

A Study on Suicidality from a University Hospital: Six Months Following the Crisis of Copycat Suicide Among Thai University Students in 2019

Bir Üniversite Hastanesinde İntihar Üzerine Bir Araştırma: 2019'da Tayland'lı Üniversite Öğrencileri Arasında Kopyacı İntihar Krizinin Ardından Altı Ay

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ABSTRACT

Objective: To ascertain the social determinant, associated factors, and suicidal risk of university students who were psychiatric outpatients at a university hospital in southern Thailand, 6 months following the copycat suicide crisis among Thai university students in 2019.

Methods: This time-series cross-sectional study was conducted 6 months after the crisis of copycat suicides among Thai university students. Psychiatric outpatients who were university students and accessed the service at the Prince of Songkla University Hospital in September 2019 were recruited, and their clinical data were collected, including the Thai version of suicide screening test (8Q score) through the hospital database system. R software was then used to conduct descriptive data and logistic regression analyses.

Results: Of the 42 university students, the majority (92.9%) were Thai, Buddhist (85.7%), and female (61.9%). The main psychiatric diagnoses among them were depressive disorders (59.5%). Only physical comorbidities (10.5%) were significantly less than 6 months prior according to statistics (10.5/5) ($P = .029$). Most university students were at a lower risk of suicide (31.0%) with an insignificantly decreased mean score (6.5 [0-12.5]) and median (interquartile range) of suicide risk (10.1 ± 13.1) within 6 months ($P = .25$). Moreover, no factors were found associated with suicidal risk among university students, 6 months following the crisis of mimic suicide in March 2019.

Conclusion: Suicidal ideation among Thai university students decreased over 6 months following the copycat suicides in March 2019 and was not statistically significant. Thus, the effect of imitative suicidal behaviors may not have considerably reduced in 6 months. Moreover, no associated factors of suicidal ideation were found 6 months following the copycat suicides nationwide.

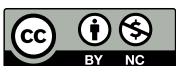
Keywords: Copycat suicides, follow-up studies, imitative behaviors, students, suicide

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ÖZ

Amaç: Bu araştırmanın amacı 2019 yılında Tayland'daki üniversite öğrencileri tarafından gerçekleştirilen taklitçi intihar girişimlerinden 6 ay sonra, Güney Tayland'da bir üniversite hastanesinde psikiyatri polikliniğinde yatan üniversite öğrencilerinin sosyo-belirleyicileri, ilişkili faktörler ve intihar riskini incelemektir.

Yöntemler: Bu iki ayrı zamanda gerçekleştirilecek kesitsel çalışma, taklitçi intihar girişimlerinden hemen sonra ve 6 ay sonra olmak üzere Taylandlı Üniversite öğrencileri ile gerçekleştirilmiştir. Eylül 2019'da Prince Of Songkla Üniversitesi hastanesine üniversite öğrencisi psikiyatri hastaları çalışmaya katılımcı olarak alındı ve hastane veri tabanına göre intihar tarama testinin Tay versiyonu (8Q skoru) dahil olmak üzere klinik verileri toplandı. R yazılımı tanımlayıcı veri analizi ve lojistik regresyon gerçekleştirildi.

Bulgular: 42 üniversite öğrencisinin çoğu Taylandlı (%92,9), Budist (%85,7) ve kadındı (%61,9). Ana psikiyatrik tanıların çoğu depresif bozukluklardı (%59,5). İstatistiklere göre (%10,5) sadece fiziksel komorbiditeler (%10,5) 6 ay öncesine göre anlamlı derecede daha azdı ($P=,029$). Çoğu üniversite öğrencisi düşük intihar riski altındaydı (%31,0) ve 6 ay içinde ($P=,25$) önemsiz derecede azalmış ortalama puan {6,5 (0-12,5)} ve ortanca (IQR) intihar riski {10,1 ± 13,1} vardı. Ayrıca, Mart 2019'daki intihar krizinden 6 ay sonra üniversite öğrencilerinde intihar riski ile ilişkili herhangi bir faktör bulunamadı.

Sonuç: Taylandlı üniversite öğrencilerinin intihar düşüncesi Mart 2019'da taklitçi intiharları takiben 6 ayda istatistiksel olarak anlamlı olmayan bir düşüş göstermiş, taklitçi intihar davranışının etkisinin 6 ayda önemli ölçüde azalamayacağı tespit edilmiştir. Bununla birlikte, Eylül 2019'da intihar düşüncesiyle ilişkili hiçbir faktör bulunamamıştır.

Anahtar Kelimeler: İntihar, öğrenciler, takip çalışmaları, taklitçi davranışlar, taklitçi intihar girişimi

INTRODUCTION

According to the official report by the World Health Organization, approximately 800 000 people per year die because of suicide worldwide. Although suicide could happen throughout an individual's lifespan, in 15- to 29-year-olds, suicide is the second most prevalent cause of death. Thus far, university students were in late adolescence to young adulthood (18-25 years old).¹ Most suicides occur in low- to middle-income households,¹ including in Thailand. For these reasons, Thai university students are at increased risk of suicide.

Between February and March 2019, more than 10 Thai university students were officially reported to have committed suicide.² During the first week of March, 6 of them committed suicide, and suicides occurred among several Thai university students continuously in the next few months (Figure 1).^{2,3}

Suicide inducing another cluster of suicide in populations is known as the "copycat suicide" phenomenon. Most prior studies were on celebrity suicides, which induce a stronger copycat effect than suicides in the general population.⁴ Although the mechanism of copycat effect on suicide remains unknown, the emotional response of "anger" and "sadness" on celebrity suicides, which people expressed in public, could have driven their suicidal ideations by some mental paradigms.⁵ Discussions on high-profile suicides in social media could increase suicidal risk among certain groups of the population.⁵

A previous study in South Korea stated that entertainment celebrity suicides induced copycat suicides among people for an average of 28 days.⁴ However, the situation in Thailand was a suicide contagion of individuals who had "non-celebrity status," although prior research stated "celebrity status" as being the only predictor of copycat suicides. The study also indicated that the high-risk group

matched each celebrity who committed suicide, and factors such as sex and age were similar.⁴

Imitative suicide patterns could be divided into 2 categories: mass and point clusters. The "mass clusters" mostly presented a one-to-many transfer type (mass media-induced suicide), whereas "point clusters" were reproduced by nearby persons.^{5,6} The 2019 copycat suicides among university students could have been both as one student who committed suicide had peers in the same classes, faculty, and university and may have been in contact with others at the same time, and the mass and social media also widely and rapidly broadcasted reports of suicides by other students.^{5,6} Moreover, one of the students studied and committed suicide at the Prince of Songkla University (PSU), where we conducted the study during the contagion of suicide at this time (Figure 1).

However, no prior study has investigated copycat suicides in Thailand, especially clinical follow-up among the population at risk, and estimated the period of influence of a suicide contagion.

Therefore, in this study, we aimed to assess the social determinants, associated factors, and suicidal risk among university students who were psychiatric outpatients at a university hospital in southern Thailand (PSU hospital), 6 months following the copycat suicide period in March 2019. In addition, this study was designed to compare the objectives at 2 time periods, to surveil suicides among at-risk university students, as mental illness was a risk factor of suicide itself.^{6,7} According to the results of this study, suicide prevention strategies in university campuses could be developed.

This study was part of a larger project, approved by the ethics committee, Faculty of Medicine, Prince of Songkla University on September 1, 2019 (REC number: 62-373-3-1). The project was fully



Figure 1. Comparison between timeline of suicides among Thai university students during the crisis of imitative suicide and 6-month follow-up.

funded by the faculty under the same code. Data related to the participants' personal and clinical information and suicidal ideation will be presented in other articles.

METHODS

Subjects

This project had 2 phases, each with a duration of 4 weeks, from March to April (phase 1) when a high rate of copycat suicides was reported nationwide and from September to October 2019 (6-month follow-up) when copycat suicide rates seemed to be lower. This was a time-series cross-sectional study. The participants in each phase may not be the same because all the samples were university students who accessed the outpatient psychiatric

service at Songklanagarind hospital (Prince of Songkla University Hospital) and were recruited and enrolled automatically through the hospital database system.

Information from the medical records was collected as follows:

- Patient profile, such as age, hometown, and affiliation (categorized as social, pure, health, and applied sciences),
- Psychiatric diagnoses (by ICD-10 code, Code F01-99), duration of untreated illness, and duration of treatment,
- Comorbid physical diseases (by ICD-10 code, listed by the World Health Organization),

• Thai version of suicide screening test (8Q score) by the Department of Mental Health, Ministry of Public Health, Thailand.⁸ The score was classified into 4 categories of suicidal risk as follows:

- No risk (score 0),
- Low risk (score 1-8),
- Moderate risk (score 9-16), and
- High risk (score 17).

The sensitivity and specificity of the Thai-version suicide screening test (8Q) were reported to be 0.96 and 0.91, respectively.⁹

Statistical Analysis

Patient names and hospital numbers were not recorded. Only the primary investigator, sub-investigators, and research assistants could access the cleared data on Microsoft Excel with a password. Descriptive data analysis with the chi-squared test and logistic regression analysis was conducted using Program R. Associated factors were considered statistically significant if *P* value was less than .05, just as the approximate time period of effect of the suicide contagion on suicidal risk was measured by comparing the risks in March and September 2019.

RESULTS

Sociodemographic Characteristics

Of the 42 outpatients (Table 1), most university students who accessed the psychiatric service in September 2019 were women (61.9%) with an average age of 22 years, the same as in the crisis period of copycat suicide surveyed in March 2019 (80 outpatients). More Malay students (7.1%) visited the psychiatric outpatient unit in September 2019, although most patients were Thai (92.9%). The patients from both visits mostly lived in southern Thailand, although those who lived in other parts of Thailand visited more frequently for the 6-month follow-up survey (12.5%). Most students (31.7%), who accessed the outpatient service in September 2019, studied in the schools of health science, whereas the majority (45.6%) of outpatients during the crisis were those who studied in the schools of social science. The main diagnoses were mostly depressive disorders during both periods of time (50.0% and 59.5%, respectively), and anxiety disorders were found less than 6 months prior (11.9% and 20.9%, respectively).

Duration of untreated psychiatric symptoms among students, who were psychiatric outpatients in September 2019, was longer than those who visited during the crisis of copycat suicide (medians were 5.0 and 3.0 months, respectively). Together with the duration of treatment in the psychiatric unit, those who visited 6 months following the crisis showed an average of 10.6 months, which was longer (6.7 months) than that during the height of suicide in March 2019.

Only physical disorders in university students who were also psychiatric outpatients during the crisis of the copycat suicides showed statistical significance (31.7%), compared with those who were outpatients at psychiatric units 6 months later (10.5%) (*P* = .029).

Suicidal Risk Among Psychiatric Outpatients Who Were University Students in September 2019, 6 Months Following the Crisis

According to suicidal risk by the 8Q score in September 2019, most university students who were psychiatric outpatients were at low risk of suicide (31.0%), and only 21.4% of them had a high suicidal risk (Table 2). Compared with the majority of students during the suicide crisis in March 2019, the Thai university students were at a high risk of suicide (35.0%), while those who showed a low risk of suicide was lower (23.8%). No statistically significant difference was found in suicidal risk among university students who visited the psychiatric outpatient unit during the crisis of copycat suicide and in their 6-month follow-up (*P* = .452). Although we categorized the results of suicidal risk into 2 groups (the no- or low-risk group and moderate-to-high risk group), the trend of suicidal risk did not decrease significantly according to statistics (*P* = .229) (Figure 2).

The mean score of suicide self-screening (8Q) in September 2019 was 10.1 ± 13.1 , which decreased from 12.2 ± 12.7 during the height of suicide among university students. The median (interquartile range) declined within 6 months (9.5 and 6.5, respectively), although both mean and median scores represented a non-statistically significant difference (*P* = .25).

Association Between Sociodemographic Characteristics and Suicidal Risk Among Psychiatric Outpatients 6 Months Following the Height of Suicide Among Thai University Students in March 2019

Intrinsic factors such as age, sex, ethnicity, domicile and extrinsic factors such as schools of the faculty in the target population were not associated with a suicidal risk 6 months following the duration of Thai university students' copycat suicide in 2019.

Along with mental and physical clinical conditions, main psychiatric diagnosis, duration of treatment, duration of untreated illness, and physical comorbidities did not embody association to suicidal risk, as measured by the 8Q score in September 2019 (Table 3).

DISCUSSION

This study may be the first to focus on non-celebrity copycat suicides in Thailand, which strongly impacted mental health among a similar population nationwide, university and other higher education students. Although the trend of suicidal ideation among Thai university students showed a decrease over 6 months, it did not represent a significant statistical reduction of suicidal ideation. According to the hypothesis of this study, the effect of imitative behaviors among Thai university students from February to March 2019 may not have diminished in 6 months. These results were over a longer period than the copycat suicides associated with celebrities in Korea, which reported a 28-day influence on people's suicidal behaviors.⁴

Hence, Thai university campuses should survey suicidal ideation and behavior among the students for longer periods (more than 6 months) as the researcher has hypothesized the disappearance of the copycat suicide effect by calculating the *P* value of the 8Q score as less than .05. However, this study found the *P* value of the test was more than .05, thus the effect of copycat suicides in March 2019 may have still existed. A study in northern Thailand reported that the internet is a commonly used mode to search for information on suicide methods by university students.¹⁰ Another study of suicide suggested that even though most university students preferred seeking

Table 1. Sociodemographic Characteristics

Sociodemographic Characteristics	March (n = 68)	Six-Month Follow-Up (n = 42)	Chi-Squared Test, P
Sex			.214
Male	17 (25.0)	16 (38.1)	
Female	51 (75.0)	26 (61.9)	
Age			.269 ^a
Median (IQR)	22 (21-24)	22 (21-23)	
Ethnicity			.368 ^b
Thai	66 (97.1)	39 (92.9)	
Malaya	2 (2.9)	3 (7.1)	
Religion			.843
Buddhist	56 (82.4)	36 (85.7)	
Muslim	12 (17.6)	6 (14.3)	
Domicile			.592
Songkhla	22 (32.4)	16 (40.0)	
The south border provinces	16 (23.5)	7 (17.5)	
Other provinces in southern Thailand	25 (36.8)	12 (30.0)	
Other parts of Thailand	5 (7.4)	5 (12.5)	
Schools of faculty			.091
Health science	15 (22.1)	13 (31.7)	
Pure science	11 (16.2)	10 (24.4)	
Applied science	10 (14.7)	9 (22.0)	
Social science	31 (45.6)	9 (22.0)	
Main psychiatric disorder			.664
Bipolar affective disorder	10 (14.7)	6 (14.3)	
Depressive episode/recurrent depressive disorder	34 (50.0)	25 (59.5)	
Other anxiety/obsessive/adjustment disorders	14 (20.6)	5 (11.9)	
Others	10 (14.7)	6 (14.3)	
Physical comorbidity			.029 ^c
No	43 (68.3)	34 (89.5)	
Yes	20 (31.7)	4 (10.5)	
Duration of treatment at psychiatric clinic			.247 ^a
Median (IQR) (months)	6.7 (1.9-15.8)	10.6 (2.6-18.7)	
Duration of untreated psychiatric illness			.396 ^a
Median (IQR) (months)	3.0 (1.0, 12.0)	5.0 (2.0, 12.0)	

^aP value from rank-sum test; ^bP value from Fisher's exact test. IQR, interquartile range.

Table 2. Comparison Between Risk of Suicide Among Thai University Students in March and September 2019

	March (80 Visits)	Six-Month Follow-Up (42 Visits)	Chi-Squared Test, P
Risk of suicide			.452
No risk (score 0)	18 (22.5)	12 (28.6)	
Low risk (score 1-8)	19 (23.8)	13 (31.0)	
Moderate risk (score 9-16)	15 (18.8)	8 (19.0)	
High risk (score 17)	28 (35.0)	9 (21.4)	
Self-screening for suicide (8Q score)			.25 ^a
Median (IQR)	9.5 (1-19)	6.5 (0-12.5)	
Mean ± SD (Min-Max)	12.2 ± 12.7 (0-48)	10.1 ± 13.1 (0-52)	

^aP value from the rank-sum test. IQR, interquartile range; SD, standard deviation.

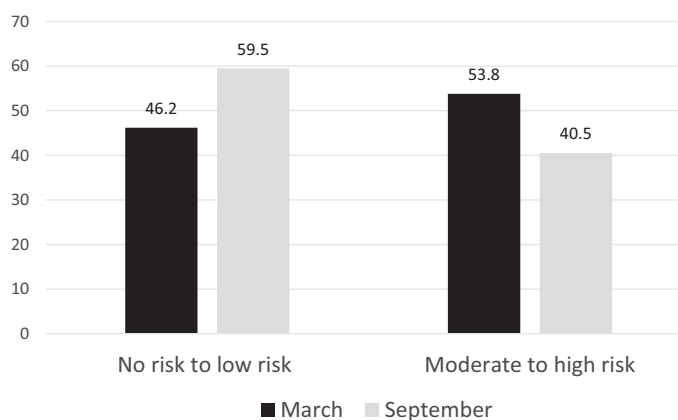


Figure 2. Comparison between suicidal risk among Thai university students in March and September 2019, categorized into 2 groups (%), chi-squared $P = .229$.

Table 3. Association Between Demographic Data and Suicidal Risk Among Thai University Students During the Height of Suicide in March 2019: Six-Month Follow-Up

Demographic and Clinical Data	Suicide Risk (n = 42)			Fisher's Exact Test, P
	No Risk (n = 12)	Low Risk (n = 13)	Moderate to High Risk (n = 17)	
Sex				.92
Male	4 (33.3)	5 (38.5)	7 (41.2)	
Female	8 (66.7)	8 (61.5)	10 (58.8)	
Religion				1.00
Buddhist	10 (83.3)	11 (84.6)	15 (88.2)	
Muslim	2 (16.7)	2 (15.4)	2 (11.8)	
Domicile				.98
Songkhla	5 (45.5)	4 (33.3)	7 (41.2)	
The south border province	2 (18.2)	3 (25.0)	2 (11.8)	
Other provinces in southern Thailand	3 (27.3)	3 (25.0)	6 (35.3)	
Other parts of Thailand	1 (9.1)	2 (16.7)	2 (11.8)	
Schools of faculty				.50
Health science	6 (50.0)	4 (33.3)	3 (17.6)	
Pure science	2 (16.7)	3 (25.0)	5 (29.4)	
Applied science	3 (25.0)	3 (25.0)	3 (17.6)	
Social science	1 (8.3)	2 (16.7)	6 (35.3)	
Main psychiatric disorder				.26
Bipolar affective disorder	1 (8.3)	3 (23.1)	2 (11.8)	
Depressive episode/recurrent depressive disorder	7 (58.3)	5 (38.5)	13 (76.5)	
Others	4 (33.3)	5 (38.5)	2 (11.8)	
Duration of treatment at psychiatric clinic				.11^a
Median (IQR) (months)	16.0 (11.3-22.0)	10.0 (5.0-16.8)	3.0 (0.6-20.6)	
Duration of untreated psychiatric illness				.52^a
Median (IQR) (months)	6 (1.8-11)	2 (1-6.5)	4.5 (2.8-12.5)	
Physical comorbidity				.54
No	9 (81.8)	11 (100)	14 (87.5)	
Yes	2 (18.2)	0	2 (12.5)	

^aP value from Kruskal–Wallis test. IQR, interquartile range.

help face-to-face for suicidal ideation, online life-saving forms of assistance were recommended to avoid stigmatization.^{11,12} Therefore, university campuses should be aware of suicide-related internet use and ensure both methods of help are available, especially face-to-face systems, which should be accessible during the constantly unpredictable mimic suicide phenomenon.

This 6-month phenomenon in Thailand may be explained by both “mass clusters” and “point clusters” suicide theory as the Thai media, both online and offline, represented and replicated the suicides. Thus, the students who committed copycat suicides in 2019 may be labeled “semi-celebrities” through mass media repetition.¹³ At the same time, most students nowadays have “online only” friends, and their connections in the social media may be nationwide; therefore, their relationships can be explained by “point cluster” suicide.¹⁴ Although findings from the most recent studies showed that violation of media guidelines did not significantly increase the suicide rate, journalists’ awareness and use of guidelines were crucially needed.¹⁵ In addition, the impact of culture was rarely investigated on suicidalities, including copycat suicides and interventions for them.¹⁶

Regarding the survey, most sociodemographic data of psychiatric outpatients in both periods of time were quite similar. Physical illness was the only factor in which outpatients who accessed psychiatric service during the height of suicide among university students showed a statistically significant difference. Therefore, physical

health providers may further play an important role in suicide screening during any period of suicidal vulnerability among adolescents, such as prominent malfunction of acute response schemes.¹⁷

Although this study was a cohort study, the data were collected from medical records, which was the main limitation of the study’s design. Therefore, researchers could not gather in-depth data, for example, how the media impacted a student’s suicidal ideation, influences of “online-only” friends and peers on suicidal ideation, and protection from suicidal behaviors.

Moreover, many confounding factors such as family conflict, academic adversity, financial problem, romantic relationships, and family–peer support which could profoundly affect a student’s mental health¹⁸ were not included in the study. All the above-mentioned factors require direct interview for collecting validated data to discover the risk and protective factors for suicide among Thai university students. In addition, the source of suicide method and help-seeking prior to suicide attempt, especially during the crisis of copycat suicide, should be surveyed in depth.

Therefore, further research should not only be prospective cohort studies but should have qualitative or mixed methods with various assessment instruments for authenticated information, which assist Thai university campuses in developing effective and practical suicide prevention strategies.¹⁹

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Faculty of Medicine, Prince of Songkla University (EC: 62-373-3-1).

Informed Consent: Due to the retrospective design of the study, informed consent was not taken.

Peer Review: Externally peer-reviewed.

Author Contributions: Concept – C.J.; Design – C.J., P.W.; Supervision – C.J.; Resources – C.J., P.W.; Materials – C.J.; Data Collection and/or Processing – P.W.; Analysis and/or Interpretation – C.J.; Literature Search – C.J., P.W.; Writing Manuscript – C.J., P.W.; Critical Review – C.J., P.W.

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