Enhancing Risk Assessment across Mental Health Services

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Enhancing risk assessment across mental health services

Amresh Shrivastava
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The objective

– Educate clinicians for minimizing the chances of error in clinical assessment for suicide behavior
– Training of non-psychiatric professionals for risk assessment
– Enhance standard of care
What is the purpose of risk assessment?

- Establish clinical needs
- Prediction of an attempt
- Decide level and quality of care
- Management issues
  - Policy matters
  - Patient safety
  - Standard of care
- Component of suicide prevention
Assessment: Dimensions

1. Chances of suicide attempt in a time span (when)
2. Nature of intervention (what)
3. Setting of intervention (where)
4. Risk (how)
5. Personnel for assessment (who)
Training of the trainers

Identification
Assessment
Intervention

Deciding
nature of management,
level of monitoring,
need for hospitalization
and
planning of care
• Too many factors and too many variations
• Prediction of suicide behavior has been a core area of research in suicidology
• Several psychological & biological Markers have been proposed.
• Neither are free from false positive and false negative results
• Conventional method has been a thorough clinical assessment which get enriched by aid of structured interviews.
• Scales are useful: either self-administered, clinician administered or computer-based

Suicide in Clinical Practice is not uncommon

- 1 in 6 completed suicides are patients in psychotherapy
- 50% of completed suicides have had previous experience in psychotherapy
- 1 of every 2 psychiatrists will lose a patient to suicide across (mean) 19.3 years practice
- 30% psychiatric residents across 4 years’ residency
- 1 of every 4 psychologists will lose a patient to suicide across (mean) 18.5 years practice
- 17% of psychology interns across 5.2 by internship
PROBLEMS ARISING FROM INADEQUATE RISK ASSESSMENT

Legal

Clinical

Patient: incident, loss, disability, repeat suicide, clinical consequences

Organization: loss of reputation, malpractice litigations, lower standard of care

Physician: clinical frustration, litigation, administrative problems
Clinical outcomes in management of suicide behavior depends on:
1. quality of assessment
2. quality of intervention

<table>
<thead>
<tr>
<th>Risk assessment quality Possible scenario</th>
<th>Intervention &amp; monitoring</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High quality risk assessment</td>
<td>High quality management and monitoring</td>
<td>Still client attempts or commits</td>
</tr>
<tr>
<td>2. High quality assessment</td>
<td>Resource constrains, inadequate management</td>
<td>Incident</td>
</tr>
<tr>
<td>3. Poor risk assessment</td>
<td>Intervention and monitoring was inadequate</td>
<td>Incident</td>
</tr>
</tbody>
</table>
Suicide

Those who contact the services

Those who do NOT contact the services
Mental health services - Settings

- Primary
- Secondary
- Tertiary
14% with SI in previous month
65% mental health referral
Brief standardized screening increased the rate of inquiry by 219%


Emergency department services in pediatrics reduced risk of subsequent suicide after brief ER intervention and post discharge contact.

Tertiary

- Psych hosp
- Substance abuse treatment/rehab
- LD
- Group homes
- Nursing homes
Special populations

• Suicide is no longer limited to mental health settings
• Special high-risk populations are clearly becoming newer challenges in the task of suicide prevention
• Some of the high-risk groups are:
• Teen age, post-partum, old age, substance abuse, chronic medical illness, trauma & disaster, emotional & sexual abuse, mental disorders.
Suicide prevention

Inquiry → Identification → Assessment → Intervention

Mental health services

Primary → Secondary → Tertiary

Refer → Not to refer
Common need in all settings

• Identification

• *Assessment*

• Intervention

• Prevention
Risk assessment across treatment settings

• Rising incidence of suicide attempts have been observed in a wide variety of clinical & social settings e.g. schools, universities, prisons, correctional facilities & health services.

• To provide effective intervention & prevention, we require adequate tools and skills for assessment which can be effectively applied by a range of professionals.

• There is a serious lack of skilled professionals with adequate knowledge & expertise in most of the social & non-psychiatric settings.
Risk factors are typically additive (i.e., the patient's level of risk increases with the number of risk factors), they may also interact in a synergistic fashion.

- For example, the combined risk associated with comorbid depression and physical illness may be greater than the sum of the risk associated with each in isolation.
Weighting of risk factors in suicide prediction

it is impossible to accurately predict suicide.

Statistical models may be valuable in the epidemiological and research arenas

Suggest clinically important risk factors that, if identified, are potentially amenable to treatment.

However, given the low base rates of suicide in the population, accurate prediction of suicide remains impossible,

Consequently, the psychiatric assessment, in combination with clinical judgment, is still the best tool for assessing suicide risk.
Rating scales for risk

- The Scale for Suicide Ideation (8)
- The Suicide Behavior Questionnaire (SBQ)
- The Suicide Intent Scale (9)
- Reasons for Living Inventory
- Risk-Rescue Rating,
- Suicide Assessment Scale,
- Thematic Apperception Test
- General Health Questionnaire
- Shneidman (745) psychological pain assessment
- Beck Hopelessness Scale
- Hamilton Depression Rating Scale
- Beck Depression Inventory.
Rating scales

• Because of their
  – high rates of false positive and
  – false negative findings and
  – their low positive predictive values,
  – these rating scales cannot be recommended for use in clinical practice in estimating suicide risk.

A recent evaluation concluded:
“no single instrument was able to accurately predict suicide risk without a significant amount of error” (Bisconer & Gross, 2007).
Qualities of appropriate and reasonable assessment tools

An important part is developing assessment instruments which can successfully differentiate between individuals at serious risk and those who are not.

- High validity    culture free
- Specific, sensitive reliable
- Used by all mental health professionals
- success in predictability
- Applicable Across medical setting
- free from bias
- minimum false negative false positive
- Conceptually Incorporates available research evidence
- guide for treatment and care planning and appropriate clinical decision

Ducher JL, Dalery J. [Correlations between Beck's suicidal ideation scale, suicidal risk assessment scale RSD and Hamilton's depression rating scale] Encephale. 2008 Apr;34(2):132
PROTECTIVE FACTORS

- Children in the home, except among those with postpartum psychosis
- Pregnancy
- Deterrent religious beliefs
- Life satisfaction
- Reality testing ability
- Positive coping skills
- Positive social support
- Positive therapeutic relationship
Need for paradigm shift in understanding the causes

- Mental disorders
  - >90% of all
  - > 10-20 in all

- No mental disorders

Risk

- Risk factors
- Risk situation
- At-risk individuals
Risk for suicide in NO mental disorder group

Psychological
Social
Environmental
What is to be assessed

Mental disorders

Risk

Psychopathology
Formulation of risk

Risk
- Biological, psychological, social, environmental

Protective
Estimation of Suicide Risk
the ‘factors are not the focus of treatment’

- Past history,
- family history, and demographic characteristics
- Abuse
- trauma
- Financial difficulties or unemployment can also be difficult to modify,
- at least in the short term.

- Psychological
- Mental illness dimensions.
- Stress experience
- Self-esteem
- Frustation tolerance
- Impulsivity
- Symptoms of mental illness
- Depression-hopelessness
Psychopathology across mental disorders

- Impulsivity
- Depression-hopelessness
- Low frustration tolerance
- Cluster B traits
Conceptual framework

• Concept of risk has been questioned for a long time.

• It appears that it is a continuously evolving process.

• Suicide is a multidimensional concomitant of psychiatric diagnoses; especially mood disorders, and is complex in both its causation and in the treatment of those at risk.

• Risk and protective factors tend to be fairly consistent worldwide, with some cultural variation.

Conceptual framework

- Concept of risk has been questioned.
- Continuously evolving process.
- Suicide is multidimensional. Multifactorial.
- Risk and protective factors tend to be fairly consistent worldwide, cultural variation).
- An electronic search about risk factor elicited total 76 factors.

- Classifiable into:
  - Biological,
  - Social,
  - Psychological,
  - Environmental,
  - Psychiatric,
  - Medical,
  - Cultural,
  - Spiritual and
  - Familial domains.
### Factors Associated With an Increased Risk for Suicide

<table>
<thead>
<tr>
<th>Suicidal thoughts/behaviors</th>
<th>Psychosocial features</th>
<th>Physical illnesses</th>
<th>Cognitive features</th>
<th>Psychological features</th>
<th>Demographic features</th>
<th>Additional features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicidal ideas (current or previous)</td>
<td>Recent lack of social support (including living alone)</td>
<td>Diseases of the nervous system</td>
<td>Aggression, including violence against others</td>
<td>Hopelessness</td>
<td>Male gender</td>
<td>Access to firearms</td>
</tr>
<tr>
<td>Suicidal plans (current or previous)</td>
<td>Unemployment</td>
<td>Multiple sclerosis</td>
<td>Agitation</td>
<td>Psychic paina</td>
<td>Widowed, divorced, or single marital status, particularly for men</td>
<td>Substance intoxication (in the absence of a formal substance use disorder diagnosis)</td>
</tr>
<tr>
<td>Suicide attempts (including aborted or interrupted attempts)</td>
<td>Drop in socioeconomic status</td>
<td>Huntington's disease</td>
<td>Thought constriction (tunnel vision)</td>
<td>Severe or unremitting anxiety</td>
<td>Elderly age group (age group with greatest proportionate risk for suicide)</td>
<td>Unstable or poor therapeutic relationshipa</td>
</tr>
<tr>
<td>Lethality of suicidal plans or attempts</td>
<td>Poor relationship with familya</td>
<td>Brain and spinal cord injury</td>
<td>Polarized thinking</td>
<td>Panic attacks</td>
<td>Adolescent and young adult age groups (age groups with highest numbers of suicides)</td>
<td></td>
</tr>
<tr>
<td>Suicidal intent</td>
<td>Domestic partner violenceb</td>
<td>Seizure disorders</td>
<td>Closed-mindedness</td>
<td>Shame or humiliationa</td>
<td>White race</td>
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</tr>
<tr>
<td></td>
<td>Malignant neoplasms</td>
<td>Malignant neoplasms</td>
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<td>Psychological turmoil</td>
<td>Gay, lesbian, or bisexual orientationb</td>
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<td></td>
<td>HIV/AIDS</td>
<td>HIV/AIDS</td>
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<td>Decreased self-esteem</td>
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<td></td>
<td>Peptic ulcer disease</td>
<td>Peptic ulcer disease</td>
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<td>Extreme narcissistic vulnerability</td>
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<td></td>
<td>Chronic obstructive pulmonary disease, especially in men</td>
<td>Chronic obstructive pulmonary disease, especially in men</td>
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<td>Behavioral features</td>
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<td></td>
<td>Chronic hemodialysis-treated renal failure</td>
<td>Chronic hemodialysis-treated renal failure</td>
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<td>Impulsiveness</td>
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<td>Systemic lupus erythematosus</td>
<td>Systemic lupus erythematosus</td>
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<td>Pain syndromes</td>
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<td>Functional impairment</td>
<td>Functional impairment</td>
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<td></td>
<td>Cluster B personality disorders (particularly borderline personality disorder)</td>
<td>Comorbidity of axis I and/or axis II disorders</td>
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<td>Comorbidity of axis I and/or axis II disorders</td>
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<td>psychiatric diagnoses</td>
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<td>Major depressive disorder</td>
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<td>Bipolar disorder (primarily in depressive or mixed episodes)</td>
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<td></td>
<td>Schizophrenia</td>
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<td>Anorexia nervosa</td>
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<td></td>
<td>Alcohol use disorder</td>
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<td>Other substance use disorders</td>
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</table>

**Psychiatric diagnoses**

- Major depressive disorder
- Bipolar disorder (primarily in depressive or mixed episodes)
- Schizophrenia
- Anorexia nervosa
- Alcohol use disorder
- Other substance use disorders

**Physical illnesses**

- Diseases of the nervous system
- Multiple sclerosis
- Huntington's disease
- Brain and spinal cord injury
- Seizure disorders
- Malignant neoplasms
- HIV/AIDS
- Peptic ulcer disease
- Chronic obstructive pulmonary disease, especially in men
- Chronic hemodialysis-treated renal failure
- Systemic lupus erythematosus
- Pain syndromes
- Functional impairment
Risk- Vulnerability Spectrum
It's Not a dichotomy

Risk factors

Protective factors
Risk is measured in relation to strength

Vulnerability

Resilience
Stress-diathesis model forms the theoretical context of Risk-Vulnerability hypothesis.

- Extreme stress level leads to severe disorder.
- Low stress level leads to mild disorder.
- Vulnerable and resilient individuals.

Threshold of disorder between mild and severe disorder.

Vulnerability continuum ranging from vulnerable to resilient.
Risk factors

- Current stressors
- Poor coping, mental, physical illness, SUD

Protective factors

- Spirituality, belief, attitude
- Support system
- Personality development
State risk: determines current or situational response

- Lack of support system
- Current mental state
- Recent life events, loss
- Personal belief
Trait risk: determines life time risk

- Presence of mental illness
- Adverse childhood experiences
- Genetics/familial
- Learned coping mechanism
**State & Trait Risk**

**State risk:**
which an individual goes through due to current life situation.
State risk determines current or situational response in presence of recent life events, lack of support system, current mental state & personal belief system.

**Trait risk:**
with which an individual is born and develops limitations in coping mechanism. Trait factors determine lifetime risks arising from genetics-familial, presence of mental illness, adverse childhood experience & learned coping mechanism.
A net sum of risk shall be the quantum of risk factors in relation to risk protectors in a given individual at a given situation.

Based upon these understanding a new scale has been developed named SIS-MAP.
Design of present scale assessment in 5 Domains (A) and 8 dimensions (B)

Current risk level
- 1. Demographics
- 2. Biological
- 3. Psychological Domain
- 4. Clinician ratings/observations
- 5. Primacy/Recency
- 6. Family History
- 7. AXIS IV: Psychosocial and Environmental Problems
- 8. Protective factors

Comprehensive, global, biopsychosocial assessment
Scale for Impact of Suicidality - Management, Assessment and Planning of Care (SIS-MAP)


1. Demographics
   Age in years: __________ Score 1 for ages 15-25 or 70+ years → __________
   Gender: __________ Score 1 for male → __________
   Marital status: __________ Score 1 for recent widow/widower → __________
   Number of children living with you: __________ Score 1 for single parenting → __________
   Inpatient or outpatient (circle) Score 1 for inpatient →

   Subtotal for Demographics section 1:

2. Psychological Domain
   Ideation:
   I. Do you feel that life isn’t worth living? No □ Yes □
   Do you think you would be better off dead? No □ Yes □
   Do you get ideas to hurt yourself? No □ Yes □
   Are you facing any ‘situation’ in which you might hurt yourself? No □ Yes □
   Do you feel you are vulnerable to hurting yourself? No □ Yes □
   Have you been thinking of hurting yourself recently? No □ Yes □
   Currently, do you think that dying might be a better option? No □ Yes □
   Have you recently attempted to hurt yourself? (i.e. within last 7 days) No □ Yes □
   Do you often hurt yourself by cutting or overdose of pills? No □ Yes □
   Do you get suicidal ideas?

   Subtotal for section 2I:
   (right column = 1)
Management of ideation:

M. How often do you get these thoughts?  
   Score 1 for rarely, 2 for occasionally  
   How intense are these thoughts?  
   Score 1 for low, 2 moderate, 3 high  
   Can you control these thoughts?  
   Yes ☐ No ☐  
   Can you cope with distressing thoughts of suicide?  
   Yes ☐ No ☐  
   Do you wish to be killed?  
   No ☐ Yes ☐  
   Do you wish to die?  
   No ☐ Yes ☐  
   Do you fear losing control and attempting suicide?  
   No ☐ Yes ☐  
   Are you uncertain about the nature of your suicidal thoughts?  
   No ☐ Yes ☐  
   Do you believe in communicating about your suicidal thoughts to others?  
   Yes ☐ No ☐  
   Do you believe in seeking help for suicidal thoughts?  
   Yes ☐ No ☐

Subtotal for section 2M: (right column = 1)

Assessment of current state of suicidality (consider current thought processes and/or recent attempt)

A. Do you currently feel suicidal?  
   No ☐ Yes ☐  
   Do you feel hopeless?  
   No ☐ Yes ☐  
   Do you feel helpless?  
   No ☐ Yes ☐  
   Do you feel worthless?  
   No ☐ Yes ☐  
   Do you feel sad or depressed?  
   No ☐ Yes ☐  
   Do you feel any guilt?  
   No ☐ Yes ☐

*Unauthorized usage prohibited. Contact dr.amresh@gmail.com or charles.nelson@sjhc.london.on.ca for more information.
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you attempted to kill yourself?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If no, skip to question P…</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you want to die?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Were you certain that you wanted to die?</td>
<td></td>
<td></td>
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<tr>
<td>Did you want attention from someone?</td>
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<tr>
<td>At the time of your attempt, were you depressed?</td>
<td></td>
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<tr>
<td>At the time of your attempt, were you angry with yourself?</td>
<td></td>
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<tr>
<td>Do you want to attempt again?</td>
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<tr>
<td>Was the method damaging to your body? (specify)</td>
<td></td>
<td></td>
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<tr>
<td>Do you regret it?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Did you speak to someone before making the attempt?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Did you inform anyone afterwards?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Did you leave a suicide note?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Are you still stressed about it?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Are you feeling relieved?</td>
<td>Yes</td>
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<tr>
<td>Are you feeling safe in the hospital? (if applicable)</td>
<td>Yes</td>
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<tr>
<td>Do you feel safe in your house?</td>
<td>Yes</td>
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<tr>
<td>Do you feel guilt or shame?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Was your attempt because of your mental illness?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Is it because of your social situation or due to psychological distress?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Who do you hold responsible for the attempt?</td>
<td></td>
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<tr>
<td>Score 1 if client mentions family; score 1 if client says self; score 2 if client mentions both</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you still have suicidal ideas?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Do you want to seek help?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Do you think you can deal with it yourself?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Subtotal for section 2A:
Planning for subsequent attempt:

P. Do you think you will get suicidal ideas in the future?
   Will you be able to cope with these thoughts?
   Do you think you will attempt suicide in the future?
   Do you think you need treatment and help?
   Do you think your illness needs treatment?

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Yes</th>
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</thead>
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</tbody>
</table>

Subtotal for section 2P:

Subtotal of all Psychological Domain sections (2I, 2M, 2A, 2P):

3. Comorbidities (check all that apply)

- Alcohol abuse or dependence [ ]
- History of [ ]
- Current [ ]
- Drug abuse [ ]
- History of [ ]
- Current [ ]
- Sexual abuse [ ]
- History of [ ]
- Current [ ]
- Physical abuse [ ]
- History of [ ]
- Current [ ]
- Emotional abuse/exploitation [ ]
- History of [ ]
- Current [ ]

Subtotal for Comorbidities section (count all check marks):

---

1 Client should be instructed to answer these questions with reference to the most recent attempt.
4. Family History (including siblings, parents, or grandparents)

<table>
<thead>
<tr>
<th></th>
<th>(family member)</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide attempt</td>
<td></td>
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<td></td>
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<tr>
<td>Death due to suicide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental illness</td>
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<td></td>
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<tr>
<td>Addictions or alcoholism</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Subtotal for Family History (Score 1 for each Yes in this section):

5. Biological Domain

<table>
<thead>
<tr>
<th></th>
<th>(specify)</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you currently have any psychiatric illness?</td>
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<tr>
<td>Do you have any chronic medical illnesses?</td>
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<tr>
<td>Do you suffer from frequent mood swings?</td>
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<tr>
<td>Do you think you are suffering from an ‘undiagnosed psychological disorder’ like anxiety, depression, psychosis, memory loss, lack of drive or motivation or getting easily stressed? <em>if no, section is finished</em></td>
<td></td>
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</tr>
<tr>
<td>Do you think it is affecting your life in terms of functioning and day to day living?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subtotal for this Biological Domain (Score 1 for each Yes in this section):
6. Protective factors for suicide risk

<table>
<thead>
<tr>
<th>Question</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you benefit from community or outpatient support/counseling?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is your family practically supportive of your problems and your recovery?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does your faith or spirituality help you in dealing with your problems?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have children that rely on you, and depend on your well-being?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you live in impoverished conditions? (difficulty paying for food and shelter)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Do you think you are worthy of living?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Do you have good self-esteem? (believe that you are a worthwhile person)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Have you succeeded when faced with similar life challenges?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Is your home environment safe and stable?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Do you savour life’s satisfying moments?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Do you have additional reasons for not committing suicide? (specify:)</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Subtotal for Protective factors: (right column = 1)
7. Clinical ratings/observations

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does client lack insight?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there evidence of a personality disorder or issues related to personality?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there presence of psychosis?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there evidence of impulsivity? (i.e. behavioral dyscontrol)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would you consider client vulnerable due to any of the following?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal crisis (i.e. extremely adverse situational event)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A dysfunctional or chaotic home environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent childbirth or abortion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existential issues (i.e. no meaning in life)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Unauthorized usage prohibited. Contact dr.amresh@gmail.com or charles.nelson@sjhc.london.on.ca for more information.
8. Psychosocial and Environmental Problems

Score 1 for every problem named in this section
Check:

__ Problems with primary support group (specify):

__ Problems related to the social environment (specify):

__ Educational problems (specify):

__ Occupational problems (specify):

__ Housing problems (specify):

__ Economic problems (specify):

__ Problems with access to health care services (specify):

__ Problems related to interaction with the legal system/crime (specify):

__ Other psychosocial and environmental problems (specify):

Subtotal for Psychosocial/Environmental (count all check marks):
**SIS-MAP Clinical Profile:**

<table>
<thead>
<tr>
<th>I-MAP subscales</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2I- Ideation</td>
<td></td>
</tr>
<tr>
<td>2M- Management</td>
<td></td>
</tr>
<tr>
<td>2A- Assessment</td>
<td></td>
</tr>
<tr>
<td>2P- Planning</td>
<td></td>
</tr>
</tbody>
</table>

**Demographics:**

**Psychological Domain:**

**Comorbidities:**

**Family History:**

**Biological Domain:**

**Clinical ratings/observations:**

**Psychosocial/Environmental:**

**Total of all above sections:**

**Protective Factors: (subtract):** 3

**SIS-MAP Risk Index:** 3

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3 The mean total scores on the SIS-MAP for individuals who were admitted ($M = 23, SD = 9$) vs. not admitted ($M = 33, SD = 14$) and their respective standard deviations were used to establish clinical cut-offs. Thus, it was determined that scores falling between 13 and 23 represent individuals who require outpatient follow-up but do not require admission (individuals who score less than 13 likely require no follow-up). Individuals who score above 33 on the SIS-MAP are at a serious risk of suicide and should be admitted to a psychiatric facility. Scores between 23 and 33 require clinical judgment to determine the level of care required.
Psychometric Properties

• **Inter-rater reliability**

• The **inter-rater reliability of the scale was assessed by videotaping a case vignette in which a therapist administers the structured interview to a mock client.**

• The twenty clinicians rated: included registered nurses, social workers, occupational therapists, and psychometrists.

• SIS-MAP has shown an inter-rater reliability between 0.71 and 0.81 (x=.76) N=20, p<.001.

• In the field trial it has demonstrated a specificity of 78.1%, sensitivity of 66.7% and validity of correctly classifying 74%. On comparison with other popular scales SIS-MAP comes out as parallel on all parameters.
• Even with standardized assessment and prediction scales (such as the Hamilton or Beck depression inventories), suicide prediction results in about 30% false positives.¹²
### Comparison of SIS-MAP to other suicide risk assessment scales

<table>
<thead>
<tr>
<th></th>
<th>SIS-MAP</th>
<th>SPS</th>
<th>SPS-clinical scales</th>
<th>ASIQ</th>
<th>BDI-II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specificity</td>
<td>78.1%</td>
<td>65.9%</td>
<td>81.3%</td>
<td>71.4%</td>
<td>70.3%</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>66.7%</td>
<td>58.3%</td>
<td>63.6%</td>
<td>64.0%</td>
<td>72.0%</td>
</tr>
<tr>
<td>Correctly Classified</td>
<td>74.0%</td>
<td>63.1%</td>
<td>74.1%</td>
<td>71.0%</td>
<td>68.7%</td>
</tr>
</tbody>
</table>

SPS = Suicide Probability Scale (Cull & McGill, 1988); ASIQ = Adult Suicidal Ideation Questionnaire (Reynolds, 1991); BDI-II = Beck Depression Inventory II (Beck, Steer, & Brown, 1996)
Results:

**Correlations among Variables and Admission Status**

- Whether individuals were admitted or not was correlated with various outcome measures.

Analyses demonstrated that admission status was correlated with subtotals in the protective domain ($r = -.333, p < .05$), suggesting that individuals with higher levels of resilience factors were less likely to be admitted, a key assumption of the SIS-MAP.

Additionally, the individual items of previous suicide attempts and the presence of psychosis were correlated with admission status ($r = .368, p < .05$, and $r = .321, p < .05$ respectively).
Classifying Individuals Using the SIS-MAP

The specificity of the scale (correctly identifying individuals who did not require admission) was 78.1% while the sensitivity of the scale (correctly identifying individuals who required admission) was 66.7%.

The false positive rate was 33.3% while 21.9% of cases resulted in a false negative.
SIS-MAP

Clinical Cut-Offs for Level of Care Needed

Scores 13-23 = outpatient follow-up highly recommended

Scores >33 = admit highly recommended

Scores 23-33 = consider psychosis, previous suicide attempts, and protective factors
SIS-MAP Subscale Predictions of Outcome

• Three stepwise regressions using scores on subscales to predict outcomes

• Outcomes:
  – Length of stay (number of inpatient days)
  – Readmission within 6 months (yes or no)
  – Suicide attempt within 6 months (yes or no)
Outcome: length of stay

• Only significant predictor was clinical subscale \( \beta = 2.62, p = .004 \)

• Higher clinical ratings predict a longer inpatient stay
Outcome: readmission in 6 months

- Significant predictors were demographic subscale ($\beta = .294$, $p = .002$) and management of ideation subscale ($\beta = .068$, $p = .028$)

- Higher demographic risk and lower ability to manage ideation are associated with greater likelihood of readmission within 6 months
Outcome: suicide attempt within 6 months

• Only significant predictor was total score on psychological domain ($\beta = .034, p = .015$)

• Greater ideation, planning, and current suicidality and lower ability to manage these thoughts relate to a greater likelihood of a subsequent suicide attempt within 6 months
Strategies to improve quality of risk assessment: WHO Recommendations

1. Requires a public health approach.
2. The burden of suicide is so large that prevention could be considered the responsibility of an entire government, under the leadership of the health ministry.
3. Suicide-prevention programmes are needed and should consider specific interventions for different groups at risk.
4. Health-care professionals, especially in the emergency services, should be trained in the effective identification of suicide risk and proactive collaboration with mental health services.
5. Both health professionals and the general public should be educated about suicide as early as possible, with a focus on both risk and protective factors.
6. Policy-oriented research on and evaluation of suicide prevention programmes is needed.
7. The mass media should be involved in suicide prevention via training, and use of the WHO guidance on media treatment of suicide.
Recommendation for clinical governance

Continuing medical education
- Psychiatrists
- Mental health professionals
- Family physicians
- Law enforcement personnel
- Correctional officers

Strategies to improve risk assessment

Strategies to review efficacy and Policy

Strategies to improve education, Building clinical skills
Psychiatry.ca@gmail.com

Contact us for SISMAP