

# Explore Factors of Suicidal Ideation Among Elderly Inpatients in Taiwan

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## Purpose:

The associated risk factors and prevalence for suicidal behaviors are diverse and are closely related to setting, measures, age groups, and different populations [1]. When compared with younger people, older adults are at a higher risk of suicide in most countries [2].

Concerning the risk of suicide, suicidal ideation (SI) usually plays an important role and paves the way to suicidal behaviors [3]. The prevalence of SI varies among the elderly, ranging from 0.7% in older primary care patients [4] to 26% in acute medically ill elderly inpatients [5].

Several studies have revealed multi-domain factors related to SI or suicidal behaviors. Quality of life (QOL) has been found to be associated with the risk of SI or suicidal behaviors in the elderly [6, 7]. In psychological autopsy, most of the cases with completed suicide had a wish to die (WTD) [8], which was also found to be associated with all-cause mortality during five-year follow up in elderly primary care patients [9]. Furthermore, there are other risk factors related to SI and suicidal behaviors, which include clinical depression [5, 10-14], substance misuse [13, 15, 16], poor perception of health [11, 17], financial problems [12, 14], relationship problem [11, 14], poor social support [13, 15], living alone [18], marital status [15, 18], impaired cognition [19, 20], history of traumatic events [1], and the burden of physical illness [21].

Worldwide, the elderly are at a greater risk of suicide than other age groups. There is a paucity of research exploring risk factors for suicide in hospitalized elderly patients.

Therefore, a study designed to explore the prevalence and characteristic of suicidal ideation (SI), such as QOL (quality of life), a wish to die (WTD), and other factors in aged inpatients with medical or surgical conditions in Taiwan was warranted.

## Methods:

A total of 2,199 hospitalized elderly patients over age 65 were enrolled. Demographic data, 5-item Brief Symptom Rating Scale (BSRS-5), and the World Health Organization Quality of Life-BREF (WHOQOL-BREF) data were collected. Logistic regression models were used to find the SI-related factors for all participants and to investigate the covariates correlated with WTD in patients with SI. Receiver operating characteristic (ROC) curve analysis was used to find the most important items of the BSRS-5 predictive of SI in this population.

## Results:

SI was found in 3.1% (68/2199) of the elderly. The statistically significant factors associated with SI were: BSRS-5 item 2 (depression) (odds ratio [OR] = 2.15, 95% confidence interval [CI] = 1.55-2.97), item 4 (inferiority) (OR = 1.62, 1.23-2.13), item 5 (insomnia) (OR = 1.51, 1.12-2.03), and physical domain of WHOQOL (OR = 0.83, 0.7-0.98). QOL15 (mobility) (OR = 0.64, 0.46-0.90) and QOL 16 (satisfaction with sleep) (OR = 0.62, 0.44-0.88) were also significantly associated with SI. The status of living alone (OR = 4.44, 1.24-15.87), QOL 26 (absence of negative feeling) (OR = 0.38, 0.15-0.98), and QOL 27 (being respected/accepted) (OR = 0.43,

0.20-0.92) were significantly associated with WTD among inpatients with SI. The ROC curve analysis revealed that depression, inferiority, and insomnia were the most important items in the BSRS-5 significantly associated with SI among the elderly inpatients.

## Conclusion:

In comparison with a traditional model using the BSRS-5 total score 5/6 as a cut-off point, we found that a propensity score model comprising three items of the BSRS-5, i.e., depression, insomnia, and inferiority can predict the presence of SI among physically ill elderly inpatients. In addition to these three items, mobility and the level of daily activities in the WHOQOL-BREF are also predictors of SI. Approximately one-fourth of suicidal ideators had MTS-WTD, which is associated with living alone, negative feelings, and feelings of not being accepted. WTD should be seen as a signal of a higher risk for subsequent suicidal behavior among those with SI. Careful appreciation of meanings and reasons for WTD for an individual is necessary to develop a mixture of effective therapeutic options for suicide prevention. To provide physical recovery and maintain mental health for physically ill aged inpatients, setting up a multi-faceted approach targeting the aforementioned determinants of SI and WTD for reducing the risk of suicide attempts, and exploring other factors correlated with suicidal behaviors, are important topics and directions for clinical practice and further research.