MSPS with the psychiatrist's decision and investigated the usability of the MSPS in places where access to a psychiatrist is difficult.

Material And Method

This study was conducted on the patients who presented to İstanbul Dr. Lütfi Kırdar Kartal Training and Research Hospital Emergency Department with suicide attempts. The study was conducted with the approval of the local ethics committee dated 05.02.2013 and numbered 5 according to the Declaration of Helsinki (World Medical Association Declaration of Helsinki http://www.wma.net/en/30/publications/10policies/b3/index.html).

Inclusion Criteria for the Study: All patients over the age of 14 who presented with suicide attempts and gave consent were included.

Exclusion Criteria for the Study: Patients in toxic state and severely psychotic patients who were under the age of 14, who did not give consent, and we thought would not be able to get proper answers were not included in the study.

All emergency medicine assistants and specialists were provided with training on the use of MSPS. Patients presenting with suicide attempts were scored with MSPS after their medical treatment was completed, and they were consulted to a psychiatrist. Psychiatrists were not informed about the MSPS score and the study. In the study, we investigated the validity and reliability of the MSPS in our population by comparing the recommendations of the MSPS with the recommendations of psychiatrists.

Statistics

Patients' MSPS scores, the recommendations of the MSPS and the recommendations of the psychiatry were entered into the SPSS V22 (IBM). The sensitivity, specificity, positive predictive value, and negative predictive value of the MSPS were calculated. A p-value of <0.05 was considered significant. The factors of gender, alcohol use, and presence of fatal condition were compared with the hospitalization decisions of psychiatrists using the chi-square test. Age, the number of tablets, duration of admission to the emergency department, and the number of attempts were compared with the hospitalization decisions using the Mann Whitney U test.

Results

A total of 205 patients admitted to the emergency department due to suicide were included in the study. Of these patients, 58 (28.3%) were male and 147 (71.7%) were female. Their distribution according to the recommendations of the MSPS is presented in Figure-1, and the comparison of the recommendations of the MSPS with psychiatrist's decisions are presented in Figure-2. 131 of the patients (63.9%) had a score less than 6 points and were recommended to be followed in the psychiatry outpatient clinic. The patients in this group needed to be consulted to a psychiatrist in the emergency department. 20 (9.3%) of the patients were in the group with a very high risk of suicide and were estimated to be highly likely to be hospitalized after psychiatric evaluation.

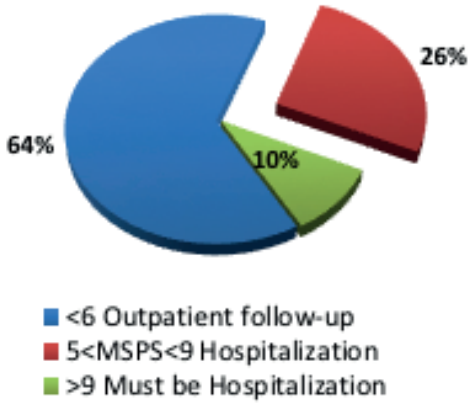

Figure 1: Distribution of Patients Presenting to the Emergency Department due to Suicide according to the Recommendations of the MSPS

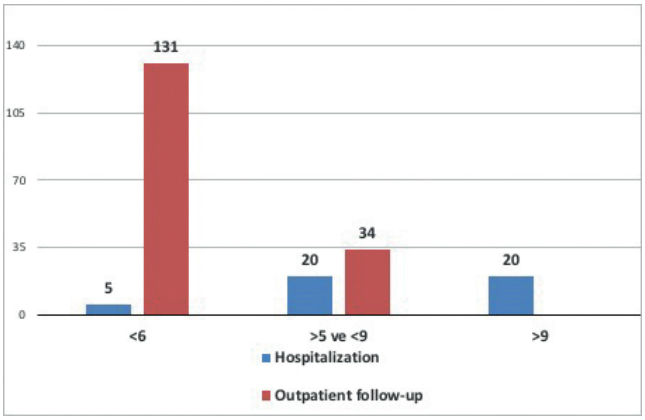

Figure 2: Comparison of the recommendations of the MSPS with the Decisions of the Psychiatry

Table 2: Comparison of the recommendations of the MSPS with the Psychiatrist's Recommendations

		Psychiatrist's Recommendation		Total
		Outpatient Follow-up	Hospitalization	
RECOMMENDATION of the MSPS	**Outpatient Follow-up**	126	5	131
	Hospitalization	24	50	74
Total		150	55	205
Kappa value	**,675**	**P value**	**,000**	

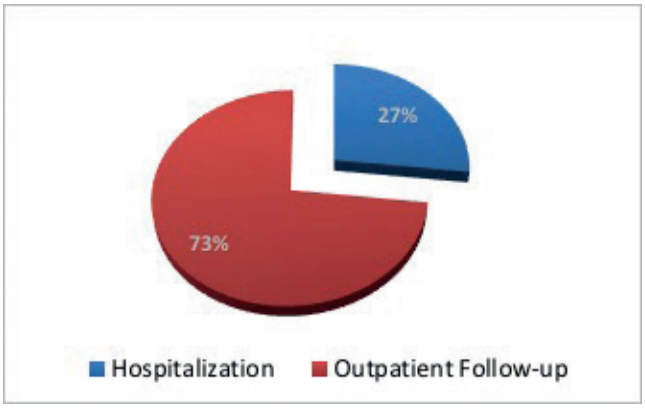

Figure 3: Rates of the Recommendations of Psychiatrists

After the evaluation of 205 patients in our study by psychiatrists, 55 (26.8%) patients were hospitalized, and outpatient follow-up was recommended for 150 (73.2%) patients. Their rates are presented in Figure-3.

In our study, we compared the recommendations of the MSPS with the recommendations of psychiatrists, and they are presented in Table 2. MSPS recommended outpatient follow-up for 131 patients and hospitalization for 74 patients. Psychiatrists recommended outpatient follow-up for 150 patients and hospitalization for 55 patients. MSPS recommended outpatient follow-up for 5 patients for whom hospitalization was recommended by the psychiatrists. MSPS recommended hospitalization for 24 patients for whom outpatient follow-up was recommended by the psychiatrists.

In the kappa analysis, the kappa value and the p value were found to be 0.675 and $p<0.001$, respectively. The recommendations of the psychiatry and the recommendations of the MSPS were found to be significantly similar.

In the statistical analyses of our study, while the sensitivity was found to be 90%, specificity was 84%, positive predictive value was 67% and negative predictive value was 96%, which are presented in Table-3.

Table 3: Statistical Analyses

Sensitivity	90,91%
Specificity	84,00%
Positive Predictive Value	67,60%
Negative Predictive Value	96,18%

The negative predictive value of our study was found to be 96.18%.

Discussion

The number of patients presenting to emergency departments with suicide attempts is now reaching significant numbers. It is a serious dilemma for physicians working in the emergency department to decide on the hospitalization or discharge patients admitted to the emergency department after a suicide attempt. No one can certainly predict that a patient will attempt suicide again. These patients are consulted to psychiatrists (6, 7).

Most of the patients with suicide attempts present when psychiatric consultation is not easily accessible in the evening or on weekends (8, 9). Many of them do not repeat the suicide attempt again. It is not cost-effective to consult all patients with psychiatrists. Hospitalization of all patients would not be a correct approach (7).

After the SAD PERSONS scale came into use, Hockberger et al. reviewed the previous studies and then conducted a new study and modified the SAD PERSONS scale. They added four more features related to suicide using the same acrostic. In the study, they compared the views of non-psychiatric emergency physicians and the psychiatrists, and repeated the scoring as a result of the statistical analysis (5). It was found to be more clinically significant than Paterson's SAD PERSONS scale study. In the study of Paterson, the common views of medical faculty students and three psychiatrists was compared (10). In the study of Hockberger, 100 patients who presented to the emergency department with suicide attempts or thoughts were evaluated by non-psychiatrists and compared with the views of independent psychiatrists (5). A total of 14 points can be obtained. According to the results of the study, while those who scored 5 and below could be referred to psychiatry after discharge, while it was recommended that those who scored 6 and above should immediately have a psychiatry consultation and not be discharged immediately because hospitalization may be required. In the study, only three people with a score of 9 and above were discharged after psychiatric evaluation, and they were described by psychiatrists as chronic suicide imitators. MSPS has found wide coverage in the emergency medicine community

and has taken its place in the basic reference resources for emergency medicine (5). Compared to other scales, it has a special place for emergency medicine because it is easy, practical and fast. The most commonly used and known scale is MSPS (11). In a study conducted by Cara Katz et al., whether the MSPS could identify the future risk of suicide was investigated in patients with depression and anxiety, and it was found to be insufficient in determining the risk of suicide (11). Although MSPS does not meet all the requirements, it is a scale that can be used in the emergency department.

In their study comparing the suicide scales among themselves, Cochrane-Brink et al. compared six different scales. When MSPS was compared with the psychiatric decisions in 55 patients, the sensitivity was 100%, the specificity was 60%, the negative predictive value was 95%, and the positive predictive value was 45% (12).

Similar results to the literature were also found in our study. The hospitalization recommendation of the MSPS and the hospitalization recommendation of the psychiatrist were compared. The sensitivity was 90%, the specificity was 84%, the negative predictive value was 96% and the positive predictive value was 67%. It is a useful scale to distinguish patients who can be discharged from the emergency department.

The most important difference between the results of our study and the original study of MSPS is that the positive predictive value was found to be relatively low. It can be considered that the lower ability to identify patients who need hospitalization may be due to reasons such as the fact that psychiatry beds are mostly reserved for major depression and psychotic patients in our country, social support and family ties are stronger compared to the American society, and the number of beds is insufficient.

In our study, it is aimed to ensure that patients who present to emergency departments, where access to a psychiatrist is difficult, are directed correctly and mortality and morbidity are minimized. Our psychiatry specialists working in outpatient clinics during working hours consulted patients to two separate psychiatry clinics close to our hospital under shift conditions while evaluating the patients.

The psychiatric condition of the patient is not always the determining factor in the hospitalization decisions of psychiatrists. The number of empty beds in the hospital and the different schools of psychiatrists also affect the hospitalization decisions. When the patients who are decided to be hospitalized are evaluated by a second psychiatrist, hospitalization may not be decided, which reduces the significance of such studies and may reveal the differences between studies.

The limitation of our study was that the question "*Is there a difference between emergency physicians in filling out the MSPS scale*?" was not asked. In the study, depression and hopelessness item was a concrete item and also required psychiatric assessment skills. It is not easily understood in every patient. When different physicians evaluate the same patient with further studies, it can be checked whether the same score is obtained. In the literature, there are studies evaluating the difference between the scores of MSPS psychiatrists and non-psychiatrists (5). In the literature, there is no study evaluating the difference between the use and scoring of MSPS among non-psychiatrists. It can be discussed in future studies.

According to our study results, MSPS is a scale that can be used safely in the evaluation of patients presenting with a suicide attempt and in distinguishing patients who should not be hospitalized in our country.

Conclusions

Suicide thoughts and behaviors will always remain a mystery. There is no definitive determinant that will determine whether the patients presenting with a suicide attempt will repeat the suicide attempt. No physician or scale can give a definite and clear answer at this point. Emergency physicians should focus on this social problem and develop themselves in this regard.

Although MSPS is a relatively old scale, it is still up-to-date. We believe that the scale can be more useful especially in areas where it is difficult to reach psychiatry clinics and psychiatrists in our country.

MSPS may pave the way for psychiatric evaluations, that emergency physicians generally avoid, due to its easy and usefulness and may shed light on new studies for the future.

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