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Mental health of caregivers of individuals with disabilities: Relation to Suicidal Ideation

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ABSTRACT

Objective: The mental health of caregivers of individuals with disabilities is frequently neglected. This study investigated mental health status and Suicidal Ideation (SI) among caregivers and examined the predictive factors for SI.
Method: Caregivers of individuals with physical or mental disabilities in a tertiary hospital in southern Taiwan were recruited through snowball sampling. They were assessed by self-report questionnaires, consisting of the Taiwanese Depression Questionnaire and a subset of the three-item Chinese Health Questionnaire, to assess probable depression and common mental disorders (CMDs), with cutoff points of 19 and 3, respectively.
Results: Among 255 caregivers, 32.9% had probable depression, 37.6% had probable CMDs, and 18.8% experienced SI. The level of SI was correlated with primary caregivers ($p = 0.015$), lack of support from co-caregivers ($p = 0.023$), caring for younger patients ($p = 0.010$), caring for patients with mental disability ($p = 0.019$) or catastrophic diseases ($p = 0.005$), and caregivers' probable depression ($p < 0.001$) and CMDs ($p < 0.001$). Regression analysis predicted the greatest SI among caregivers caring for younger patients (odds ratio [OR] = 0.98, $p = 0.048$) and for patients with catastrophic diseases (OR = 3.15, $p = 0.008$), as well as for caregivers with probable depression (OR = 3.90, $p = 0.010$) or CMDs (OR = 9.40, $p < 0.001$).
Conclusions: When examining SI, clinicians should be aware of the mental health of caregivers who are responsible for people with disability. In particular, they should be vigilant regarding caregivers of individuals who are of younger age or have catastrophic diseases and regarding caregivers who exhibit probable depression and CMDs.

1. Introduction

Suicide is a crucial public health issue worldwide. Suicide has contributed 1.8% of the universal burden of disease since 1998 and is trending toward more than 2% in 2020 [1]. Suicidal Ideation (SI) is a fundamental marker for recognizing individuals at risk of suicide [2] and suicide attempts [3]. Although SI does not necessarily lead to completed suicide, it remains a significant warning sign for future suicide attempts, especially in people with high suicide risk [4]. Therefore, evaluating SI is a vital step for assessing suicide risk [5].

Although depression is reported to be a risk factor for suicide [6,7], SI also occurs among individuals without clinically significant depressive disorder [8]. Common mental disorders (CMDs), broadly defined as not only depression but also phobia, generalized anxiety disorder, other anxiety disorders, and substance use disorders, represent the major proportion of psychiatric morbidities in the general population, with a 12-month prevalence of 17.6% [9,10]. In Taiwan, the prevalence of probable CMDs increased from 11.5% in 1990 to 23.8% in 2010, and this trend is in line with the rising suicide rate [11].

In addition to psychiatric morbidities, exposure to stressful life events may be associated with the risk of suicide [12]. The well-validated questionnaire List of Threatening Experiences (LTE) consists of 12 major life events defined as entailing"considerable objectively-defined long-term threat" [13]. Lifetime LTE scores significantly correlate with psychological distress, anxiety, and depression [13–15]. "Serious illness or injury to a close relative" is the most reported category of LTE [15]. Caregivers who provide unpaid care to their families or close friends are exposed to these life-threatening stressors, particularly if the care recipients are functionally disabled. Caregivers have a greater

Abbreviations: AIDS, acquired immune deficiency syndrome; CHQ, Chinese Health Questionnaire; CKD, chronic kidney disease; CMD, common mental disorder; CVD, cerebral vascular disease; MDD, major depressive disorder; MoHW, Ministry of Health and Welfare; NHI, National Health Insurance; OR, odds ratio; SI, Suicidal Ideation; TDQ, Taiwanese Depression Questionnaire.

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risk than non-caregivers of neglecting the importance of engaging in health systems and have been associated with impaired immune responses and poorer health [16,17]. Providing care is an independent risk factor for psychological morbidity after adjustment for perceived social support and stress [18]. Research has found that 28.3%–39.6% of caregivers have psychological morbidities [19,20]. Furthermore, caregivers who endure emotional distress have a 63% greater mortality rate than those who provide no care [21]. In particular, poorer mental health and physical health are predictors of SI [22]. However, few studies have investigated the mental health and risk factors for SI among caregivers of people with disabilities.

In Taiwan, the percentage of the population with disabilities has increased twofold in the past decades, and the number of people with disabilities has reached more than one million since 2007 [23]. This rise may be due to increased public awareness, as well as greater identification and resource utilization of previously undiscovered cases [11], which reflects the importance of mental health among caregivers providing long-term care for recipients with functional dependence. This study examined the demographic characteristics and mental health of caregivers and further explored the differences in the aforementioned factors between caregivers with positive and negative SI. The predictors of SI among caregivers were also investigated in order to provide valuable information for suicide prevention in caregivers of disabled care recipients.

2. Methods

2.1. Participants

This study received approval from the Institutional Review Board of Chang Gung Memorial Hospital. Snowball sampling was adopted to recruit caregivers who were family members or close friends of care recipients certified by the Taiwan Ministry of Health and Welfare (MoHW) as disabled because of psychiatric or physical illnesses. The primary caregiver was defined as a family member, partner, or close friend who participated in the majority of the patient's care and medical treatment [24]. The caregivers of disabled care recipients with diagnoses of psychiatric illness were categorized into the "mental disability" group, and those of disabled care recipients with diagnosis of chronic kidney disease (CKD) with hemodialysis, cerebral vascular disease (CVD), or other physical illnesses requiring long and comprehensive care were categorized into the "physical disability" group. These care recipients were patients who were hospitalized or followed up in outpatient clinics in a tertiary hospital in southern Taiwan during the study period.

2.2. Assessments

2.2.1. Demographic data of the caregivers

The caregivers were assessed systematically using a constructed self-report questionnaire including information on demographic data. The demographic data collected pertained to gender, age, marital status, years of education, employment status (yes/no), primary caregiver (yes/no), living with care recipients (yes/no), receiving support from co-caregivers (yes/no), and duration of care. Caregivers were further categorized into two groups, namely "mental disability" and "physical disability," based on the diagnoses of the care recipients.

2.2.2. Demographic data and disease characteristics of care recipients

The caregivers provided the following information regarding disabled care recipients: gender, diagnoses, relationship to the enrolled caregivers, illness duration, certified based on the MoHW registry of catastrophic diseases (yes/no), and receiving social welfare (yes/no). In Taiwan, a person with a physician-diagnosed catastrophic illness may apply for a catastrophic illness certificate. If the National Health Insurance (NHI) Administration approves the application, then it registers catastrophic illness on the patient's NHI card [25].

2.2.3. Mental health measurements of caregivers

2.2.3.1. Depression. The Taiwanese Depression Questionnaire (TDQ), a depression-screening questionnaire, was chosen as a culturally sensitive instrument for Chinese individuals and was used to assess severity of depression. The TDQ is composed of 18-item questionnaires and evaluates symptoms that have been experienced over the past 2 weeks using a 4-point Likert scale ranging from 0 (*absence of symptoms*) to 3 (*presence of symptoms almost every day*). The overall score ranges from 0 to 54, with higher scores representing more severe depressive symptoms. Structured Clinical Interview for DSM-III-R was performed to compare the validity of the TDQ and the Beck Depression Inventory in detecting depression. The TDQ was reported to be an effective instrument in screening depression at the cutoff score of 19, with a satisfactory reliability of 0.89 and validity of 0.92. The original scale achieved an acceptable reliability rating (Cronbach's α coefficient = 0.90) [26]. For the Chinese population, the TDQ is widely applied to evaluate depression in the community [27,28]. The Cronbach's α value of the TDQ derived from the present study provided a coefficient of 0.954. A TDQ score equal to or higher than 19 was categorized as indicating probable depression [26,29].

2.2.3.2. Common mental disorders. The Chinese Health Questionnaire (CHQ) is the validated instrument used for screening for CMDs. It is based on the Chinese version of the General Health Questionnaire with the addition of culturally specific items [30]. A subset of twelve-item CHQ (CHQ-12) was further selected from the 30-item CHQ and has been found to improve recognition of minor psychiatric disorders in the Chinese community with 78% sensitivity and 77% specificity [31]. Scoring was based on a 4-point Likert scale ranging from 0 to 3. CHQ-12 also detects common mental health issues in the Chinese population worldwide [32–34]. To save caregivers time and avoid similarity with TDQ items, this study selected the following three items (CHQ-3) from the CHQ-12: "I have been taking things hard," "I have been feeling nervous and strung-up all the time," and "I have been feeling that life is entirely hopeless." Probable CMDs were screened using a cutoff point of 3 or above, as proposed for CHQ-12 [11].

2.2.3.3. SI. The presentation of SI was explored using one of the TDQ items: "I have been feeling miserable and have even wanted to die." A single suicide item composed by a depression scale has been used as an efficient tool to screen suicide risk and assess SI [35] and to predict suicide attempts and completed suicide [36]. In this study, the caregivers who responded "yes" or "no" to the suicide item were categorized into the "positive SI" or "negative SI" group, respectively.

2.3. Statistical analysis

Data were analyzed using the statistical software package SPSS, version 19.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistical analysis was performed to analyze the demographic characteristics of the caregivers and care recipients with disabilities. Variables are presented as either mean ($\pm$ standard deviation) or frequency (%). Dummy variables were set for marital status, employment status, being a primary caregiver, living with care recipients, and having co-caregivers. The covariates of care recipients listed on the registry of catastrophic diseases, relationship to the caregivers, disability type, and social welfare were also dummy-coded. One-way ANOVA and the chi-square (χ^2) test were undertaken to compare continuous and categorical variables between the negative and positive SI groups, respectively. Fisher's exact test was performed when an expected value was less than 5 in the χ^2 2×2 contingency table. Finally, forward logistic regression analysis was conducted to examine the effect of predictors of SI among caregivers by selecting the variables with $p < 0.1$ in univariate analysis. The entry and removal probabilities were 0.05. Unstandardized coefficients (B) and odds ratios