

# Depression, Hopelessness, and Suicidal Ideation in the Terminally Ill

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*This study investigated the mediational hypothesis of hopelessness in predicting suicidal ideation in a group of 196 patients with advanced terminal cancer. Each patient underwent a semistructured interview to assess hopelessness and suicidal ideation, and also completed the Beck Depression Inventory (short form). Hopelessness was correlated more highly with suicidal ideation than was the level of depression. In multiple linear-regression analyses, hopelessness contributed uniquely to the prediction of suicidal ideation when the level of depression was controlled. For health care providers attending to the needs of dying patients, hopelessness appears to be an important clinical marker of suicidal ideation in this vulnerable patient population.*

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A considerable body of research has explored the relationships between depression, hopelessness, and suicidal behavior. Studies of various patient groups, including the elderly and general medical patients, have found that hopelessness is correlated more highly with measures of suicidal ideation and intent than is the severity of depressive symptomatology.<sup>1-7</sup> In addition, prospective studies have shown that hopelessness at the time of an index psychiatric assessment is a significant predictor of eventual completed suicide.<sup>8</sup> This evidence suggests that there is a relatively consistent association between hopelessness and suicide that cannot be ex-

plained by depression alone. Accordingly, some authors have proposed a mediational hypothesis, in which hopelessness serves as an important intervening variable that mediates the relationship between depression and suicide.<sup>9</sup>

Nevertheless, some studies have failed to find supportive evidence for this mediational hypothesis of hopelessness and suicidal behavior, which suggests that the relationship may hold more strongly for some patient groups than for others.<sup>10-14</sup> One relevant group that has yet to be investigated in this context is the population of medically ill patients who are nearing death from advanced terminal disease. In the case of patients with cancer, it is known that the suicide rate is at least twice that of the general population, with particularly increased risk in the advanced stages of illness.<sup>15</sup> The actual incidence of suicide may even be higher, given that families are reluctant to report death by suicide in those circumstances.<sup>16</sup> This point raises the conceptual question as to the possible role of hopelessness as a mediator of suicidal behavior among patients whose medical prognosis anticipates a fatal outcome.

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What is the nature of hope and hopelessness among patients facing imminent death? This question raises both conceptual and definitional challenges. On the one hand, the maintenance of hope and a terminal prognosis can perhaps be seen as mutually exclusive; in a medical sense, the situation is indeed hopeless. On the other hand, hope and hopelessness do not appear to be based solely on medical prognosis in this population.<sup>17,18</sup> Rather, hope may be a "concept that suggests a greater emotional component than mere expectation and is seen as an active process of conscious and unconscious meaning."<sup>17</sup> In this study, we examined the applicability of the mediational hypothesis of hopelessness and suicide by examining the relationships between depression, hopelessness, and suicidal ideation among terminally ill patients with advanced cancer.

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## METHODS

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### Subjects

Patients were recruited from two palliative care inpatient units in Winnipeg, Manitoba, Canada. Before participation, all patients gave written informed consent.

Two hundred patients were interviewed initially, 196 of whom (103 women and 93 men, average age = 71.0 years, standard deviation = 10.7 years) provided complete data on all measures used in this study. Medically, all patients had a primary diagnosis of advanced cancer. Primary tumor sites were the lung (25.5%), gastrointestinal tract (19.5%), genitourinary system (13.0%), and female breast (11.5%). A further 9.0% of the patients had hematologic malignancies, while the remainder (21.5%) had a variety of solid tumors. The median survival time from the date of the interview to the date of death was 43 days.

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### Procedure

One of the main goals of the study was to investigate the relationship between depression and the desire for death in patients with ad-

vanced cancer, the major findings of which have been reported elsewhere.<sup>19</sup> However, the protocol also included measures of hopelessness and suicidal ideation, which bear on the mediational hypothesis addressed in the present study.

The patients were interviewed about 1 week after admission by 1 of the participating units. The interviews were conducted by a psychiatrist, psychologist, or psychiatric nurse with experience in medical consultation-liaison. A random sample of 27 interviews was attended by an observer-rater to provide a reliability check.

The protocol included a diagnostic interview for depression that was adapted from the Schedule for Affective Disorders and Schizophrenia (SADS).<sup>20</sup> Each patient also completed the 13-item short form of the Beck Depression Inventory (BDI-SF),<sup>21</sup> usually in an oral administration given by the interviewer. Hopelessness and suicidal ideation were each assessed in two ways. On the BDI-SF, these constructs were measured with Items 2 (pessimism) and 7 (self-harm), respectively, by using 4-point self-report ratings of symptom severity. On the SADS, hopelessness and suicidal ideation were measured with a discouragement/pessimism/hopelessness item and a suicidal tendencies item based on interviewer ratings of symptom severity (using 6- and 7-point scales, respectively). Although some dying patients may express a readiness for death or even a desire to die soon,<sup>19</sup> for the present purpose we considered suicidal ideation to refer only to specific thoughts of ending one's own life. Hopelessness was not framed in terms of prognostic expectation, but rather defined more broadly so as to encompass the capacity to find purpose in living. As such, in spite of the unique terminal prognosis of our patient population, hopelessness and suicidal ideation were defined within a traditional psychiatric frame of reference.

Given the overlapping content of the self-report and interviewer ratings, we created composite measures by summing the scores for corresponding items from the BDI-SF and the SADS. This permitted the use of all the available data related to these constructs, enhanced reliability due to the inclusion of multiple items,

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and incorporation of converging information from self-report and interview methodologies. We then recalculated the total score of the BDI-SF as an 11-item scale in which Items 2 and 7 were deleted; this approach ensured that any associations between depression and hopelessness or suicidal ideation would not simply be an artifact of both these items having been included within the measure of depression itself.

For the mediational hypothesis to be supported, hopelessness should 1) be more highly correlated with the measure of suicidal ideation than with depression scores and 2) add significantly to the prediction of variance in suicidal ideation scores, even after the contribution of depression has been removed. These hypotheses were addressed statistically in a series of correlational analyses. First, Pearson  $r$  coefficients were computed to examine the relative magnitudes of the associations between variables. The significance of the difference in the correlations between suicidal ideation and the measures of depression and hopelessness were then examined using a  $t$ -test for differences between correlation coefficients derived from a single sample. Because the hypothesized direction of the difference could be specified by theory, a one-tailed test was justified. Second, two multiple linear-regression analyses were conducted, both of which used suicidal ideation as the independent variable. In the first analysis, depression scores were entered as the initial dependent variable, followed by hopelessness scores, whereas in the second analysis this order of entry was reversed. This procedure did not attempt to identify the entire range of possible variables that might be associated with suicidal ideation in patients with advanced cancer; rather, the procedure was targeted specifically to the theoretical predictions arising from the mediational hypothesis, which discusses the relative importance of the constructs of hopelessness and depression.

### RESULTS

For the interview ratings of hopelessness and suicidal ideation, the reliability coefficients (in-

tra-class correlations) were  $r=0.92$  and  $r=0.66$  ( $N_s=27$ ), respectively.

The correlation between the measures of suicidal ideation and depression was  $r=0.35$  ( $N=196$ ,  $P<0.001$ ), whereas the correlation between suicidal ideation and hopelessness was  $r=0.46$  ( $N=196$ ,  $P<0.001$ ). Depression and hopelessness scores were also correlated significantly with one another ( $r=0.56$ ,  $n=196$ ,  $P<0.001$ ). However, the hypothesis that suicidal ideation would correlate more highly with hopelessness than with depression was confirmed in a one-tailed test,  $t(193)=1.85$ ,  $P<0.05$ .

In the first multiple regression analysis, the forced entry of depression scores resulted in an adjusted  $R^2=0.12$ ,  $t(194)=5.25$ ,  $P<0.001$ . In the next step, the hypothesis that hopelessness would improve the prediction of suicidal ideation was confirmed. Specifically, the entry of hopelessness scores into the regression equation resulted in an increased  $R^2=0.21$ , and hopelessness was retained as a significant component of this model predicting suicidal ideation,  $t(193)=4.90$ ,  $P<0.001$ . In the second multiple regression analysis, the forced entry of hopelessness scores yielded an adjusted  $R^2=0.21$ ,  $t(194)=7.17$ ,  $P<0.001$ . In this case, depression did not explain enough unique variance in suicidal ideation scores to merit retention. Together, then, the two regression analyses indicate that the correlation of depression with suicidal ideation is based largely on variance that it shares with hopelessness, but that hopelessness contributes uniquely to the prediction of suicidal ideation among the terminally ill.

### DISCUSSION

In general, this study confirms the relevance of the construct of hopelessness for understanding suicidal ideation and behavior. It also shows that the association between hopelessness and suicidal ideation holds even among people who are dying and that, as in other patient groups, this association cannot be explained by depression alone. It is of particular conceptual interest that these relationships were observed in a group of seriously ill patients whose futures, in a medical

sense, were indeed hopeless. As other research in palliative care has shown, however, the dimensions of hope and optimism are complex issues that cannot simply be reduced to one of medical prognosis.<sup>17,18,22</sup>

For clinicians faced with the task of evaluating suicidal ideation in a palliative care setting, many issues must be considered. A range of putative risk factors for suicide have been discussed in relation to patients with advanced disease, including physical problems such as pain, delirium, and fatigue; social factors such as the extent of emotional support; and various dimensions of psychopathology and psychiatric history.<sup>23</sup> Depression, however, is the dimension that has the most empirical support. For example, Emanuel *et al.*<sup>24</sup> found that among oncology outpatients, depression, but not pain, was related to hoarding drugs in preparation for a possible future suicide attempt.

Nevertheless, the results of the present study indicate that in the terminally ill, as with other populations, hopelessness is associated with suicidal ideation more strongly than is depression. This finding indicates that the issue of suicide among patients with terminal illness can perhaps be informed by an appreciation of the broader literature on suicidal behavior. For the general public, suicide by patients with terminal illness is seen as more acceptable than suicide

under other circumstances,<sup>25,26</sup> suggesting that it is viewed as a fundamentally different act when carried out by dying patients than by the physically healthy. To some extent, this perception may contribute to the growing momentum to legalize assisted suicide for the terminally ill. The present results, however, indicate that from a psychiatric perspective, there may be similarities in the processes leading to suicidal ideation across various patient groups. When hopelessness becomes a pervasive focal point of one's psychological response to issues of death and dying, then for some patients, suicide may be seen as a compelling alternative over the decline toward a natural death. For those patients, hopelessness appears to be an important clinical marker for suicidal ideation. In this analysis, the nature of hope—its meaning in the context of terminal illness and its preservation even in the face of imminent death—represents an important avenue for future research.

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