

# EFFECTS OF THE INTERPERSONAL NEED PROGRAM ON SUICIDAL IDEATION AND SUICIDAL ATTEMPT IN MENTALLY ILL PATIENTS

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## ABSTRACT:

**Background:** Mentally ill patients are extremely at risk for suicide. Interpersonal need program which is the nursing intervention for mentally ill patients based on interpersonal theory of suicide was developed by the researchers to reduce suicidal ideation and suicidal attempt. The present study aimed to examine effects of the interpersonal need program on suicidal ideation and suicidal attempt in mentally ill patients.

**Methods:** This study employed a pretest-posttest control group design. The participants were sixty-six people comprising of 33 mentally ill patients and 33 of their caregivers. The experimental group received the interpersonal need program whereas the control group obtained the usual care. The participants were assessed using Thai version of the scale for suicidal ideation (SSI-Thai version 2014) and the suicidal attempt record on the recruitment date and 14 days after discharge.

**Results:** The experimental group significantly demonstrated more reduction of suicidal ideation ( $p < 0.01$ ) than the control group. The study also found that there was no significant difference of suicidal attempt.

**Conclusion:** The interpersonal need program demonstrates effects on reduction of suicidal ideation in mentally ill patients.

**Keywords:** Interpersonal need program; Suicidal ideation; Suicidal attempt; Mentally ill patient

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## INTRODUCTION

In 2020, the number of people who choose to end their own life is estimated reach one point five million people [1]. More than 60% of all cases of suicide are associated with mental disorders such as depression, schizophrenia- and bipolar illness [2, 3]. As a matter of fact, people with mental illness are at much risk for suicide, and in comparison with general population the risk for suicide is very significant. The risk of suicide in patients with major depressive disorder is approximately 20% and in bipolar it is 15% [4]. Previous studies found that suicide is a major cause of death among patients with schizophrenia. Another research indicates that at least 5-13% of schizophrenic patients die by

committed suicide [5]. It was estimated that over a period of 10 to 15 years, around 10% of all patients with depression and schizophrenia will die by suicide [6].

Suicidal ideation and suicidal attempt are two categories of suicidal behavior which usually occurred with mentally ill patients. Suicidal ideation is suicide-related ideation which individual has thought of taking their own lives; they may or may not make a suicide attempt [7]. Even though suicidal attempt is suicide-related behavior which is defined as self-inflicted, potentially injurious behavior with a nonfatal outcome for which there is evidence of intent to die [8].

In Thailand, the number of deaths and attempt from 2011 to 2013 were reported as follows: 3,873 deaths and 21,014 attempts, 3,985 deaths and 17,232 attempts, and 3,939 deaths and 39,560 attempts

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respectively [9]. In addition 41.89% of committed suicides were mentally ill patients [9]. There were strategies for suicide prevention in Thailand but this prevention is focus on depression in general population. There also had the interventions for suicidal attempters, however, these interventions were focus on depression, self-care, self-management, and so on. There was a few study focused on suicidal ideation and suicidal attempt and concentrated with mentally ill patients. Therefore, a systematic nursing intervention established for mentally ill patients that underlined on suicidal ideation and suicidal attempt reduction is needed to reduce suicidal ideation and suicidal attempt of people with mental illness.

Interpersonal need program is a multifaceted intervention based on the interpersonal theory of suicide. In 2010, the interpersonal theory of suicide was proposed [10]. Briefly, this theory informs that suicidal ideation is caused by two constructs that is the feeling that one does not belong to valued relationships or groups (Thwarted belongingness), combined with the perception that one is a burden on others (Perceived burdensomeness). This theory also mentions that when acquired capability for suicide is occurred as the third construct, person will engage in suicidal attempt [11]. Moreover, this theory also emphasize on factors associated with each construct. Thus the interpersonal theory of suicide was used as a theoretical framework of the interpersonal need program which conducted base on risk factors for suicide in mentally ill patients to reduce suicidal ideation and suicidal attempt.

## METHODS

### Research design

A pre-test and post-test control group design was employed in order to examine effects of the interpersonal need program on suicidal ideation and suicidal attempt in mentally ill patients. Data of the experiment group who received the program and of the control group who obtained only usual care were compared.

### Sample and setting

The participants in this study were the mentally ill patients who hospitalized at Suansaranrom hospital in Suratthani province, Thailand and their caregivers. Thirty-three patients were met the criteria: diagnosed of major depressive disorder, or bipolar disorder, or schizophrenia by the diagnostic and statistical manual version V (DSM-V); age 20-59 years; admitted to the rehabilitation ward or one

stop service wards on rehabilitative phase; had at least 7 scores of 9-questions of assessment in depression (9Q); had at least 1 score of SSI-Thai version 2014 or admitted with suicidal attempt. In addition, 33 caregivers were met the criteria: lived in the same house with the patients or live in the nearby house; had taken care the patient. All patients and caregivers must be able to use Thai verbal communication, and voluntary to participate in the study. The participants were divided into two groups. The experimental group comprised of 17 pairs of patients and caregivers whereas the control group consisted of 16 pairs of patients and caregivers.

### Instruments

There were four instruments used to collect data: *The personal information sheet of patient* was used to collect the patient personal data. *The personal information sheet of caregiver* was used to collect the caregiver personal data. *The Thai version of the scale for suicidal ideation* (SSI-Thai version 2014) was used to measure suicidal ideation with permission. It consisted of 19 items rated on a 3-point scale. Its validity index was 0.89,  $\alpha = 0.81$ , and an index of item discrimination was more than 2 ( $p < .001$ ) [12]. *The suicidal attempt record* was used to record suicidal attempt: “had suicidal attempt” or “did not have suicidal attempt” which identified by physician. If the answer was “had suicidal attempt”, details were recorded including date, time, place, method, negative life events due to suicidal attempt, and previous suicidal attempt history.

There were instruments to check for validity: *The interpersonal need questionnaire* (INQ) was used to measure thwarted belongingness and perceived burdensomeness. The INQ had 15 items with 7-point Likert scale. The INQ confirmed strong psychometric properties in previous research [11]. Each subscale demonstrated evidence of strong internal consistency ( $\alpha = 0.91$ ;  $\alpha = 0.90$ ) [13]. *The acquired capability for suicide scale* (ACSS) had 20 items self-report with 5-point Likert scale instrument designed to assess fearless of death and perceived tolerance for physical pain [14]. The ACSS had demonstrated good internal consistency as  $\alpha = .88$  [15].

The usual care was the nursing care which conducted by mental health and psychiatric nurses in rehabilitative phase of hospitalization. Usual care comprised of individual nursing care due to individual problem; discharge planning which were

group psycho-education about knowledge of disease and self-care, stress management, and warning signs of relapse; and psycho-education for family about knowledge of disease and caring. The intensity of each activity was not specified.

### **The interpersonal need program**

The interpersonal need program was developed by the researchers. The interpersonal theory of suicide was used to understand suicidal behavior including constructs, components, and risk factors. Literature review was made to comprehend risk factors for suicide in mentally ill patients. The researchers identified modifiable and manageable risk factors including some unchangeable risk factors which would be alert patients to confront with negative life event in the future. Nursing intervention of the program based on three constructs of the interpersonal need theory comprised of four parts. Constructs, components, risk factors, and intervention are described as following.

**Thwarted belongingness:** This construct comprised of two components: the absence of reciprocally caring relationship which is conceptualized as ones in which individuals both feel cared about and demonstrate care of another; and loneliness which is conceptualized as an affectively laden cognition that one has too few social connections [10]. The absence of reciprocally caring relationships risk factors in mentally ill patients are social isolation [5, 16, 17] and intimated partner conflict [17]. While the loneliness risk factors are a few family support; fewer than one family visitation to the hospital per month [18], family stress or instability, and limited external support [5]. In order to establish caring relationship, it can be assumed that a nurse-patient relationship is a caring relationship by itself. According to loneliness, the intervention was centered on cognitive and behavioral techniques [19, 20]. Interventions to manage thwarted belongingness composed of: 1) establishing caring relationship which was involved with total nursing intervention in this program and 2) promoting sense of belongingness which comprised of cognitive behavioral approach, and telephone counseling for patient. Moreover, there was psycho-education for caregiver to promote good relationship with patient.

**Perceived burdensomeness:** The components of this construct included the effectively laden cognitions of self-hatred, and the beliefs that the self is so flawed as to be a liability on others. The self-

hate risk factors are filled with self-hated and rejection [21]. While the liability risk factors are: negative life events (being unemployed, recent loss or rejection, incarceration, legal charges or financial problem, physical illness, mental illness, functional impairment, deteriorating health, and interpersonal negative life event) [2, 5, 16, 17, 22] and perceived the burden they having placed on other [17, 21]. The interventions in this part was conducted in order to identify and confront feelings of being a burden, be able to reconsider the perceptions of burdensomeness [11], to provide a useful means for reducing burdensome cognitions [23], and to create a suicide safety plan for handling negative life events especially for patients who were reported that there was no current suicide planning [11]. Intervention to manage perceived burdensomeness was reducing perceived burdensomeness which consisted of cognitive behavioral approach, empowerment, individual counseling for conducting safety plan and telephone counseling.

**Acquired capability for suicide:** The last construct comprised of increased physical pain tolerance and reduced fear of death. The most direct route to acquiring the capability for suicide is by engaging in suicidal behavior, either through suicide attempts, aborted suicide attempts, or practicing and/or preparing for suicidal behavior [10]. The risk factors for both components are easy access to lethal means; living in rural area with access to gun or other lethal means [16]; firearm in the home [17], deliberate self-harm [5], and previous suicide attempt [17, 18, 24, 25]. The intervention was established to address level of acquired capability and working with patient to remove harmful subjects from home [11], to identify specific behaviors and situations that would further facilitate acquired capability by psycho-education [15], to discuss with a significant other who can provide support or remove any weapons or medications involved in the suicide plan, and to create safety plan near the end of the intervention [11, 26]. The intervention to manage acquired capability for suicide was disabling capability for suicide which comprised of individual counseling to conduct safety plan, and telephone counseling to follow up on safety plan for patients. In addition psycho-education and telephone counseling was provided for caregiver in order to learn and implement strategies for suicide prevention.

### **Data collection**

The interpersonal need program was conducted

**Table 1** Comparison of suicidal ideation between experimental group and control group at pre-test and post-test

		Suicidal ideation			<i>p</i> -value <sup>2</sup>
		Pre-test	Post-test	Change <sup>1</sup>	
Experimental group (n = 17)	Mean	11.0	5.06	5.94	< 0.01
	SD	6.39	3.11	3.28	
	Median	9.00	5.00	4.00	
	IQR	9	6	3	
Control group (n = 16)	Mean	9.44	8.56	0.88	0.01
	SD	5.43	4.70	0.73	
	Median	9.00	7.00	2.00	
	IQR	7	6	1	
<i>p</i> -value <sup>3</sup>		0.58	0.03	0.55	

<sup>1</sup>Change = Pre-test – Post-test

<sup>2</sup>*p*-value by Wilcoxon signed ranks test of the comparison between pre and post test

<sup>3</sup>*p*-value by Mann-Whitney test of the comparison between experimental group and control group

**Table 2** Comparison of suicidal attempt between experimental group and control group at pre-test and post-test

		Suicidal attempt			<i>p</i> -value <sup>1</sup>
		Pre-test Number (%)	Post-test Number (%)	Change Number (%)	
Experimental group (n = 17)		10 (58.8%)	0 (0%)	10 (100%)	< 0.01
Control group (n = 16)		7 (43.8%)	0 (0%)	7 (100%)	0.01
<i>p</i> -value <sup>2</sup>		0.47	1.00	0.53	

<sup>1</sup>*p*-value by McNemar test of the comparison between pre and post test

<sup>2</sup>*p*-value by Mann-Whitney test of the comparison between experimental group and control group

within two weeks of rehabilitative phase of hospitalization and continued to the first week after discharge. The personal information sheets were used to collect data at the recruit date. The SSI- Thai version 2014, the suicidal attempt record, the INQ and the ACSS were used as pre-test at the recruit date and as post-test on the 14<sup>th</sup> day after discharge.

### Ethical consideration

Ethical approval for this study was granted by the institution research board of Suansaranrom hospital (Code No. 088/ 2559). Furthermore, patients and their caregiver were read information sheet and signed inform consent before participated in the study. The researcher explained the study to the participants till they were satisfied. The program was conducted in a private area of inpatient ward to make participants felt comfortable.

### Data analysis

Descriptive statistics were used to describe the socio-demographic characteristics of the participants. Fisher's exact test was used in order to test the differences in socio-demographic data between the experimental group and the control group. The Mann-Whitney test was employed to compare suicidal ideation and suicidal attempt between experimental and control group at pre-test and post-

test. The Wilcoxon signed ranks test was performed to compare suicidal ideation in experimental group and control group between pre-test and post-test. In addition, the McNemar test was performed to compare suicidal attempt in experimental group and control group between pre-test and post-test.

### RESULTS

There was no statistically significant difference between characteristics of the experimental group and the control group. There was no statistically significant difference of suicidal ideation and suicidal attempt between experimental and control group at pre-test.

From Table 1 there were statistically significant difference of suicidal ideation between pre-test and post-test in both experimental group and control group ( $p < 0.01$  and  $p = 0.01$  respectively). However, change of mean score, median score and interquartile range were difference. From Table 1 change of mean score between pre-test and post-test in experimental group was 5.94 (SD = 3.28) while change of mean score between pre-test and post-test in control group was 0.88 (SD = 0.73). In addition, change of median score and interquartile range between pre-test and post-test in experimental group were 4.00 and 3 whereas change of median score and

interquartile range between pre-test and post-test in control group were 2.00 and 1.

According to suicidal attempt as shown in Table 2, there were statistically significant difference of suicidal attempt between pre-test and post-test in both experimental group and control group ( $p < 0.01$  and  $p = 0.01$  respectively). On the contrary, there was no significant difference of suicidal attempt between experimental group and control group at post-test.

## DISCUSSION

There was statistically significant difference of suicidal ideation between experimental and control groups. In the same way, there was statistically significant difference of interpersonal need between two groups. According to the interpersonal theory of suicide, suicidal ideation is related to the absence of reciprocally caring relationship and loneliness. These two factors cause the patients felt like they were not belong to a valued relationship (thwarted belongingness). Since the researcher established nurse-patient relationship, the patients may realize the consistency and continued relationship as a caring relationship and the social connection. , Even the relationship between patients and caregivers were intimate, the patients had offended feeling because of speech and behavior of their caregiver. Hence the process for modifying negative thoughts about their relationship, and psycho-education for caregivers to promote positive communication and attention were efficient to produce more social connection and social support for patients.

Furthermore suicidal ideation is also related to self-hate and liability especially negative life event which induced the patients perceived that they were a burden on other (perceived burdensomeness). In the part of reducing perceived burdensomeness the patients not only had a chance to modify their negative thoughts about themselves, but also empowered to find out their self-esteem and abilities. Moreover, the patients had their safety plan written on handbook which they may realize as a guideline to confront with negative life event that might occur in the future. The participants could express their profitable application via telephone counseling. The finding of the present study was congruent with the interpersonal theory of suicide and consistent with the previous study which found that both thwarted belongingness and perceived burdensomeness correlated with suicidal ideation [27]. The fulfillment of the interpersonal need is

effect to suicidal ideation reduction.

Nevertheless, there was no statistically significant difference of suicidal attempt between two groups after intervention acquiring. Similarly, there was no statistically significant difference of acquired capability for suicide. This result reveals that suicidal attempt is a suicide-related behavior which depends on a crisis situation. The severity of crisis may difference due to individual's perception. Moreover, durations of situation occurrence in each person are various. A pervious study found that patients who recently hospitalized with a suicide attempt or suicidal ideation were at extremely high risk for suicide in the first week after discharge [28]. In addition, after hospitalized in psychiatric hospital, there were 9% of suicidal death within one day of discharge [17]. In Thailand, 14.3% of mood disorder patients did suicide complete five days after discharge [25]. These findings were mentioned the important of suicide prevention within the first week after discharge. This was the reason that the present study focused on this duration. However, there were other durations of high risk as within 90 days, 57.1% of mood disorder patients did complete suicide, and 38.9% did nonfatal suicide reattempt [25]. Approximately 16% of patients who served in hospital settings exhibit a repeat suicide attempt within one year of the index attempt [29]. According to various high risk durations, suicidal attempt in these participants may difference significantly at another durations.

## CONCLUTIONS

Based on the findings of this present study, it could be concluded that the interpersonal need program demonstrates effects on suicidal ideation reduction in mentally ill patients. The parts of establishing caring relationship, promoting sense of belongingness, and reducing perceived burdensomeness enhance interpersonal need and reduce suicidal ideation. However, the program requires further study to improve the effectiveness for suicidal attempt reduction.

## IMPLICATIONS

The findings of the study suggest that the systematic nursing intervention is essential to reduce suicide rate in mentally ill patients. The interpersonal need program in this study could be applied by psychiatric and mental health nurses to manage suicide prevention for mentally ill patients in order to reduce suicidal ideation.

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