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ELSEVIER
Suicide Evaluation in Medical Patients
A Pilot Study

Douglas Berger, M.D.

Abstract: General hospital psychiatrists were given a pilot questionnaire aimed at characterizing patients evaluated for suicidality. Twenty-seven patients evaluated for suicidality in a 4-month period were studied for demographic, medical, psychiatric, and suicidal variables. Comparison with medical patients who had attempted/completed suicide in prior studies and recommendations to reduce suicidal impulses and improve the database were discussed.

Introduction
Suicidal patients are among the most challenging patients to confront a psychiatrist in the general medical setting. Chronic medical illness and pain have been found to be risk factors for suicide [1-4]. Psychiatrists working in general medical hospitals often get called to evaluate patients for suicidality. Approximately 9% of all psychiatric consultations at our institution are to evaluate suicidality. Because these high-risk patients have not been well studied, we felt that characterizing this group would give an empirical foundation for evaluation and treatment recommendations.

This was a pilot study aimed at studying the potential usefulness of a database that attempted to characterize any patient referred for suicide evaluation. Our study did not limit itself to a retrospective analysis of actual attempts or completed suicides as in previous studies.

Prior studies attempted to identify characteristics of medical patients who had attempted or completed suicide while hospitalized. One study found all attempts to be impulsive, associated with anger, and precipitated by loss of emotional support [5]. These attempts were largely by patients with personality disorder and psychosis. Another study [6] characterized patients as having impaired relationships, excess emotional stress over their illness, a low pain tolerance, and a need to control the treatment. A general lack of emotional support as well as prior suicide threats were also present. Impaired alertness or disorientation was not correlated. Dialysis [7] and malignancies [8] have also been associated with suicidal behavior.

The purpose of comparing our group of patients with suicidal ideation to attempters or completers of suicide in the medical setting is to study the variables that these groups have in common and those that differ. This may allow clinicians to identify high-risk factors for suicide in patients who are consulted on for suicidal ideation. We also looked at those variables that were associated with greater suicidal impulses in our study in order to further delineate potential high-risk patients.

Methods
Subjects
Data were collected from the pool of psychiatric consult requests at Montefiore Medical Center, a 700-bed general hospital located in the Bronx, New York City. The study was conducted over a 4-month period, from February to June 1991. Databases were kept in the locked files of the researchers to protect patient anonymity. All patients were included for whom an initial consultation request was made.
to evaluate suicidality. These were patients who verbalized suicidal ideas to the treating clinicians, nursing staff, or family, who then relayed this information to staff.

Because of this study's focus on suicidality in the hospital, consults to evaluate patients admitted for medical consequences of suicide attempts were excluded.

Procedure
Psychiatric consultants completed the Suicidal Ideation Assessment Form (SIAF) (see Appendix), a consultant-rated questionnaire, during the course of a consultation for suicide evaluation. The SIAF took approximately 5 minutes to complete for each patient. Initial orientation to the SIAF and ongoing review with the consultants by the researcher provided rating instruction.

Details of the variables studied in the database are included in the Results section. Degree of suicidal intent was rated by the two suicide subscales (ratings of current suicidal thoughts and recent suicidal behaviors) of the Bronx Municipal Hospital Center Psychiatric Emergency Room Violence and Suicide Assessment Form [9]. This scale consists of a degree of impulsivity rating. As described under Results, additional patient information was obtained from the Patient Consultation Record (PCR) described elsewhere [10]. The PCR consists of demographic data, Axis I-4 diagnoses, and other consultation-related information.

Statistical comparisons used two-tailed t-tests, Chi-square tests, or data were presented as percentages of the whole as described under Results.

Results

Demographic Data
Twenty-seven completed SIAF questionnaires were included in this study, or about 9% of the total psychiatric consultation requests during this 4-month period. Incomplete data on some items is reflected in the total number reported for that item. PCR data were located on only 20 questionnaires because either the patient's name or chart number was not recorded on the SIAF. Subject data not compared with the whole was due to that variable being included in the SIAF though not in the PCR.

Subjects included 13 (65%) men and 7 (35%) women, with a mean age of 55 years. There was an almost even distribution of patients representing all age groups from 25 to over 75 years old. Racial groups included 9 (45%) Caucasians, 4 (20%) blacks, 6 (30%) Hispanics, and 1 (5%) Asian. Three (15%) were currently married and 16 (80%) were either single, separated, divorced, or widowed. Eight (40%) patients were Catholic, 6 (30%) were Jewish, 5 (25%) were Protestant, and 1 (5%) came under the category Other. Nine (33.3%) patients lived alone, 15 (55.6%) lived with family, and 1 (3.7%) lived in a nursing home. Five (18.5%) were working, 5 (18.5%) were disabled, 10 (37%) were retired, and 7 (25.9%) were unemployed. 82.4% of patients were not in the active workforce. Social supports were rated (in the clinicians' estimates) as poor in 5 (18.5%), fair in 9 (33.3%), good in 10 (37%), and excellent in 2 (7.7%).

Axis 4 stress level was rated from 1 (no stress) to 6 (catastrophic): 15 (75%) were rated as 5 or 6 level of stress. On Axis 5 global assessment of functioning (GAF), 17 (85%) were functioning above the 70 level in the past year and 8 (40%) remained above this level at the time of consultation.

Demographic data were compared with the PCR data for all consultation requests during the same 4-month period (N = 277). There were no differences on age, race, marital status, religion, residence status, or global assessment of functioning.

There was a trend toward more male patients in the group consulted for suicidality (44% male in the group as a whole vs 65% suicidal, X² = 2.87, df = 1, p = 0.09), as well as higher Axis 4 stress levels in the suicidal group (54% Axis 5 or 6 in the group as a whole vs 75% suicidal, X² = 2.87, df = 1, p = 0.09). Neither social supports nor occupational status were recorded on the PCR data and could not be compared.

Medical Situation Data
Twelve (60%) of the suicide evaluations were on the medical service, 4 (20%) were on surgery, and 2 (10%) were on neurology/neurosurgery. This was similar in distribution to the consultations as a whole (all consultation requests for any reason).

Though both the primary reason for hospitalization as well as medical diagnosis spanned a gamut of conditions, it was notable that only one patient (3.7%) had a diagnosis of neoplasm compared with 56 (19%) of the whole. None of the subjects were on dialysis. Eight (40%) of the suicidal consults were diagnosed with delirium or dementia, whereas 165 (59%) were for the whole; this difference did not reach statistical significance.

Medical condition was rated as acute in 15 (53.6%) and chronic in 7 (25.9%). Five (18.5%) were rated
terminal, and none with imminent death. Approximately half of the subjects were rated as either in physical pain or physical distress. Mean values for all suicidal subjects on a 0–10 visual analog scale were 3.5 for physical pain and 4.0 for physical distress, respectively.

**Suicidal Characteristics**

Eighteen (79%) of the subjects were consulted on within the first week after admission for assessment of suicidality. Breakdown of current suicidal thoughts (highest during current hospitalization), rated from 1 (no suicidal ideas) to 5 (intense wish for suicide) was 8 (29.6%) rated 1, 11 (40.7%) rated 2, 5 (18.5%) rated 3, and 3 (11.1%) rated 5. Mean value was 2.3 (SD 1.3). Recent suicidal behaviors (during the past several weeks) were rated from 1 (no plans or attempts) to 6 (made a serious attempt). Results were 13 (48.1%) rated 1, 8 (29.6%) rated 2, 1 (3.7%) rated 3, 2 (7.4%) rated 4, and 3 (11.1%) rated 6. Mean value was 2.1 (SD 1.6).

Suicidal ideas were rated chronic in only 6 (22.2%) cases and acute in 20 (74.1%). Five (18.5%) had made prior attempts, 2 of which were considered as having a serious prior attempt.

At the time of evaluation, clinicians rated subjects' affect as depressed/sad/despair in 17 (63%), angry/frustrated in 3 (11%), anxious in 1 (3.7%), intoxicated in 1 (3.7%), and left this section unrated or not known in 5 (18.5%). Though given the opportunity to do so on the PCR, clinicians did not make a personality disorder diagnosis on these subjects, and no retrospective personality analysis was done.

Constant observation was ordered in 6 (30%) subjects with a mean duration of 2 days. There were no actual suicide attempts during this study period. Subjects were seen on an average of 5.3 follow-up visits by the psychiatrist. No significant data were found for room type or time of day that suicidal ideation was verbalized.

**Precipitant of Suicidal Data**

There was no limit to the number of precipitants that could be recorded for any subject. In decreasing frequency, the number of subjects rated with the following precipitants were as follows: 15 (55.6%) acute change in medical condition (new onset of symptoms or patient was informed of or perceived a change in diagnosis/prognosis (DX/PX) for the worse); 12 (44.4%) loss of physical function; 11 (40.4%) loss of role function; 9 (33.3%) maladaptive reaction to illness; 9 (33.3%) major depression; 6 (22.2%) reaction to pain; 6 (22.2%) interpersonal conflict; 5 (18%) conflict with staff; 4 (14.8%) family conflict; 4 (14.8%) bereavement; 3 (11.1%) organic disorder (delirium/dementia); 3 (11.1%) reaction to acute loss of emotional support; 3 (11.1%) related to loss of face (real or perceived); 2 (7.4%) related to drug or alcohol (intoxication or withdrawal); 2 (7.4%) attempt to manipulate patient's social situation; none rated as due to conflict with other patients or due to psychosis.

**Comparison of High and Low Suicidal Impulses**

Comparisons of both current suicidal thoughts and recent suicidal behaviors for those patients who had none or only mild suicidal impulses to those who had more serious impulses were made for each item on the SIAF.

For recent suicidal behaviors, subjects rated 1 or 2 were considered less serious (N = 21, mean 1.4, SD 0.5), and those rated 3 or more were more serious (N = 6, mean 4.8, SD 1.3).

Only social supports differed significantly between less serious and more serious groups on recent suicidal behavior. Social supports were rated from 1 (none) to 5 (excellent). The less serious recent suicidal behavior group's social supports (mean 3.5, SD 0.8) differed significantly from the more serious (mean 2.6, SD 0.9) (t = 2.2 df = 25, p = 0.03); the more serious suicidal group was associated with poorer social supports. There was also a trend for prior attempts (rated as 1 [yes] and 2 [no]) to differ between these groups. The less serious recent suicidal behavior group (mean 1.9, SD 0.3) tended not to have prior attempts compared with the more serious group (mean 1.4, SD 0.5) (x = 2.6, df = 1, p = 0.09). The less and more serious groups on recent suicidal behavior maintained these differences when compared for current suicidal thoughts (rated similarly). The less serious group (mean 1.8, SD 0.7) differed significantly from the more serious group (mean 3.7, SD 2.0) (t = 3.6 df = 25, p = 0.001).

Current suicidal thoughts were also broken down into less serious (rated 1 or 2, N = 19, mean 1.6, SD 0.5) and more serious (rated 3 or more, N = 8, mean 3.9, SD 1.2).

Only one item on the SIAF differed significantly for the less and more serious groups on current suicidal thoughts. Current physical distress ratings, rated 0 (no distress) to 10 (would rather die), were statistically different for the less serious (mean 2.9, SD 2.2) compared with the more serious group on
current suicidal thoughts (mean 7.0, SD 2.3) \( t = 3.5, \ df = 25, p = 0.003 \). The less and more serious
groups on current suicidal thoughts maintained
these differences when compared for recent suicidal
behavior. The less serious group (mean 1.6, SD 1.2)
differed from the more serious group (mean 3.3, SD
1.9) \( t = 2.9, \ df = 25, p = 0.01 \).

Discussion

This was a pilot study that attempted to determine
if a database such as the SIAF could be used as an
effective means to characterize patients who are
seen in consultation in the medical setting for sui-
cide evaluation and to recommend areas that war-
rant further study.

Some of the limitations of this study included a
limited study duration and a small number of sub-
jects. Items were rated by clinical impression rather
than specific criteria sets and there were no inter-
rater reliability checks. Study orientation meetings
and discussion with the researchers may have had
helped limit clinician rating variance.

Results of this study that deserve further inves-
tigation include a possible trend towards high male
representation among the suicidal subjects, high
axis four stress ratings, and a large drop in GAP in
the prior year. There was a trend towards acute
medical conditions and acute suicidal ideation, few
with prior attempts. Few required constant obser-
vation, but in our institution, 15-minute checks
could also be recommended and were not recorded
on the database.

The more serious recent suicidal behavior pa-
tients were those who tended to have poorer social
supports and prior attempts compared with the less
serious recent suicidal behavior patients. The more
serious patients on current suicidal thoughts were
those who had greater current physical distress
ratings.

It may be that the more serious suicidal patients
represent a different subgroup with different char-
acteristics than the less serious group. Further clarifi-
cation of these differences in a larger subject
sample would be helpful. A more refined definition
of physical distress also needs consideration.

Prior studies [5,6] of suicidal attempter/com-
pletor medical patients describe these patients as
being demanding, angry and impulsive, personality
disordered and psychotic, with precipitants of staff
conflict and lack of emotional support. In contrast,
this study found a trend towards acute changes in
medical condition, loss of physical and role func-
tions, and depression. There was minimal staff con-
lict and no psychosis. There was also only one
subject with neoplasm compared with prior studies
[8] that found a relation between neoplasm and sui-
cidality. Our findings were consistent with prior
studies, showing a correlation with maladaptive
(emotional) reaction to illness and few patients with
delirium or dementia (who might hurt themselves,
but since they were not considered suicidal, would
not have been included in the subject group).

By including patients with any suicidal ideation
and not just attempters/completers of suicide in our
study, we may have picked up a mixed population
not comparable to the other studies [11]. There
could have been institutional patient population dif-
fences as well as differences in assessment meth-
ods that make comparison difficult. Further
research needs to address these differences so that
psychiatric consultants can begin to look at factors
that correlate with more serious suicide risk when
called to evaluate for suicidality.

Interventions that could enhance social support
and address high stress levels (family meet-
ings, therapist support); diminish physical distress
(medical or surgical interventions); treat depression
(psychotherapy/ pharmacotherapy); and improve
physical and role functioning (physical therapy, in-
terpersonal therapy) are important avenues that
consultants should explore in their recommenda-
tions to the primary treating physician. Attention to
patients’ reaction to acute changes in their medical
condition is also important.

The detailed study of suicidality in the medical
setting is important to an understanding of the in-
terplay of medical, psychological, and social factors
in patients referred to psychiatrists for this reason.
Studies using databases such as the SIAF and PCR
are an effective and time-efficient means of acquir-
ing data for this purpose. More research is needed
to refine the database and to make recommenda-
tions to clinicians who evaluate suicidal patients in
the general medical hospital.

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Dr. Helen Madlauer who helped with revisions.

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Appendix: Suicidal Ideation Assessment Form (SIAF)

PATIENT CHARACTERISTICS

NAME

Chart Number ________________________ Occupational Status ________________________

1) Working  2) Disability  3) Retired

4) Unemployed  5) Homemaker  6) Other

Living Arrangements: Before this Adm. ________________________ After d/c. ________________________

1) Alone  2) With Family  3) Friends/Others  4) Nursing Home/Health-Related Facility

5) Hospice  6) Other Hospital  7) W/Home Attendant

8) Homeless  9) Other

CURRENT MEDICAL SITUATION

Primary Reason for Hospitalization (CHIEF COMPLAINT)

(1) Acute Is Condition Terminal? Is Death Imminent?

(2) Chronic  (1) Yes,  (2) No __________ (1) Yes,  (2) No __________

Currently in pain? Rate: 0-------10 (10 = would rather die)

(1) Yes,  (2) No __________

Currently in physical distress? Rate: 0-------10 (10 = Would rather die)

(1) Yes,  (2) No __________

Room Type: ________________________

1) Single  2) Double  3) Multiple  4) ICU

5) Single/Isolation  6) Bioclean.

SUICIDAL CHARACTERISTICS

Time of day SI was voiced or attempt was made ________________________
1) Morning  2) Afternoon  3) Evening  4) Night
5) No Information  6) Ongoing.

Duration of hospitalization up to voicing SI _______________________________

Days remaining until planned discharge (if known) _______________________

RATE/DEGREE OF SUICIDAL INTENT

(highest during current hospitalization)

(4) __________ Expresses intense wish to kill self and has made a plan.
(4) __________ Reveals psychotic or delusional ideation or hallucination to kill or injure self.
(3) __________ Expresses intense wish to kill self but has made no plan.
(2) __________ Expresses ambivalent wish to kill self.
(0) __________ Reveals no suicidal ideas.

Recent Suicidal Behaviors

(during the past several weeks)

(4) __________ Made a serious suicide attempt (e.g., by gunshot, ingestion, hanging or jumping).
(3) __________ Made a suicide gesture (e.g., superficially cut wrist or ingested two pills).
(3) __________ Made a specific suicide plan.
(3) __________ Attempt made with little chance of discovery.
(2) __________ Had no interest or hope for the future.
(0) __________ Has made no suicidal plans or attempts.

Are suicidal ideas chronic? ___________________________________________

Affect associated with suicidal ideation (SI) ____________________________

Prior attempt? Serious __________ Yes or __________ No.

Social supports: none poor fair good excellent.

Extreme use of denial in the face of hopeless reality?

PRECIPITANT OF SUICIDALITY (check all that apply, write in details).

Reaction to acute change in medical condition

____________________ New onset physical symptoms

____________________ Patient informed of change in DX/PX, (which) for the worse?

____________________ Patient perceived change in DX/PX (which) for the worse?

____________________ Other, describe ________________________________

Reaction to pain

____________________ Acute pain ____________________________ Chronic pain

____________________ Pain under-treated by medical staff

____________________ Validity of pain denied by staff.

________________________________________ Related to Organic Brain Syndrome circle: Delirium/Dementia/Organic psychosis if directed organic cause is known list:

________________________________________ Related to drug/Etoh use, specify drug ____________________________

____________________ Intoxicated during SI ____________________________ in withdrawal during SI

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Suicide Evaluation in Medical Patients

____________________ in order to get medication prescribed.

____________________ Related to psychosis, acute? chronic?

____________________ Related to depression, psychotic?

____________________ Related to maladaptive reaction to illness, acute? chronic?

____________________ Conflict with staff, specifics

____________________ Patient overdependent on medical relationships for support.

____________________ Effort to obtain special care.

____________________ Specific staff were away or there was perceived/rejection.

____________________ Validity of medical symptoms challenged by staff.

____________________ Staff refusal to do procedure patient requests.

____________________ Patient refusal to comply with test/procedure. Is staff pushy?

____________________ Acute loss of emotional support. With who?

____________________ Reaction to relationship with other patients.

____________________ Interpersonal conflict.

____________________ Change in medical staff status of another patient(s).

____________________ Family conflict, specifics

____________________ related temporally to family visit(phone call.

____________________ Interpersonal conflict, specifics

____________________ Cry for help/attention, emotional support.

____________________ Preventing interpersonal change (e.g., to keep a lover from leaving).

____________________ Provoking interpersonal change (e.g., to separate from parents; a way out for the battered wife).

____________________ Loss of role function, at work? In the family? In society?

____________________ Specifics

____________________ Loss of physical function, specify

____________________ Shame/loss of face, real/perceived; in what aspect of psychosocial system?

____________________ Bereavement, acute? chronic? Who died?

____________________ Patient was attempting to manipulate his/her social situation (e.g., to obtain services; to cover an alcohol problem; to lessen the responsibility for a crime).

____________________ Other situation, specify: