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Factors predicting recovery from suicide in attempted suicide patients

Running head: Predictors of recovering from suicide

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Conflict of Interest

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ABSTRACT

Aims and objectives: The aim of this study was to explore the factors predicting suicide recovery and to provide guidance for healthcare professionals when caring for individuals who have attempted suicide.

Background: The high rate of suicide is a global health problem. Suicide prevention has become an important issue in contemporary mental health. Most suicide research has focused on suicidal prevention and care. There is a lack of research on the factors predicting suicidal recovery

Design: A cross-sectional design was adopted.

Methods: A correlational study with a purposive sample of 160 individuals from a suicide prevention centre in southern Taiwan was conducted. The questionnaires included the Brief Symptom Rating Scale (BSRS-5), Suicidal Recovery Assessment Scale (SRAS), and Beck Hopelessness Scale (BHS). Descriptive statistics and linear regressions were used for the analysis.

Results: The mean age of the participants was 40.2 years. Many participants were striving to make changes to create a more stable and fulfilling life, had an improved recovery from suicide, and had a

good ability to adapt or solve problems. The linear regression showed that the BHS scores ($\beta = ...551$, p < .001) and BSRS-5($\beta = ...218$, p = .003) and past suicidal behaviour ($\beta = ...145$, p = .008) were significant predictors of individuals' recovery from suicide. They accounted for 57.1% of the variance.

Conclusions: Suicidal individuals who have a lower level of hopelessness, a better ability to cope with their mental condition, and fewer past suicidal behaviours may better recover from suicide attempts.

Relevance to clinical practice: The nurses could use the results of this study to predict recovery from suicide in patients with attempted suicide.

Keywords: Recover, suicide, predictor

What does this paper contribute to the wider global clinical community?

- No studies were found which explore the predictors of suicidal recovery. This study provides insight into the factors predicting recovery from suicide in patients with attempted suicide.
- This study shows that the Beck Hopelessness Scale and Brief Symptom Rating Scale scores and the frequency of suicidal behaviour could predict suicidal patients' recovery.
- This study suggests that instilling hope could help suicidal patients recover from their suicide attempts.

INTRODUCTION

One person dies from suicide approximately every 40 seconds, and one person attempts to commit suicide every 4 seconds worldwide (World Health Organization WHO 2014). Suicide prevention has become an important issue in contemporary mental health. The rates of suicide are high in some countries, such as Guyana (44.2/100,000 in 2015), the Democratic People's Republic of Korea (38.5/100,000 in 2015), and South Korea (28.9/100,000 in 2015) (World Health Organization WHO 2016). In the past decade, the suicide rate in Taiwan gradually decreased from its highest of 19.3/100,000 in 2006 to 15.3/100,000; nevertheless, suicide was the second leading cause of death among those aged 15 to 24 (24.3/100,000 in 2013) (Ministry of Health and Welfare 2015).

Numerous countries have aimed to prevent suicides by establishing suicide prevention centres, including Japan, South Korea, and the United States (World Health Organization WHO 2014). To effectively reduce suicide rates, the Ministry of Health and Welfare in Taiwan launched a Suicide Prevention Centre in 2005 and implemented a nationwide suicide notification system in 2006 (Suicide Prevention Centre 2015). The annual suicide rates have dropped in Taiwan since the Suicide Prevention Centre was established. Although the suicide mortality rate has decreased in the past five years in Taiwan, the number of suicide attempts has gradually increased in the suicide notification registered system (Lee 2013). Furthermore, several studies have found that survivors may have repeat

suicide attempts (Lee et al. 2012, Miranda et al. 2014, O'Connor et al. 2014, Inagaki et al. 2015). Therefore, it is very important to help survivors recover from their attempted suicide. So, this study aims to identify the factors that predict suicidal recovery and hopes to ultimately help suicidal individuals recover from suicide attempts.

BACKGROUND

Suicide is the act of purposely taking one's own life (Centre of Disease Control and Prevention 2015a). Bergmans et al. (2008) concluded that suicidal individuals are those who want to escape their unhappy lives, have suicidal ideations in which they think that suicide is the best way to solve their problems, and then practice self-harm behaviours to attain their goal of dying. Suicidal behaviour is a continuing and developing process that may depend on an individual's motivation for dying. Suicidal behaviour is considered self-directed violence, including suicidal ideation, suicide attempts, and death by suicide. Suicidal ideation indicates that an individual is considering suicide but is still planning and has yet to act. When individuals have committed a suicidal action but do not die, this is considered a suicide attempt (Centre of Disease Control and Prevention 2015b).

According to a report, 35.5% of the Taiwanese population has had suicidal ideation, 11.9% have attempted suicide, but only 20.9% have called for help (Suicide Prevention Centre 2014a). In Taiwan, 3,546 people died by suicide in 2014 (Ministry of Health and Welfare 2015). There were 24,621

people who were registered in the suicide notification system; 7.4% of the deaths were those of individuals who had informed the Suicide Prevention Centre of their plans, and 1.0% of the deaths were due to a repeated suicide (Suicide Prevention Centre 2014b). These data underestimate the problem, as many people with suicidal thoughts or attempted suicide never seek services (Centre of Disease Control and Prevention 2015c). Furthermore, Taiwan's Suicide Prevention Centre (2014b) reported a 2:1 ratio of males to females who have committed suicide. This is in contrast to the reported 1:2 ratio of males to females who have attempted suicide. In other words, women may try to attempt suicide more than men, but they were less likely to die from such behaviours because they used a less lethal method to attempt suicide (Chen et al. 2016). "Suicidal behaviour has been stigmatized in Chinese culture (Sun et al. 2008). Shame and foolishness is a common perspective regarding suicidal behaviours. For those whose parents are alive, committing suicide is considered especially disrespectful from a Chinese perspective, because it means that they are not devoted to their parents. They were hurting their parents when they took their own lives."

Multiple factors influence the act of suicide, including physical, psychological, and social factors, mental disorders, and stressful life events. When an individual is unable to cope/adapt to life's stresses, thoughts of suicide may arise; if the pressure increases past a certain point, a suicide attempt or successful suicide may follow (Sun et al. 2007). Hawton and van Herringen (2009) found that previous suicidal behaviour was the strongest predictor of future suicide. Miranda et al. (2014) screened 1,729 high school students with the Columbia Suicide Screen and found that 54 teenagers This article is protected by copyright. All rights reserved.

had attempted suicide. Those teenagers (n=54) were followed for 4-6 years and completed the Adolescent Suicide Interview by telephone, and the ensuing results showed that 18 of the teenagers (33%) made another suicide attempted in the 4- to 6-year follow-up period. The study also found that most of the teens who repeated a suicide attempt did so impulsively, for example, planning for less than one hour.

Lee et al. (2012) investigated 102 patients with a history of suicide attempts in an emergency room in Taiwan and followed them for 1 year after discharge from the hospital. Their results showed that 38.2% of the patients repeated a suicide attempt, and 3.4% of the patients died by suicide. O'Connor et al. (2014) examined 388 hospitalized patients who had attempted suicide and conducted a follow-up visit 15 months later. At follow-up, 99 patients (25.6%) had been readmitted to the hospital due to attempted suicide, and five of these patients had died by suicide. These studies indicate a high mortality rate of recurrent suicide attempts.

Repeated suicidal behaviour affects society as a whole, including the rescue services of police and fire departments and the providers of medical treatments, and some suicidal behaviours even endanger the public (Centre of Disease Control and Prevention 2015c). Suicide leads to substantial psychological and social burden. More than one million people each year are affected by family members or close friends who have repeated a suicide attempt or have successfully committed suicide.

These incidents may induce feelings of regret and guilt, and they can even affect the development of an entire community (Holm & Severinsson 2011). Previous studies have found that common reactions to suicidal events include sadness, loneliness, depression, confusion, sadness, and feelings of guilt (Holm & Severinsson 2011, Sun & Long 2013). Because of widespread media coverage, if television channels or other media outlets provide a detailed report of the suicide, suicidal emulation can happen (Centre of Disease Control and Prevention 2015a). The WHO (2014) states that not all but most suicides can be prevented; hence, effective interventions that target not only suicide prevention but also suicidal recovery are needed.

"Recovery" is the ability to cope with life's changes or traumatic events and is considered a protective factor of suicide (Centre of Disease Control and Prevention 2015b). A study by Chi et al. (2014) found that the healing and recovery processes transition through certain phases, such as self-awareness, seeking help, re-emergence of stressors, making adjustments using healthy coping strategies, and accepting their current life situation. Their study also found that healing and recovery were not linear processes, although each phase could follow the previous one. Additionally, all phases were interchangeable depending on the participants' motivation for recovery and the intervention they received. Many studies noted that self-awareness of the value of life, the application of coping strategies to address stress, and persistence in achieving a satisfied life were key factors to helping

suicidal individuals recover from their suicide attempt (Bergmans et al. 2008, Ke 2008, Holm & Severinsson 2011, Sun & Long 2013, Chi et al. 2014).

Based on the findings above, suicide attempts constitute a serious social and clinical problem. Individuals who have attempted suicide are at a high risk for additional suicide attempts. To decrease the morbidity and mortality of suicide, researchers should have a deep understanding of the developmental pathways of suicidal behaviour and the factors that protect against suicidal behaviour. Moreover, it is very important to help people achieve recovery from attempted suicide. Most suicide research has focused on the rates, assessment, prevention and treatment of suicide and on the bereavement care of survivors (WHO 2014). Recently, suicide research has started exploring suicidal recovery (Bergmans 2008, Ke, 2008, Holm & Severinsson, 2011, Sun & Long 2013, Chi, 2014). However, there is a lack of research on the factors predicting suicidal recovery. Therefore, it is very important to explore this topic in order to help suicidal individuals recovery from suicide attempts.

METHODS

Research question

The research question for this study was: What are the factors that may predict suicidal recovery for repeated suicide attempts? This article is protected by copyright. All rights reserved.

Design

This study employed a cross-sectional design to identify the factors that may predict suicidal recovery in people who attempt suicide. A total of 260 questionnaires were distributed, and 160 questionnaires were returned (return rate = 61.5%).

Data collection and sample

A purposive sample was referred to participate in the study from a suicide prevention centre in southern Taiwan. The suicide prevention centre is governed by the Ministry of Health and Welfare in Taiwan and centres are located in 22 cities across the country. The social worker of hospital notifies the suicide prevention centre of any suicide attempts. The healthcare professionals of the suicide prevention centre are required to handle the suicidal case within 24 hours after receiving the attempted suicide notification. The healthcare professionals will call or visit suicidal cases at least two times per month for the following three months by providing suicidal assessment and providing support in order to prevent them from suicide".

The target population was people who had attempted suicide but had not made an attempt in 6 months, were in a clear conscious state, were able to complete the questionnaire, and agreed to participate in this study. The reason why the target population was limited to 6 months was most studies found that the high risk of repeated suicide is in one year (Carroll et al. 2014; Owens 2002), especially within 3-6 months (Goldachre & Hawton 1985; Hawton 1987; Chiu & Lee 2006). However, participants who were

younger than 20 years old have been excluded because they are vulnerable and also need informed consent from their parents or guardian. Also, those who had a mental illness that could affect their ability to complete the questionnaire were excluded from the study. The sample size was calculated with GPower 3.1 software; three predictors with a medium effect size, a significance of $\alpha = .05$, and a power of .95 for multiple regression led to a sample size of 119.

The data were collected from May to October in 2015. The researcher provided information about the study to potential participants by phone after their referral by the suicide prevention centre. After obtaining informed consent, the researcher delivered the questionnaire to the participants. When the participants returned the questionnaires, the researcher gave them a small gift to thank them for their participation.

Questionnaire

The questionnaires that we used included the Suicidal Recovery Assessment Scale (SRAS), the Brief Symptom Rating Scale (BSRS-5), and the Beck Hopelessness Scale (BHS). In addition, the questionnaires obtained information on background characteristics such as age, gender, education, marital status, number of children, religion, working status, living arrangements, economic condition, support systems, events of significant loss, number of suicidal behaviours, suicide method, and reason

for suicide. That information was the factors related to the suicidal recovery (Mcadams & Foster 2002; Chi et al 2014; Sun & Long 2013).

Suicidal Recovery Assessment Scale (SRAS)

The SRAS was developed by researchers based on the suicidal recovery theory and other related literature on suicidal recovery (Bergmans 2008, Ke 2008, Chi 2011, Holm & Severinsson 2011, Sun & Long 2013). To ensure its content validity, the questionnaire was assessed by four psychiatric experts and 10 suicidal recovery patients. The Content Validity Index (CVI) was .96. The concurrent validity was negatively (r = -0.75) correlated with Beck Hopelessness Scale (BHS). The 15 items of SRAS were divided into three subscales: (1) self-awareness of the value of life (6 items), (2) application of coping strategies (4 items), and (3) striving to live a normal and satisfied life (5 items). The SRAS statements are structured with a four-point Likert scale, with possible responses of "strongly disagree," "disagree," "agree," and "strongly agree." The scores ranged from one for "strongly disagree" to four for "strongly agree". The scale had a possible score of 15 to 60, with higher scores representing a better recovery from suicide. Moreover, Cronbach's alpha was used to examine the internal consistency of the SRAS. The internal consistency coefficient for the overall scale was .93. The Cronbach's alpha values of the subscales were as follows: self-awareness of the value of life, .90;

application of coping strategies, .85; and striving to live a normal and satisfied life, .80. Test-retest was used to examine the stability of the SRAS, and result was a reliability of .85.

Beck Hopelessness Scale (BHS)

The BHS was developed by Beck et al. in 1974 (Beck et al. 1974) and translated to Chinese by Chen (2000). It is appropriate for use in those aged 17 and older. This scale is comprised of 20 "yes or no" questions with a score of 1 or 0 for each question. There are 9 forward questions and 11 backward questions. To answer "yes" is 0 score and "no" is 1 score for forward questions while to answer "yes" is 1 score and "no" is 0 score for backward questions. The total score of the BHS ranges from 0 to 20, with higher scores reflecting greater feeling of hopelessness. The levels of hopelessness were categorized as follows: scores from 0-3 indicated very mild, 4-8 mild, 9-14 moderate, and above 14 severe feelings of hopelessness. The internal consistency according to the KR-20 was 0.82-0.93, and the test-retest reliability was 0.66. The concurrent validity with the Beck Depression Inventory (BDI) was 0.56-0.74.

Brief Symptom Rating Scale (BSRS-5)

The BSRS-5 was developed by Lee et al. (2003) and consists of 5 questions with a five-point Likert scale from 0, not at all, to 4, extremely. The total score ranges from 0-20, with higher scores reflecting a higher rate of emotional problems, e.g., whether they have felt tense, blue, irritated, or inferior or had This article is protected by copyright. All rights reserved.

trouble falling asleep in the past week. At the end of the questionnaire, there was an additional question about suicidal ideation. The BSRS-5 has shown good reliability, with Cronbach's alpha ranging from 0.77 to 0.90 and a test-retest reliability of 0.82. The concurrent validity between the BSRS-5 and the General Severity Index of the BSRS-50 ranged from 0.87 to 0.95, thereby supporting the validity of the scale.

Data analysis

The data were analysed using the International Business Machine (IBM) Statistical Package for Social Science (SPSS) Statistics 20 (IBM Corp. Released [2012]). The level of statistical significance was set at .05. The demographic data were summarized using frequencies and percentages. Means and standard deviations were used for the SRAS. Pearson's and Spearman's correlation as well as linear regression were used to identify the factors contributing to recovery from suicide in patients who had attempted suicide. The dependent variable was SRAS for the linear regression model.

Ethical considerations

This study was reviewed and approved by the suicide prevention centre (no. 10332441500). All participants were informed by phone about the purpose of the study, the research process, the anonymity and confidentiality of the data, and the option to withdraw from the study at any time. Some strategies to protect the participants were implemented: (1) the healthcare professionals of the suicide prevention centre assessed the suicidal patients' condition and referred fit participants to the researcher; (2) the researcher called the participants to understand whether they were uncomfortable or not after filling the questionnaires; (3) the researcher respected the participants' decision and did not force them to participate in this study; and (4) the cell phone number of the researcher was provided in the consent form, and the participants were instructed to contact the researcher whenever they had a question.

RESULTS

Demographic characteristics

A total of 160 suicidal individuals participated in this study. There was no missing data because the research assistant called them to fill the incomplete questions after receiving the questionnaire. The mean age of the participants was 40.2 years (SD = 11.2). The average duration since the date they had attempted suicide was 19.3 months (SD = 8.3). The majority of participants were female (n=119, This article is protected by copyright. All rights reserved.

74.4%), had a high school level of education and above (n=104, 65.0%), were religious (n=116, 72.5%), and reported an average economic condition where they perceived themselves as not rich or poor, but somewhere in between (n=110, 70.0%). Over half of the participants had only attempted suicide once (n=88, 55.0%) (See Table 1).

Recovery from suicide

SRAS was the outcome variable in this study. We also examined the distribution of the participants' SRAS scores. The results showed that the total mean score on the SRAS was $2.82 \pm .60$ out of a four-point scale, indicating that the participants had been moving toward recovery status more frequently than staying in suicide status. Regarding the subscales of the SRAS, the striving to live a normal and satisfied life subscale had a mean score of $2.95 \pm .57$ out of a four-point scale, indicating that many participants were making strides to make their lives more stable and satisfying. In addition, the participants had a higher level of self-awareness of the value of life, with a mean score of $2.77 \pm .80$ out of a four-point scale. Finally, the participants were able to apply coping strategies to solve their problems, with a mean score of $2.73 \pm .68$ out of a four-point scale (See Table 2).

Predictors of recovery from suicide in attempted suicide patients

The purpose of this study was to identify the factors related to recovery from suicide in patients who had attempted suicide. The variables were either continuous or dichotomous to meet the criteria of linear relationship. First, Pearson's correlation coefficient was used to determine the relationships between factors for continuous variables. Spearman's correlation coefficient was for categorical variables. The results showed that only BHS (r=-.719, p<.001), BSRS-5 (r=-.622, p<.001), economic condition (r=.274, p<.001), and number of times engaging in suicidal behaviour (r=.270, p<.001) were associated with recovery from suicide (see Table 3). Therefore, those variables were added into the stepwise regression models. However, the economic condition variable was not a significant predictor from the multivariate analysis ($\beta = .023$, p = .677). This variable had been removed from the regression models due to a weak relationship with recovery from suicide. Table 4 presents the important factors that predicted recovery from suicide in the stepwise regression models. BHS was initially included in model 1. The F value of the first predictor was 169.524 (p < .001), and it accounted for 51.8% of the variance. Then, BSRS-5 was added into model 2. The F value of both predictor variables was 96.377 (p < .001), accounting for 55.1% of the variance. Finally, the number of suicidal behaviour events was added into model 3. The F value of the three predictors was 69.238 (p < .001), and they accounted for 57.1% of the variance. All the predictor variables, BHS ($\beta = ...551$, p < .001), BSRS-5 ($\beta = .218$, p = .003), and number of times engaging in suicidal behaviour ($\beta = .218$, p = .003), and number of times engaging in suicidal behaviour ($\beta = .218$, p = .003).

.145, p = .008) reached statistical significance.

DISCUSSION

The majority of subjects in this study were female and middle aged. This result was corresponding with other studies on suicidal recovery that the ratio of female participants was higher than male participants (Bergmans et al. 2008, Sun & Long 2013, Chi et al. 2014). In Chinese culture, middle aged women are generally taking care of their parents, in-laws, and children. If suicidal survivors could be aware that they are so important to their parents and children, this could help them progress from suicidal attempt to recovery (Ke 2008, Sun & Long 2013, Chi et al. 2014). Therefore, it is very important for nurses to help patients who have attempted suicide become aware of their value to their children and to help them reach recovery after a suicide attempt.

Recovery from suicide is a particularly important issue in the prevention of suicide because evidence supports the notion that suicide is not a single incidence but rather involves multiple attempts (Hawton & van Herringen 2009, Lee et al. 2012). Various risk factors have been reported to be associated with suicide in Asian countries, including age, gender, individual-level psychological health (i.e., mental disorders, substance/alcohol misuse, prior history of suicide attempt, and acute life events), physical environment (i.e., methods used for suicide in different areas, such as pesticide poisoning in rural areas and jumping from a height in metropolitan areas) and sociocultural conditions (Chen et al. 2012). However, there have been no studies that explore the factors predicting recovery in patients who have attempted suicide.

In this study, the findings indicate that several variables are associated with the SRAS score, including demographic characteristics (economic condition, number of suicidal behaviour events), hopelessness (measured using the BHS), and emotional symptoms (measured using the BSRS-5). The bivariate analysis results revealed that economic condition was positively associated with suicidal recovery (r= .274, p<.001), suggesting that better economic conditions are associated with higher SRAS scores. However, the association was no longer significant when other variables were considered in the multivariate analysis ($\beta = .023$, p = .677). Knipe et al. (2015) conducted a meta-analysis and found that lower levels of socioeconomic status were associated with increased risks of suicide attempt (Knipe et al., 2015). It is possible that economic condition is a risk factor for suicide attempt but not suicide recovery because coping strategies play a very important role in helping suicidal patients cope with their economic stresses during the healing process (Sun & Long 2013). The number of times a patient had engaged in suicidal behaviour was negatively associated with suicidal recovery (r = -.270, p < .001) in the bivariate analysis. Unlike economic condition, it remained significant in predicting suicidal recovery in the multivariate analysis ($\beta = -.145, p < .01$), suggesting that an increased number of suicide attempts is associated with worse suicidal recovery scores.

Two other individual psychological variables, hopelessness and emotional symptoms, were significantly associated with suicidal recovery in the current study. Hopelessness was strongly associated with poor suicidal recovery in the current study (r = -.551, p < .001). Many studies also This article is protected by copyright. All rights reserved.

reveal that hopelessness is an important risk factor in explaining suicide attempts (Klonsky et al. 2012; Jaiswalet al. 2016). Furthermore, in a 10-year cohort study, baseline hopelessness scores remained a significant predictor of suicide attempts in 2- to 4-year follow-ups (Klonsky et al. 2012).

Emotional symptoms (measured using the BSRS-5) were another important risk factor in suicidal recovery (r = -.218, p < .01). When both the hopelessness and emotional symptom variables were used to predict suicidal recovery scores in the multivariate analysis, their associations with suicidal recovery remained significant. However, in this study, the findings suggest that hopelessness may be a more useful measure in predicting suicide recovery. Hopelessness had a stronger association (β = -.551, p < .001) than emotional symptoms (measured using the BSRS-5) ($\beta = -.218$, p < .01) in predicting suicide recovery scores. The BSRS-5 is a 5-item scale designed to measure individual emotional states, i.e., feeling tense, blue, irritated, or inferior or having trouble falling asleep in the past week, and has been demonstrated to be an efficient screening instrument for suicidal ideation (Lung & Lee 2008). Sun and Long's suicidal recovery theory (2013) emphasizes the importance of feeling at peace during the process of suicidal recovery. When suicide survivors were unable to address stressful events, they may have experienced negative emotions and feelings of hopelessness, which could result in a suicide attempt.

In summary, the predictors of suicidal recovery reported in the current study may be similar to the risk factors of suicide; the association coefficients, however, provide new findings. Individual demographic characteristics (such as number of times engaging in suicidal behaviour) may be useful in predicting suicide recovery, but individual psychological well-being (i.e., hopelessness and emotional symptoms) was found to be a more important factor in predicting suicide recovery.

Limitations of the study

This study had three main limitations. First, the sample is a non-probability sample and only recruited participants from a suicide preventive centre, which may not be applicable to other suicide attempters. Second, it was difficult to recruit participants who had attempted suicide and had not made an attempt for 6 months through the suicide prevention centre in southern Taiwan because suicide is stigmatized in Taiwan, and 11.7% of the participants had made multiple suicide attempts (Chen et al. 2016). Third, considering the aim of the current study and the difficulty in recruiting participants, we employed a cross-sectional design. This may not have adequately examined the predictors of suicide recovery because suicide recovery is a continual process. Thus, prospective cohort studies or intervention studies are needed to better identify the predictors of suicidal recovery.

CONCLUSION

The results indicated that suicidal individuals who had lower levels of hopelessness would have a better recovery from a suicide attempt. A better mental adaptation to the situation would indicate a better recovery from suicide. The participant who had less frequent suicidal behaviour would have a better recovery from a suicide attempt. Suicide is a global health issue and is also an important problem in Taiwan. The purpose of suicide prevention is to lower the rates of suicide and recurrent suicide. These types of interventions would be more effective if we were aware of the factors that affected suicidal individuals' recovery from suicide attempts. This study found that suicidal individuals who had lower levels of hopelessness, better coping with their mental states, and less frequent suicidal behaviour may better recover from suicide. The results of this study could help healthcare professionals in suicide prevention centres and nurses who take care of suicidal patients understand the importance of helping these patients have hope and maintain a stable mood. Furthermore, these findings might be important in providing guidance for healthcare professionals in caring for individuals who have attempted suicide.

RELEVANCE TO CLINICAL PRACTICE

It is very important to instill hope for suicidal patients. The healthcare professionals in suicide prevention centres and nurses who care for suicidal patients should spend time communicating with

suicidal patients, installing their hopes and helping them to regain their desire to live. In addition, clinical nursing healthcare professionals could use the BSRS-5 (5 items) to assess suicidal individuals' emotional state and to determine whether they are still experiencing suicidal ideation. Clinical nursing healthcare professionals could also teach suicidal patients coping strategies to address their stress and problems, which may help reduce the occurrence of suicidal ideation and improve patient recovery from suicide attempts. This study is also important for nursing research because the researcher could use the results of this study to design intervention studies to help suicidal individuals to recovery from their suicide attempts.

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Demographics	Mean	SD
Age (years)	40.2	11.2
Time since last suicide attempt to survey date (months)	19.3	8.3
	n	%
Gender		
Male	41	25.6
Female	119	74.4
Education		
<middle school<="" td=""><td>56</td><td>35.0</td></middle>	56	35.0
>High school	104	65.0
Marital status		
Single	93	58.1
Married	67	41.9
No of children		
0	51	31.9
≤ 2	68	42.5
>2	41	25.6
Religion		
No	44	27.5
Yes	116	72.5
Employed		
No	68	42.5
Yes	92	57.5
Living arrangment (Multiple choices)		
Alone	17	10.6
Spouse	69	43.1
Children	70	43.8
Friend	20	12.5
Parents	44	27.5
Siblings	18	11.3
Relatives	9	5.6
Economic condition		
Poor	48	30.0
Average	110	70.0
Support system (Multiple choices)		
None	22	13.8
Immediate Family	119	74.4

Table 1 The Characteristics of suicidal individuals (N = 160)

Extended Family or Relatives	13	8.1
Friend	64	40.0
Neighbor	7	4.4
Religion	22	13.8
Medical staff	16	10.0

Demographics	n	%
Event of significant loss (Multiple choices)		
None	79	49.4
Family	20	12.5
Job	17	10.6
Ended a romantic relationship	16	10.0
Health	37	23.1
Others	7	4.4
No. of suicidal attempts		
1	88	55.0
2	32	20.0
3	16	10.0
>3	24	15.0
Suicide method (multiple choices)		
Slash wrist	64	40.0
Overdose	113	70.6
Inhale gas	11	6.9
Drown	9	5.6
Jump	9	5.6
Hanging	5	3.1
Others	4	2.5
Suicide reason (multiple choices)		
Depression	78	48.8
Family problem	67	41.9
Economic problem	48	30.0
Relationship problem	56	35.0
Others	6	3.8

 Table 1 The Characteristics of suicidal individuals (N = 160)(Continue)

Recovery themes (items)	Mean $\pm SD$
Self-awareness of the value of life	2.77 ± .80
Application of coping strategies	2.73 ± .68
Striving to live a normal and satisfied life	2.95 ± .57
Total	$2.82 \pm .60$

Table 2 Recovery for suicidal patients by subscale (N = 160)

	Suicidal Recovery Assessment Scale (r/r_s)
BHS	719***
BSRS-5	622***
Age	.133
Gender	.146^
No. of children	108
Religion	.002^
Working conditions	.146^
Education	.008^
Marital status	132^
Economic condition	.274^***
No. of Suicidal Behaviour	270***
Time since last suicide attempt	.067

Table 3 The Correlation between Suicidal Recovery Assessment Scale and BHS, BSRS-5,demographic data (N = 160)

*** p<.001

^ Spearman correlation

Table 4 Stepwise multiple regression analysis that predicts suicidal recovery toward suicidal Patients

(N = 160)

Variab	le	В	SE	ß	t	р	F
Model	$1 (R^2 = .518)$						169.524***
	BHS	079	.006	719	-13.020	.000	
Model	$2(R^2=.551)$						96.377***
	BHS	061	.008	551	-7.578	.000	
	BSRS-5	028	.008	249	-3.424	.001	
Model	$3 (R^2 = .571)$						69.238***
	BHS	061	.008	551	-7.735	.000	
	BSRS-5	025	.008	218	-3.013	.003	
	No. of suicidal behaviour	028	.010	145	-2.699	.008	

Note. Dependent variable: Suicidal Recovery Assessment Scale

*** p<.001