ORIGINAL ARTICLE

The Effects of Lunar Phases and Zodiac Signs on Recurrent Youth Suicide Attempts—Experience of University Hospital

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ABSTRACT

Objective: *To determine the clinical and demographical features of recurrent youth suicide and identity possible risk factors.*

Methods: *In this study, all patients admitted to our paediatric emergency department with adolescent suicide attempts, from the dates of January 2011 and September 2014, were analysed with the goal to identify the risk factors for reoccurring suicide and clinical outcomes retrospectively.*

Results: *This study included 417 adolescents, 81 men and 336 women with an average age of 15.55 ± 1.86 years. The most common zodiac sign of the patients was Capricorn (48 patients) and Aquarius (44 patients). According to the lunar cycle, 39 (9.4%) attempted suicide during full moon and 34 (8.2%) during the new moon cycle. It has been established that most suicide attempts occurred while being alone (80.2%) and inside the house (90.6%) and the most preferred method is combined drug ingestion (51.0%). The recurrent suicide attempt rate is 13.2%. While determining that attempting the suicide alone is a significant factor in recurrent suicide, psychotropic drug intake was found to have a protective effect. The most diagnosed psychiatric disorder in cases of recurrent suicide and first-time suicide attempts was depression (49.1% and 8.6% respectively).*

Conclusion: *Triggering risk factors such as lunar cycle or zodiac sign do not have an effect on recurrent suicide attempts. A wide participation in clinical studies is necessary to determine the real effect of these risk factors.*

Keywords: Emergency department, lunar cycle, risk factors, suicide, zodiac sign.

INTRODUCTION

One of the major causes of mortality worldwide is suicides in adolescence (1). According to the World Health Organization, suicide attempts between the ages of 10 and 24 rank second as the cause of mortality (2). This situation especially increases along with the age in the paediatric age group and keeps increasing in adolescence. Completed incidences of suicide between the age of 10 and 14 have been reported to be 1/100 000 but at the ages of 15–19 this number increases up to 10 times (3).

Suicides occurring in the adolescent age group tend to be recurrent. The median annual rate of recurrence of attempted suicide is 5-15%. Studies showed that the recurrent risk after 6 months is 10% and rises to 42% after 21 months (4). The finding of recurrent suicide attempts in adolescents are rising which shows that preventative healthcare is needed, and emergency services show a great potential for that. Studies show that the reason behind this is the fact that a suicide is attempted up to 8–25 times before death occurs and 39%–40% of

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these cases have been reported to go to the emergency room at least once a year (5–7).

Most seen risk factors that cause suicide attempts are mostly age, gender, occupation, history of suicide attempts, mental disorder (anxiety, mood), addictions (*eg*, alcohol, tobacco), physical disability, financial stress, personality disorders/impulsivity/aggression, legal problems, lack of religious affiliation, childhood maltreatment, intimate partner violence, suicide in family members, sensational media reporting of suicide, specific cultural factors (*eg*, Native Americans, immigrants, refugees), access to lethal means (guns, pesticides), sexual and physical abuse and mourning process (4, 8–11).

Studies about the possible effects of lunar phases and zodiac signs on personality and behaviour patterns and the emergence of some clinical situations are noteworthy. Differences in available moonlight, barometric pressure (weather conditions), geomagnetic and gravitational variations, solar corpuscular radiation, and other mechanisms are brought forward in these interactions (12). Clinical studies in which lunar phases and zodiac signs play a role are for example cardiopulmonary resuscitations (13), birth rates (14, 15), renal colic (16), postoperative complications (17), survival after therapy (18), and suicide (19, 20). There are only a few studies that research the effect of lunar phases and zodiac signs of recurrent suicide attempts in childhood (1).

The aim of this study was to determine the clinical and demographic characteristics of adolescent suicide cases reported to the children's emergency department and to investigate the effect of lunar phases and zodiac signs in recurrent suicide attempts as possible risk factors.

SUBJECTS AND METHODS

Study design and patient selection

All adolescent cases (age 10–18) of suicide attempts that were reported in the paediatric emergency department of the Ondokuz Mayıs University between January 2011 and September 2014 have been examined retrospectively. Ondokuz Mayıs University, Medical Faculty, Pediatric Emergency Department is a Level III emergency centre that treats 15 000–20 000 patients each year. Ethical approval for this prospective study was obtained from the local ethics committee of Ondokuz Mayıs University in accordance with the Helsinki Declaration. The cases of suicide attempts were analysed upon repetition and the patients were divided into groups based on demographic features (age, gender, distribution of horoscope, season, poisoning time, lunar cycle, type of suicide attempts, place of occurrence, and cause of suicide), clinical and laboratory findings. Intensive care and situations that require emergency interventions and were then analysed with the goal to identify the factors for reoccurring suicide and clinical outcomes. The full and new moon phases were calculated separately for each patient. As stated in literature (21, 22), the time of the full and new moon was accepted as one day after and one day before the corresponding application date and the time of the full and new moon.

Statistical analysis

The data has been given as mean ± SD, median (minimum–maximum) and n (%). All data were analysed with IBM SPSS 21.0 (Chicago, USA). Eligibility was determined by the normal distribution of data with the Kolmogorov Smirnov method. Data fitting the normal distribution were stated as standard deviation and data not fitting the normal distribution were stated as median and minimum–maximum. For the evaluation of categorical data, Pearson's Chi-square test was used. For the analysis of effective factors on recurrent suicide attempts Binary Logistic Regression analysis was performed. To compare the disease rates of recurrent suicide attempts and first-time suicide attempts, a two proportion *t*-test was performed with Minitab 14.0. The value $p < 0.05$ was considered statistically significant.

Results

A total of 417 adolescent patients (ages 10–18) were included in this study period, 81 (19.4%) of which were boys and 336 (80.6%) were girls. The average annual application rate of adolescent suicide in the study period was 0.7% (417/56336). The average age of the patients was 15.55 ± 1.86 year. Examination of the age distribution showed that 76.0% (317 patients) are ≥ 15 years old and 24.0% (100 patients) are between the ages of 10–14. There were more reported cases of suicide attempts in the winter months (160 patients 38.4%) ($p < 0.001$). There was no significant difference in the distribution of cases according to zodiac sign ($p = 0.059$). However it has been seen that the most common zodiac signs were Capricorn (48 patients, 11.5%) and Aquarius (44 patients, 10.6%). According to the lunar cycle, 39 (9.4%) patients attempted suicide during full moon and 34 (8.2%) patients during the new moon cycle. According to the lunar cycle, more cases (263 patients, 63.0%) were reported outside the new and full moon

periods ($p < 0.001$). The examination of cases according to the preferred time frame showed a statistically significant difference ($p < 0.001$). It has been identified that most cases of suicide attempts occurred between the hours of 12:01 AM to 6:00 PM (144 patients, 34.5%) and between 6:01 PM and 00:00 (147 patients, 35.7%). While 94.0% preferred medical poisoning agents in their suicide attempts, 6.0% preferred non-medical poisoning. The most preferred medical poisoning agent in suicide attempts were analgesics (174 patients, 41.7%) and the most preferred non-medical poisoning agent organophosphate poisoning (12 patients, 2.9%) (Table 1).

Table 1: The distribution of poisoning agents used in suicide attempts

Medical poisoning agents	
Analgesics	174 (41.7)
Antidepressant	115 (27.6)
Antipsychotics	58 (13.9)
Antihipertansifler	58 (13.9)
Antihistaminic and decongestants	48 (11.5)
Digestive system drugs	41 (9.8)
Antibiotics	36 (8.6)
Psikostimulant ajanlar	30 (7.2)
Myelorelaksan	27 (6.5)
Antiagregants	16 (3.8)
Antidiabetics	12 (2.9)
Vitamins	12 (2.9)
Iron medications	11 (2.8)
Others	98 (23.5)
Non-medical poisoning agents	
Organophosphate poisoning	12 (2.9)
Narcotic substance intake	8 (1.9)
Other	5 (1.1)

It has been determined that suicide on their own (376 patients, 80.2%) was more common than mass suicide attempts (41 patients, 9.8%) ($p < 0.001$). The frequency of recurrent suicide attempts, however, was 13.2% (55 patients). The most preferred environment for suicide attempts was the home environment for 378 patients (90.6%) ($p < 0.001$). The most preferred kind of suicide is combined drug ingestion (213 patients, 51.0%) ($p < 0.001$). While 357 (85.6%) cases were referred to the hospital, 60 (14.4%) applied from home. of patients. Characteristics of all patients' demographic findings, clinical signs, laboratory findings during the application, and treatment modalities were represented in Tables 2 and 3.

Table 2: The distribution of patients according to demographic findings

	All patients
Age (year (min–max))	16 (10-18)
Gender (n, %)	
Male	81 (19.4)
Female	336 (80.6)
Distribution of horoscope	
Capricom	48 (11.5)
Aquarius	44 (10.6)
Cancer	39 (9.4)
Leo	39 (9.4)
Libra	39 (9.4)
Taurus	37 (8.9)
Gemini	35 (8.4)
Virgo	33 (7.9)
Aries	29 (7.0)
Pisces	26 (6.2)
Scorpio	24 (5.8)
Sagittarius	24 (5.8)
Season distribution (n, %)	
Winter months	160 (38.4)
Spring months	114 (27.3)
Summer months	82 (19.7)
Autumn months	61 (14.6)
Poisoning time (n, %)	
According to moon calendar	
New moon	34 (8.2)
First Quarter	32 (7.7)
Full moon	39 (9.4)
Last Quarter	49 (11.8)
Other time	263 (63.0)
Time zone	
00:01–06:00	39 (9.4)
06:01–12:00	64 (15.3)
12:01–18:00	144 (34.5)
18:01–00:00	149 (35.7)
Unknown	21 (5.0)
Type of suicide attempts (n, %)	
Mass suicide	41 (9.8)
Alone suicide	376 (90.2)
Frequency of suicide attempts (n, %)	
Recurrent suicide	55 (13.2)
First suicide	362 (86.8)
Place of occurrence (n, %)	
Home	378 (90.6)
School	4 (1.0)
Other areas (sea, forest, street, etc)	35 (8.4)
Cause of suicide (n, %)	
Single drug ingestion	179 (42.9)
Combined drug ingestion	213 (51.0)
Organophosphate poisoning	12 (2.9)
Narcotic substance intake	8 (1.9)
Other	5 (1.2)

Self-injuries behaviour (n, %)	
Piercing	5 (1.2)
Forearm laceration	39 (9.4)
Application form (n, %)	
Referred to hospital	357 (85.6)
Applied from home	60 (14.4)
Patient follow-up clinics (n, %)	
Emergency Department	396 (95.0)
Paediatric Intensive Care Unit	21 (5.0)
Patient outcome (n, %)	
Discharged	416 (99.8)
Exitus	1 (0.20)
Total patients (n,%)	**417 (100.0)**

Table 3: Characteristics of all patients' clinical signs, laboratory findings and treatment modalities

	All patients
GCS (median)	15 (7–15)
Clinical signs and symptoms (n,%)	
Miosis	35
Convulsion	4
Vomiting	86
Arrhythmia	3
Hypothermia	3
Hyperthermia	5
Hypertension	15
Hypotension	3
Tachycardia	29
Bradycardia	37
Tachypnoea	24
Cardiopulmonary arrest	1
Laboratory findings (n,%)	
Leucocytosis	25
Neutropenia	33
Thrombocytopenia	4
Hyponatremia	19
Hypernatremia	3
Hypokalaemia	57
Hyperkalaemia	4
Hypoglycaemia	3
Hyperglycaemia	61
Elevated liver enzymes	3
Metabolic acidosis	65
Coagulation disorders	5
Renal function impairment	4
Treatment modalities	
Gastric lavage	353
Activated charcoal	345
Antidote application	57
Fluid therapy	403
Cardiotonic treatment	3
Oxygen therapy	39
Mechanical ventilation	6
Total	417

Only 21 patients (5.0%) required intensive care. The median value of the intensive care follow up period of these cases was 2 days (1–8). Demographic characteristics of the patients in intensive care, clinical and laboratory findings, treatment and follow-up procedures are summarized in Table 4. The majority of patients requiring intensive care (14 patients, 66.6%) were diagnosed with CDI. Only 2 (0.48%) of the patients in intensive care were recurrent suicidal.

While examining the affecting factors of recurrent suicide showed that the effect of type of suicide attempts is higher (OR: 11.911 (95% CI: 2.241, 63.319, $p = 0.004$) psychotropic drug intake was found to have a protective effect (OR: 0.006 (95% CI: 0.002, 0.020), $p < 0.001$) (Table 5).

When examining the underlying psychiatric diseases, the most diagnosed psychiatric disorder in cases of recurrent suicide and first-time suicide attempts was depression (49.1% and 8.6%, respectively). The most consumed medications in both groups were antidepressants and antipsychotics (Table 6).

When examining the medical interventions we see that 353 (84.7%) were given gastric lavage, 345 (82.7%) activated charcoal treatment, 57 (13.7%) antidote application, 403 (96.6%) fluid therapy, 3 (0.7%) cardiotonic treatment, 39 (9.4%) oxygen therapy and 6 (1.4%) mechanical ventilation treatment (Table 2). During the follow-up, only 1 patient (0.2%) had died and 416 patients (99.8%) had been discharged.

Discussion

Adolescent patients admitted to the paediatric emergency department after a suicide attempt were included in the study. As a result, it has been found that most cases of suicide attempt were reported in winter months between the hours of 12:01 PM and 00:00. Especially in cases requiring emergency intervention in the adolescent age group, time of full moon and new moon was observed not to be effective in adolescent attempt. In addition it was found that people with the zodiac sign Capricorn and Aquarius are more likely to attempt suicide but statistically it is of no value. Combined drug ingestion in the home environment has been found to be the preferred method of attempted suicide. While determining that attempting suicide alone is a significant factor in recurrent suicide, psychotropic drug intake was found to have a protective effect. In cases of recurrent adolescent suicide attempt, depression was found to be a common factor.

Table 4: The characteristics of all patients with suicide attempt and followed up in the paediatric intensive care unit

Age	Sex	Cause of suicide	Number of tablet by oral ingestion	GCS	Clinical signs / laboratory findings	Intubation	Fluid therapy/ antidote application	Hospitalization (days)
12	M	CDI	50	15	Not detected	–	+ / + (NAC)	1
12	FM	SDI	20	11	Confusion Tachypnoea	–	+ / –	2
13	FM	CDI	30	15	Not detected	–	+ /–	6
14	FM	OP	–	8	Convulsion, Coma, Hyperglycaemia	+	+ / + (PAM)	4
14	FM	CDI	3	15	Vomiting, Hyponatremia	–	+ / –	3
15	FM	OP	–	10	Confusion Hypertension, Tachypnoea Hypokalaemia, Hyperglycaemia, Leucocytosis	+	+ / + (PAM)	4
15	FM	CDI	44	10	Confusion Bradycardia Hypoglycaemia, Elevated Liver enzymes, Leucocytosis,	+ / CPR	+ / –	4
15	FM	CDI	68	15	Bradycardia, Hypertension, Tachypnoea, Vomiting Hyponatremia	–	+ / –	4
15	FM	CDI	25	15	Tachycardia	–	+ / + (NAC)	1
15	FM	SDI	20	15	Convulsion, Vomiting	–	+ / –	3
15	M	SDI	Unknown	15	Tachypnoea	–	+ / –	3
16	FM	CDI	8	15	Not detected	–	+ / –	2
16	FM	CDI	60	15	Prerenal failure, Leucocytosis	–	+ / –	3
16	M	SDI	50	15	Hyperkalaemia, Prerenal failure, Leucocytosis	–	+ / –	5
17	M	CDI	71	7	Confusion Bradycardia Hyperglycaemia,	+	+ / –	4
17	FM	CSI	–	15	Vomiting	–	+ / –	9
17	FM	CDI	31	13	Confusion Convulsion, Hypokalaemia	–	+ / –	2
17	FM	CDI	39	15	Hypokalaemia	–	+ / –	2
17	M	CDI	21	10	Confusion Convulsion, Bradycardia Hypokalaemia, Hyperglycaemia,	–	+ / –	4
18	FM	CDI	5	15	Vomiting Hypokalaemia, Hyperglycaemia, Neutropenia	–	+ / –	9
18	FM	CDI	Unknown	11	Confusion Tachycardia, Vomiting Neutropenia	–	+ / –	2

GCS = Glaskow Coma Score; M = male; FM = female; CDI = combined drug ingestion; SDI = single drug ingestion; OP = organophosphate poisoning; CSI = corrosive substance ingestion; CPR = cardiopulmonary resuscitation; NAC = *N*-acetylcysteine; PAM = pralidoxime.

Table 5: Analysis of influential factors on recurrent suicide attempts

Parameters	Recurrent suicide attempts n = 55 (13.2%)			First suicide attempts n = 362 (86.8%)	Multivariate analysis			
OR		**95% CI**	**p**					
Male	9 (16.4)			72 (19.9)	1.656		0.568–4.825	0.356
Age (mean ± SD)	15.62 ± 1.87			15.55 ± 1.64	0.892		0.702–1.133	0.348
Distribution of horoscope					1.005	0.883–1.144	0.943	
Capricom	5 (9.1)			43 (11.9)				
Aquarius	8 (14.5)			36 (9.9)				
Cancer	7 (12.7)			32 (8.8)				
Leo	8 (14.5)			31 (8.6)				
Libra	6 (10.9)			33 (9.1)				
Taurus	3 (5.5)			34 (9.4)				
Gemini	3 (5.5)			32 (8.8)				
Virgo	2 (3.6)			31 (8.6)				
Aries	3 (5.5)			26 (7.2)				
Pisces	2 (3.6)			24 (6.6)				
Scorpio	4 (7.3)			20 (5.5)				
Sagittarius	4 (7.3)			20 (5.5)				
Type of suicide attempts					11.911	2.241–63.319	0.004	
Mass suicide	2 (3.6)			39 (10.8)				
Alone suicide	53 (96.4)			323 (89.2)				
Season distribution					1.276	0.833–1.954	0.262	
Winter months	24 (43.6)			136 (37.6)				
Spring months	13 (23.6)			101 (27.9)				
Summer months	9 (16.4)			73 (20.2)				
Autumn months	9 (16.4)			52 (14.4)				
Poisoning time (n, %)								
According to moon calendar					1.012	0.623–1.244	0.910	
New moon	0			34 (9.4)				
First Quarter	5 (9.1)			27 (7.5)				
Full moon	8 (14.5)			31 (8.8)				
Last Quarter	8 (14.5)			41 (11.3)				
Other time	34 (61.8)			229 (63.3)				
Time zone					0.723	0.448–1.168	0.185	
00:01–06:00	6 (10.8)			33 (9.1)				
06:01–12:00	6 (10.8)			58 (16.0)				
12:01–18:00	22 (40.0)			122 (33.7)				
18:01–00:00	20 (36.4)			129 (35.6)				
Unknown	1 (1.8)			20 (5.5)				
Cause of suicide (n, %)								
Single drug ingestion	18 (32.7)			161 (44.5)				
Combined drug ingestion	32 (58.2)			181 (50.0)				
Organophosphate poisoning	3 (5.5)			9 (2.5)				
Narcotic substance intake	1 (1.8)			7 (1.9)				
Other	1 (1.8)			4 (1.1)				
Self-injuries behaviour	9 (16.4)			34 (9.4)	1.007	0.319–3.181	0.991	
Psychotropic drug intake	52 (94.5)			46 (12.7)	0.006	0.002–0.020	< 0.001	
Place of occurrence (n, %)					1.143	0.739–1.767	0.549	
Home	49 (89.1)			329 (90.9)				
School	1 (1.8)			3 (0.8)				
Other areas (sea, forest, street, etc)	5 (9.1)			30 (8.3)				

Table 6: Distribution of psychiatric diagnosis, treatment modalities and outcomes of all patients

	Recurrent-suicide attempts (n, %)	First-suicide attempts (n, %)
Diagnosis		
Depression	27 (49.1)	31 (8.6)
Conduct disorder	8 (14.5)	10 (2.7)
Attention deficit hyperactivity disorder	7 (12.7)	13 (3.6)
Bipolar affective disorder	5 (9.0)	1 (0.2)
Post-traumatic stress disorder	3 (5.4)	1 (0.2)
Generalized anxiety disorder	3 (5.4)	4 (1.1)
Mental retardation	2 (3.6)	-
Conversion disorder	2 (3.6)	-
Prolonged pattern of mourning	1 (1.8)	1 (0.2)
Performance anxiety	1 (1.8)	
Unknown	11 (20.0)	5 (1.4)
Obsessive compulsive disorder	-	2 (0.5)
Drugs used in therapy		
Antidepressant drugs	28 (50.9)	3 (0.8)
Antipsychotic drugs	25 (45.4)	2 (0.5)
Psychostimulant drug	6 (10.8)	–
Antiepileptic drug	2 (3.6)	–
Anxiolytic drug	1 (1.8)	–

Youth suicide is an important problem showing an increase in emergency admissions in childhood. The suicide attempts in this age group have increased four-fold in the recent years (10). According to the Centers for Disease Control and Prevention, we experienced an increase of 8% in the last 15 years (2). Although suicide is rare in childhood, it seemingly increases with the start of adolescence (1) and this increase arrives its peak in late adolescence and the beginning of the twenties. While the prevalence of suicide thoughts in adolescence is approximately 15%–25% (21), the suicide attempt rate of men differs between 1.3% and 3.8% and the rate of women between 1.5% and 10.1% (4).

The first suicide attempt is likely to be a messenger for recurrent suicide attempts in adolescence. The recurrent suicide rate in the adolescent age group increases with the years after the first attempt. In studies, this rate ranges from 10% to 42% (2, 4). While recurrent suicide attempts in adolescence is much higher in women, successful suicide attempts are 30 times higher in men (8, 23). Our study showed a similar rate to the one in literature (13.2%) in recurrent suicide. Although the female–male ratio was 4:1 in our study it had no effect on recurrent suicide attempts.

The annual mortality rate because of suicide attempts is between 0.5% and 1.0% (4). The rate in studies for the necessity of intensive care in youth suicide was determined to be 3.1%–8% (24, 25). A significant portion of these patients requiring intensive care, attempted suicide by multiple drug ingestion. Studies showed that the rate lies between 31% and 45% (24, 25). In our study the rate was 5.0% and 66% of the cases attempted suicide with multiple drug ingestion.

Preferred methods for suicide differ according to geographic and cultural differences (4, 5). More preferred suicide methods in adolescence in developed or developing countries are gunshot wounds and poisonings with medical or non-medical agents (4, 5, 25). Among the most commonly used agents in adolescence for suicide are analgesics, anti-inflammatory agents and anti-psychotic agents (24, 26, 27). Non-medical agents are organophosphates, pesticides, insecticides, organic solvents and household cleaning products (2, 27–29). While 94.0% of patients in our study preferred medical poisoning agents in their suicide attempts, 6.0% preferred non-medical poisoning. The most preferred medical poisoning agents were, like stated in literature, analgesics and antidepressants.

Many risk factors were examined in the studies that are thought to cause suicide attempts occurring in the adolescent age group. Except the risk factors of age and genders, the rest is categorized as affective, cognitive, family and peer factors (8). Nearly 90% of suicidal teenagers are known to have a psychiatric disorder (8). Most commonly psychiatric disorders are depression, bipolarity and drug abuse (8). If we look at the data of 25 emergency rooms of the Pediatric Emergency Care Applied Research Network Core Data Project we can

see that depression is one of the top five diseases accompanying suicide attempts (30). Other studies show that depression accompanies suicide attempts with a rate of 25% (31). Previously attempted suicide, panic attacks, post-traumatic stress disorder, risky behaviour (interpersonal violence, excessive alcohol consumption, tobacco use, illicit drug use, high-risk sexual behaviour), stressful life events, sexual abuse, family conflicts, family history of suicide, self-injuries behaviour and many more are known risk factors of adolescent suicide (5, 6, 8, 9). Protective factors include strong social relationships, legal regulations and psychotropic drug use (4, 8, 32). Our study showed, as stated in literature, that the most distinctive disease accompanying a suicide attempt is depression. However, intake of psychotropic drugs was found to have preventive properties in recurrent suicide attempts.

The lunar cycle and zodiac sign and its effect on human physiology and behaviour are some of the frequently discussed issues in socio-cultural life and scientific fields. Although the topic is very popular, there are no complete scientific ideas about the effects. While some studies support this idea (32, 33) some state that the lunar cycle and zodiac sign are not effective factors (13, 35, 36). Along the associated clinical conditions with lunar phases and zodiac signs are psychosis, depression, anxiety, violent behaviour (37), cardiopulmonary resuscitations (13), birth rates (14, 15), renal colic (16), postoperative complications (17, 38), survival after therapy (18), and suicide (19, 20). Alterations of moonlight, barometric pressure (weather conditions), geomagnetic and gravitational variations, and solar corpuscular radiation are stated to be effective on human behaviour during a lunar cycle (12). These alterations are said to occur to the organs inside the body because of zodiac signs (39). In particular, it has been determined that the Aries sign has an effect on the central nervous system, which is acknowledged to be the centre of human behaviour (39). Our study showed similarities to the literature of Martin and colleagues (39) about suicide and lunar cycle and stated that there is no effect of the lunar cycle on recurrent adolescence suicide. Most commonly seen signs in adolescent suicide were Leo and Aquarius. The Zodiac sign did not have a similar effect of recurrent suicide attempts like the lunar cycle did.

Recurrent suicide attempts in the adolescent age group in developing countries are increasingly seen as an important growing health problem. Taking preventive measures against possible triggers such as depression and conduct disorder and accompanying other factors, is important in this age group with suicide recurring suicide attempts. In our study, we have found no effect on the triggers that include lunar cycle and zodiac signs in the adolescent age group with recurrent suicide attempts which were stated in the results we acquired from one single centre. However, we believe that a broad participation and more clinical studies are needed to determine and evaluate the real impact of risk factors such as lunar cycle and zodiac signs together with other possible risk factors.

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