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Muse M, and McGrath R. Training comparison among three professions prescribing psychoactive medications: Psychiatric nurse practitioners, physicians, and pharmacologically trained psychologists. *Journal of Clinical Psychology*. 2010; 66: 1-8.

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Forward To John Caccavale's Article

by Keith Petrosky PHD, ABMP, AMP President

We are pleased to posthumously publish one of John Caccavale's research articles in this edition of the Archives. Before reviewing this article I would like to say that in my opinion John did more to support the needs of the practicing psychologist than all of the presidents of the American Psychological Association combined. The one exception among this group would be Nicholas Cummings, who wrote over one hundred books and journal articles during his long and distinguished career, presided over APA at one time, and awarded Dr. Caccavale the prestigious Psyche award that was intended as the equivalent of the Nobel Prize in our field of practice.

Dr. Caccavale's article describes all of the algorithms for prescribing psychotropic medication and discusses the pros and cons of each methodology. These algorithms are used in teaching medical students and newer physicians who may be unfamiliar with psychotropic medications. They are also used in pharmaceutical research studies. They may also be employed by hospital physicians who may be instructed for purposes of uniformity to follow their recommended modifications based on a patient's response to an initial drug.

John points out that these various algorithms for prescribing have more importance when medications are employed as a "stand-alone" treatment. When psychotherapy is added to these medications their overall effectiveness improves and the palate of medication choices also expands. John also points out that as a prescriber gains experience treating patients with medications they tend to develop their own algorithms for prescribing rather than following rote recommendations.

Combining psychotherapy with medication is important because, contrary to those commercials that we all see on television, psychotropic drugs are not as powerful as the pharmaceutical industry would have us believe. It is good to recognize that only two countries in the world allow direct marketing of drugs to consumers and they are the United States and New Zealand. No other country suggests that consumers go into the doctor's office asking if they are a "candidate" for such and such a drug based on what they saw in a televised commercial.

However, all this pharmaceutical marketing undoubtedly causes people to believe that they need drugs for just about everything that ails them and they may then feel empowered to demand that their doctors prescribe whatever it is that they think they need. However as John points out, the suffering that patients experience from behavioral health conditions cannot typically be relieved by pills alone. That's where psychotherapy comes into play and as John articulated in his White Paper, medical psychologists are properly advised to always combine some form of psychotherapy with their medication interventions.

While medical psychologists use psychotropics when indicated we still separate fact from fiction as far as what these drugs actually can and cannot do. We know that drug companies drive the

Correspondence Address: Keith Petrosky PHD, ABMP, AMP President Email: drkeith1@verizon.net

demand for pharmaceuticals through advancing a belief system that is not based in science, for example saying that some people are genetically low in serotonin and will need to have it boosted throughout their lifetime. It is financially advantageous to the drug companies that people continue to use medications for the rest of their lives. However, research on depression, for example, shows that even without treatment this condition typically resolves within an eight-month period or less. This was something that was first noted by George Winokur who practiced more than fifty years ago and who diagnosed the first case of Bipolar Disorder.

Drug companies also regard genetics as being the primary cause of all mental health problems without presenting the scientific evidence needed to back up their claims. In this article John expresses his own belief that most psychiatric conditions are the result of environmental factors and life experience rather than genetics. While this may be a matter of conjecture at this point in time I personally tend to agree with John.

While some patients do experience improvement on medications there is no scientific evidence that anyone suffers from an inadequate amount of any of the known neurotransmitters (what drug companies espouse) with the one exception of dopamine in Parkinson's disease which tends to be diagnosed by physical movement problems before any changes in the brain are even considered.

Drug companies seem to not want to acknowledge the possibility that a patient may benefit from having a boost in the availability of some neurotransmitter even if it is not "low" to begin with. Extra serotonin, for example, may possibly help a person weather the storm of some stressor despite the fact that their serotonin level was not abnormal to begin with. This theoretical patient will not require serotonin boosting for the rest of their life but can start to taper off once the stress is over. That is what the drug company doesn't want to consider since this will not produce another lifelong customer. Neurotransmitters should probably not be viewed as being like the fluids under the hood of a car (oil, brake, transmission) that need to be topped off to a designated "fill" line. In fact, thinking that they are like this seems simplistic and foolish.

The bottom line is that psychotropic medications exist mainly to soothe symptoms. They do not reverse, correct, or cure mental conditions. This is reality and in my experience John was the ultimate realist who saw both the potential utility as well as the limitations of the medications used in treating mental health conditions. He was also known for pointing out that in some cases the patient benefits from having a medication stopped instead of started.

In wrapping up this review I feel the need to say that those of us who got to know John personally continue to miss our colleague every day. I like to read biographies and I enjoyed one called "*Lawrence in Arabia*" by Scott Anderson[1]. This was about the life of Thomas Edward Lawrence who helped the English defeat the Turks in WWI by organizing the various Arab tribes into a united military force. The Turks were in league with the Nazis and looking to control the Suez Canal which would have greatly affected the ability of the allies to supply troops in various parts of the world so this military victory was quite significant.

When Lawrence died Winston Churchill gave his eulogy and referred to Lawrence as one of the greatest people living during his lifetime. He added:

"I fear that whatever our need we shall never see his like again [2]."

That was quite a complement especially coming from Churchill who was known for having a gift for words. While I'm certainly not Churchill I nonetheless (humbly) feel the same sentiments about John's tremendous accomplishments in being able to envision and then to actually bring to fruition and actualize the establishment of such helpful organizations to the practicing psychologist as the National Alliance of Professional Psychology Providers and the Academy of Medical Psychology as well as a board certification program in medical psychology (the ABMP). All of this was done largely by John himself and (as the Beatles would say) "with a little help from (his) friends." I won't attempt to name names for fear of leaving someone important out. John also did a whole lot of work to help bring about psychologist RXP.

Lastly, just as the Turks defending the port of Aqaba fell to Lawrence's army because they thought that no one would ever risk crossing a part of the desert called El Houl (Arabic *trans.* "The Terror")[3] to attack them from the rear (even the Bedouins feared surviving the intense heat, sandstorms, and complete absence of any water for endless miles of dunes with absolutely nothing living in this terrible terrain), I would garner that APA never thought that John would succeed in helping professional psychology to the extent he did without any help from a larger organization with more financial resources like APA. One can only imagine that his success must have been embarrassing to them by exposing their own neglect and failure as a national organization. Yet both of these individuals essentially did what would be thought to be impossible by any other person. One was a military hero, the other a hero of professional psychology.

I feel that John Caccavale deserves a special place of honor in the Cummings' Center for the History of Psychology in Akron, Ohio. When I have a chance to visit the Center (hopefully soon) I hope to see my old friend represented there along with the likes of Wilhelm Wundt, B.F. Skinner, William James, and Sigmund Freud (John liked to call him "a neurologist who became a psychologist") and so many other greats that have distinguished themselves in our field of study and practice.

Keith Petrosky, August 27, 2026

1. Anderson, Scott. Lawrence in Arabia. New York: Anchor Books, 2014.
2. Ibid, p. 505. 3. Ibid, p. 311.

Algorithm Based Medication Guidelines Or Pharmocogenetics: An Aid to Treatment Or Waste of Time?

John Caccavale, Ph.D. ABMP

Abstract

Given that primary care venues have become the settings where a majority of mental health disorders are treated, limited positive outcomes with medication-only treatments have become a major concern.

To offset the lack of positive outcomes in primary care settings and also in psychiatry, several algorithmic approaches have been developed to aid medical prescribers in deciding on medications regimens that could increase positive outcomes. Among these approaches, four are discussed as to their use by medical professionals. The Sequenced Treatment Alternatives to Relieve Depression Algorithm (STAR*D), the Maudsley Prescribing Guidelines, the (CATIE) and pharmacogenetics are reviewed and discussed as to their effectiveness and limitations. The usefulness of these approaches to medical psychologists may be limited because medical psychology training is extensive and not in real need for algorithmic approaches. However, knowledge and how these approaches are utilized in the medical care of mental health patients requires medical psychologists to understand algorithmic prescribing.

Introduction

The quest to develop algorithm based medication guidelines has been a long term project to sequence medication regimens so that the medications prescribed to patients could lead to greater effectiveness and probability for success. In 1997, the Texas Medication Algorithm Project [1] was initiated towards achieving these goals and it's doubtful that any significant numbers of clinicians now or have ever used it. The "algorithm" was actually a tree based set of questions, which when answered in "Yes or No" format, would lead the clinician to preferred outcomes. Fast forward to the modern equivalent of medication algorithm systems is that genetics plays a more prominent role in trying to produce regimen decisions. Yet, there is scant evidence that probing the genetic makeup of an individual would likely produce the effectiveness of psychotropic medications. One reason for this is that behavioral issues have rarely been found to stem from genetic dysfunction. The vast individual differences seen between humans clearly point to environmental factors being more determinative than any known or unknown genetic influences. Of course, if successful, any algorithm, test, or whatever, would be welcome because, as it now stands, success rates for psychotropic medications is dismal mostly due to the severe side effects and high rates of non-adherence and the fact that these medications do not work for many patients [2,3] Moreover, many psychotropic medications

Correspondence Address: Contact Keith Petrosky AMP President Email: drkeith1@verizon.net

are too simply designed to address the complex issues of human behavior and the interaction between genes, the environment, and individual differences.

Another problem with looking to genetic factors in diagnosing and treating mental and behavioral issues, and there are many, is that human genetics is very complex and trying to isolate multiple genes that might have some effect on a particular behavior is very problematic both from a scientific perspective and the actual utility of that information. Just as drug companies have touted their monoamine hypothesis to explain how antidepressants work, for example, those who now tout the wonders of genetics may be falling into the same trap. The monoamine "theory" was all the rage but was debunked early on as unlikely valid in the late 1990s. Yet, drug companies continue to cite it even as critics and data mounts demonstrating its insufficiency. [4,5] Although looking at the utilization of genetics may very well become the "holy grail" for clinicians, success, if ever, is a long way off but still may prove to the better alternative to algorithmic guidelines. Nevertheless, medical psychology clinicians should be aware of the more cited algorithms as these tools are important to understand even if they may not be as helpful as we would like them to be. Physicians and non-physician prescribers are the more likely to utilize these tools and medical psychologists need to be aware of them if only to communicate the downside and limitations of agorithmic approaches. Finally, it is important for clinicians to always keep in mind that genes are not determinative. It is always the phenotype that walks through the door seeking treatment. Even if it is discovered that a particular person has a gene that somehow is related a specific behavior, they are not guaranteed to act the way the gene or genes suggest. Environmental factors also has a significant influence on behavior.

However, it is doubtful that any algorithm or tree based medication guidelines are likely to persist for much longer. The introduction of artificial intelligence (AI) will soon replace these tools. More likely, pharmacogenetics will probably, at some point, become the go-to application for developing medications where effectiveness and specificity to the individual needs are the goals. AI, however, presents many important issues when traditional prescribing practices are replaced by what are essentially computer programs. For example, with AI programs making the decision as to what should and what should not be prescribed for patients, does one really need to be a physician to prescribe? An argument can be made that monitoring patients is much more important than prescribing a medication particularly when an AI program could do a better job in selecting the medication regimen. Yet, on-going monitoring of patients is probably the least service that primary care physicians (PCPs) provide. With respect to mental health conditions, patient monitoring has not been very good. In fact, some might say that monitoring patients with mental health issues is sorely lacking in primary care venues. Nevertheless, medication algorithm based guideline are still being used and psychiatry interns, for example, use them extensively because they are a teaching tool and utilized until they can obtain sufficient experience to become acceptable prescribers. In primary care settings, physicians use algorithm based guidelines to essentially make up for their lack of experience in prescribing for mental health conditions. So, although it doesn't look good

for the algorithm approach going forward, medical psychologists should have a basic understanding of this approach to prescribing.

Three Medication Algorithm Based Guidelines

It's important to note that while these algorithm based guidelines can be helpful tools in treatment decisions, they should never be used absent clinical judgment. Every patient has a unique presentation and their response to medication will not likely be the same as another. Medical psychologists, and prescribers, should always consider the individual differences of their patients when making treatment decisions. Unfortunately, in primary care settings, patients are seen as a diagnosis and treatment can become a “one size fits all” treatment plan. This a major problem with medications as a first line treatment and medication algorithms can blur the real needs of the patient. Nevertheless, in a primary care setting where the majority of patients with mental health issues are seen and medications as a first line treatment is a fact, giving relatively untrained physicians with mental health issues a tool could result in better prescribing, albeit it will still be a medication as first line treatment.

The Sequenced Treatment Alternatives to Relieve Depression Algorithm (STAR*D)
This algorithm is designed and utilized to help clinicians prescribe medications in the treatment of depression. It’s designed to aid clinicians to decide which medication may be more suitable to treat depression using the patient's response to previous medications including, their side effect profile, and many other variables. The algorithm is designed to be a flexible treatment option, allowing clinicians to adapt it to the individual needs of their patients. The data from the STAR*D study created a large database from which clinicians can compare and choose treatments within four levels of treatment options.

An Overview of The Study That Developed The STAR*D Algorithm
The study comprised adults with a present diagnosis of major depressive disorder. Subjects who had not responded adequately to one or more previous antidepressant treatments comprised the sample. Please note that the STAR*D algorithm is used only for non-psychotic diagnoses. The initial study comprised four distinct treatment levels, each level offers clinicians different treatment options. At the start of the study, subjects were all assigned to the Level 1 treatment protocol. If no improvement was reported by the patient, they would be assigned to the next treatment option until they either improved or not. Each level represents an aggressive step up with respect to treatment. There are a number of studies that report on STAR*D and explain the usefulness and mechanics of the tool. [6-9]

Brief Description of STAR*D Treatment Levels
STAR*D has four treatment levels. Level 1 patients are prescribed an antidepressant as the first selective serotonin reuptake inhibitor (SSRI). Patients are placed on Level 2 if they are unresponsive to this first antidepressant and could then be prescribed a different SSRI or stay on the initial medication with another medication added to the regimen.

Level 3 patients who are unresponsive to Level 2 treatments had the option to try a different class of antidepressant or combining multiple medications.
Patients who do not respond to Level 3 treatments are placed on Level 4 and provided with additional treatment options, which might include cognitive-behavioral therapy, augmentation strategies, or electroconvulsive therapy (ECT).

An Example of How Is STAR*D Used By Clinicians
Before using the tool, clinicians must come up with a diagnosis hopefully through an assessment of the patient's symptoms, medical and previous treatment histories. For example, once the diagnosis of a major depressive disorder (MDD) is decided upon and the patient shows little to no improvement with an SSRI, the clinician then refers to the STAR*D study. Study data provides the clinician with a comprehensive treatment plan, which essentially becomes an algorithm. The clinician confirms that the patient has adhered to the initial treatment for an adequate duration and dose. If the patient did not achieve remission, the clinician proceeds to the next step in the algorithm. Based on STAR*D, the clinician recommends switching to another antidepressant medication either in the same class or to a different class of antidepressants. Patients are closely monitored to determine the patient's response to the new treatment, side effects, and adherence. If remission is achieved , the patient continues on the current treatment with regular follow-up appointments. If the response is only partial or improvement is less than expected, the clinician progresses to Step 3.

At this stage of treatment, the patient is given several options going forward such as increasing the dosage if the current medication with another medication (e.g., atypical antipsychotics or lithium) or referring the patient for psychotherapy. Electroconvulsive therapy in severe cases may be considered. If remission is achieved, the patient remains on the current regimen along with regular check-ups. If the response is inadequate, the patient proceeds to Step 4. In this stage, the clinician explores more intensive and specialized treatment options such as repetitive transcranial magnetic stimulation or switching to another class of medications that may have a different mechanism of action. The patient’s progress is monitored and evaluated to Step 4 interventions. If remission is achieved, the clinician continues the current regime. If the patient remains symptomatic, the clinician may consider referring the patient to a specialist or tertiary care center experienced in treating treatment-resistant depression. This may involve exploring additional interventions such as experimental treatments or clinical trials.

The treatment algorithms outlined in the STAR*D study can serve as a resource for early practice physicians or non-physician prescribers to guide decision-making in the treatment of depression. For seasoned clinicians, it is doubtful that this algorithm approach to prescribing would be of much use. In fact, this may be true of all the existing algorithms available to prescribers. Moreover, the only reason this algorithm exists is because the prescribing of psychotropic medications has essentially become routine in primary care. The majority of PCPs are not skilled in the treatment of mental and behavioral disorders and the algorithm approach to prescribing can be helpful. Further,

lack of real experience with psychotropic medications exacerbates an already problematic scenario when PCPs become the primary providers of mental health care. Yet, there is limited to no data suggesting that PCPs actually use this tool. Moreover, given the time constraints that PCPs have given the typical caseloads seen in primary care venues, patients presenting with depression or other mental disorder are very unlikely to receive the amount of attention that STAR*D or any other algorithm based treatment plan requires. The greatest shortfall that is evident in STAR*D is that only when patients fail with STAR*D is psychotherapy, for example, considered. The time that was lost with these patients is a major short coming of this approach particularly when patients could have been helped. Failure with past treatments can lead to patients giving up and prolong their pain and suffering.

The Maudsley Prescribing Guidelines Algorithms

The Maudsley Prescribing Guidelines is now in the fourteenth edition.[10] Maudsley is used to guide the treatment of various mental health conditions, including depression, anxiety, bipolar disorder, and schizophrenia. This latest edition provides guidelines on genetic prescribing, long-acting injectable formulations, ketamine administration and uses, and dopamine super-sensitivity. In addition, guidelines for off-label prescribing are included in the guidelines. Other subjects covered include the potential interactions with other substances such as alcohol, tobacco, and caffeine, and treating patients with comorbid physical conditions.[10]

The authors state the guidelines and algorithms are evidenced based and are designed to provides clinicians with flexible guidelines. Clinicians are encouraged to be aware of the patient's individual needs and preferences. The authors claim the Maudsley guidelines and algorithms provide clinicians with real-world recommendations for first-line and second-line treatments, as well as when to use polypharmacy in cases where patients are unresponsive to previous treatments. Clinicians should be aware that the effectiveness of the Maudsley guidelines and algorithms in predicting outcomes with psychotropic medications will depend on the specific condition being treated and the individual patient. However, there is some evidence to support its effectiveness.

For example, Minozzi, Davoli and Veronese[11] utillizing the Maudsley Guidelines reported on a systematic review evaluating the effectiveness of baclofen for the treatment of alcohol use disorder. They found that baclofen was associated with a significant reduction in drinking days and a significant improvement in quality of life. On the other hand, there remains criticism that the guidelines are too narrow in their focus because they only consider biological factors and ignore social and environmental factors. It can also be argued that the guidelines place too much emphasis on medications and do not give enough attention to other forms of treatment, such as psychotherapy and social support.[12]

It's important to note that while the Maudsley Prescribing Guidelines Algorithm can be a useful tool for guiding treatment decisions for those prescribers who lack sufficient experience prescribing psychotropics, it is not a substitute for individualized care. Every patient is unique, and their response to medication can and will vary based on a wide range of factors.

The Maudsley is a data derived set of guidelines that cover many aspects of prescribing psychotropic medications. The problem with this approach is that much of the algorithmic guidelines provide recommendations that most trained psychopharmacologists already will know. Moreover, studies have demonstrated that the utilization of genetics to increase the effectiveness of antidepressants, for example, simply is not a reality and useful ant this time.[14-16] So, as is the case with STAR*D, the Maudsley really is not as helpful as most experienced clinicians would like and expect. The downside, of course, is that untrained PCPs and new practitioners might look at these guidelines and algorithms and believe them to be effective and efficient when empirical data either is missing or overstated. Medical psychologists will need to be aware of these limitations.

The Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE)

The data from the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) is the result of a relatively a large, open-label trial that looked at the efficacy and safety of about fifteen antipsychotic medications used in the treatment of schizophrenia. The study was conducted by the National Institute of Mental Health (NIMH). About 1400 patients were studied at well over 130 selected from various clinical settings throughout the United States.[17] This algorithm is a tool used to guide the treatment of schizophrenia and predict outcomes with antipsychotic medications.

The CATIE algorithm has demonstrated some effectiveness in guiding treatment decisions for schizophrenia. Yet, overall, patients experiencing schizophrenia rarely see great improvement with mediation only regimens. It may very well be that the side effects of antipsychotic medications are too severe for most patients and adherence rates swing widely. Several studies place non-adherence rates for antipsychotic medications between 37% to 70%.[18,19] With respect to schizophrenia and other psychotic conditions, medications, in the overall scheme of treatment, is not very effective for most patients with these conditions. In fact, non-pharmacological therapies are quite effective in increasing the adherence rates of pharmacological treatments and can help to ensure that patients remain adherent to their medications.[20]

Because not all patients are likely to respond when given the same medication regimen there are many factors that can affect every treatment outcome. Individual differences rules. Perhaps, the best way for experienced clinicians to use the CATIE algorithm may be as a guide for treatment decisions, rather than a definitive predictor of outcomes. Moreover, as the CATIE algorithm was developed specifically for the treatment of schizophrenia it really is not applicable to other mental health diagnoses or medications.

If one is looking to use a more generalized algorithm based tool, STAR*D and the Maudsley Prescribing Guidelines algorithms may be more appropriate for patients who are not diagnosed with schizophrenia. The results from the study suggest that no one antipsychotic medication is superior to another. All of the drugs studied, to some degree, were effective in treating schizophrenia, but they all had different side effect profiles. As opposed to using the CATIE for medication decisions,
it should be looked more as contributing to the body of knowledge on antipsychotic medications.[21]

An Example How A Clinician Might Use The CATIE

Patient Jane Doe is a 35-year-old woman who has been diagnosed with schizophrenia. Her history revealed that her symptoms started to appear about 10 years ago. She has been on a wide array of antipsychotic medications, but she has not responded well to any medication regimen. In this past two years she has experienced a number of side effects, including weight gain and diabetes. She is also having difficulty with her memory and concentration. Physician, Jim Fubar, wants to use the CATIE study to help him decide which medication to prescribe to his patient. The CATIE study found that there was no significant difference in effectiveness between older and newer antipsychotic medication when controlled for dosage, but that newer medications were more likely to cause the side effects his patient is experiencing.

Jane's doctor also knows that she is at high risk for side effects, so he decides to prescribe her an older antipsychotic medication. He chooses a medication that has a long half-life, so that Jane does not have to take it as often. If this regimen doesn't work out as expected, the CATIE suggests Jane's physician could refer her to a psychiatrist who specializes in treating schizophrenia. He could also encourage Jane to participate in support groups or other activities for people with schizophrenia. Lastly, the CATIE algorithm suggests that her physician monitor Jane's progress closely and make adjustments to her treatment plan as needed. Clearly, good recommendations using the algorithm but, again, physicians will only get technical recommendations with no real insights into schizophrenia or the complex needs of their patients. Like all the algorithmic approaches, psychotherapy is recommended only after several treatment failures.

Pharmacogenetic and Pharmacogenomic Prescribing

Pharmacogenetics, which is sometimes referred to as pharmacogenomics, is an approach where the patient's individual genes are analyzed and evaluated so that a specific medication can be selected to increase the effectiveness of the treatment and provide a positive outcome for the patient. Although some use these terms interchangeably, pharmacogenetics is restricted to genetic causes of individual variations in response to a medication. Pharmacogenomics, however, looks at the simultaneous impact of multiple mutations in the genome that may determine a patient's response to drug therapy. Subtle differences but important distinctions. Both approaches analyze a patient's DNA to identify genetic variations that may affect how the body processes and responds to medication. Pharmacogentics looks to the Cytochrome P450 (CYP) [22,23] system to make

decisions and is the more widespread tool used with psychotropic medications. This approach, as opposed to the CATIE, is not restricted to specific diagnoses. What matters when using pharmacogenetic algorithms is the drug interactions and the relationship between the patient's unique genetic makeup.[24,25]

The effectiveness of pharmacogenetic algorithms in predicting treatment outcomes can vary depending on the specific medication and the individual patient. Some studies have shown that pharmacogenetic testing has the potential to improve treatment outcomes by helping clinicians identify medications that are more likely to be effective for a particular patient and avoid medications that may cause adverse effects.[26-28] It is important to note that, at some future point, pharmacogenetic testing may prove to be a useful tool for guiding treatment decisions, yet, it is not a substitute for clinical judgment and individualized care.[29] Although the vast majority of medications have none or little pharmacogenetic data available there are a few notable studies indicating that pharmacogentics can increase overall improvement while selecting the best medication regimen.[30-32] A major downside going forward for pharmacogentics and pharmacogenomics might be that the cost of testing is expensive and insurers might resist paying for testing. All of the above reasons would limit access to this technology for many patients.

Concluding Statements

It may very well be that, aside from pharmacogentics and pharmacogenomics, algorithmic based approaches will achieve even less utility than at present. The main reason for this is that AI programs could supply better data and in a shorter time period. In fact, it is probable that AI programs such as ChatGPT will make a lot of prescribing decisions obsolete. Of course, this depends upon databases that are reliable and that these AI programs can be trusted to provide correct information. To date, this has not been the case. Clearly, medication regimens really are complex treatment plans although many physicians and psychiatrists seem to view them as simplistic given the rates of prescriptions for psychotropic medications. Better and more comprehensive training in mental health for physicians and psychiatrists would likely lead to more effective outcomes with patients than algorithms. As long as medical training remains deficient with respect to mental disorders that are being seen and treated in primary care venues, algorithmic approaches, AI, and pharmacogenetics will unfortunately be seen as first line treatments because the whole point of medical is medications. The economics of medications is also a major factor that perpetuates ineffective outcomes. Going forward, it can be expected that medical psychologists and medical psychology training will need to accommodate these technological advances even as we may know that mental, emotional and behavioral disorders are not so simple that they can be successfully treated with drugs and recommendations from non-human chatbots.

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Trauma, Spiritual Resilience, and the Tele-Psychiatric Experience: Challenges, Opportunities, Triumphs, and Failures

Saleem Al-Nuaimi, Mohamad Hamza, Mehmet Akkurt, Maher Saqqur

Abstract

The Syrian conflict has precipitated one of the most severe humanitarian crises in modern history, displacing millions and exposing them to profound psychological trauma. This paper explores the implementation and impact of a pioneering telemental health program developed by the Syrian American Medical Society (SAMS) to address the mental health needs of refugees and internally displaced persons in northern Syria. Drawing on clinical experience, field visits, investigating the spiritual resilience observed, and literature reviews, the authors detail the program's evolution, services, and challenges. The clinic provided synchronous and asynchronous psychiatric consultations, psychological care, crisis intervention, and mobile outreach, all free of charge. Despite significant barriers due to war and dangers of discovering clinic locations, language and cultural differences, infrastructure limitations, and safety concerns, the program demonstrated effectiveness in delivering evidence-based care. The authors emphasize the importance of cultural and religious competence, particularly in addressing gender dynamics and spiritual resilience among Syrian patients. The manuscript also highlights the need for integrative psychological treatment models and robust evaluation frameworks using validated assessment tools. Recommendations include expanding qualitative data collection, improving training, and enhancing access to culturally appropriate care. This study contributes to the growing body of evidence supporting telemental health in conflict zones and underscores its potential to bridge critical gaps in mental health services for vulnerable populations.

Keywords

Telemental health**,** Syrian Refugees**,** Refugee Mental Health**,** Conflict Zone**,** Cultural Competence

Introduction

Over a decade has passed since the onset of the Syrian conflict of killing civilians and destroying their land, resulting in a staggering number of displaced individuals, both internally and as refugees. According to Devictor et al. (2021), the United Nations High

Correspondence Address: Contact Mohammad Khalid Hamza Ph.D Email: hamzamk@lamar.edu

Commissioner for Refugees (UNHCR) estimates that approximately 14.6 million Syrians require humanitarian assistance within the country. This includes 5.4 million who have sought refuge in neighboring nations and 6.8 million who are internally displaced (UNHCR, 2022). In north-west Syria alone, about 1.7 million of the displaced population reside in camps, with 58% being children and 22% women (Amnesty International, 2022/23). Both refugees and internally displaced persons face a heightened risk of developing mental health disorders, particularly in the context of violent conflict. The Syrian conflict is marked not only by extreme violence but also by severe human rights violations, including abuse, torture, sexual violence, and indiscriminate attacks on civilians, schools, and hospitals (Amnesty International, 2022/23). The profound loss, trauma, and suffering endured by many Syrians is truly catastrophic and beyond imagination (WHO, 2023). A systematic review of 64 studies conducted between 2019 and 2022 reveals that refugees experience high rates of post-traumatic stress disorder (PTSD), depression, and anxiety disorders (Sa et al., 2022). It may be tempting to think that these mental health challenges will resolve upon resettlement or when internally displaced persons return to their homes. However, evidence suggests that resettlement does not automatically alleviate these issues. Van der Linden et al. (2023) found that the mental health of refugees deteriorated with longer stays in reception centers, even after two years. Furthermore, recovery and well-being for resettled refugees depend on a complex interplay of factors that extend beyond the scope of mental health services. As Wood et al. (2022) note, "recovery and wellbeing for resettled refugees also depend upon an interaction of variables at a wider systemic level" (p. 587). A review by Carpiniello (2023) of systematic reviews and meta-analyses on long-term mental health outcomes for war refugees confirms that high prevalence rates of depression, trauma-related disorders, and anxiety persist even many years post-resettlement, with women and children being particularly vulnerable.

Several studies have investigated the prevalence of mental health disorders among Syrian refugees. Kazour et al. (2017) examined PTSD prevalence in Syrian refugees in Lebanon, finding a lifetime prevalence of 35.4% and a point prevalence of 27.2% among 452 respondents. Similarly, a study conducted in Turkey reported an incidence of PTSD at 35.5% among Syrian refugees (Alpak et al., 2015). In another study, Marwa (2016) focused on psychological stress among Syrian refugees in Turkey, revealing high prevalence rates of anxiety at 53% and depression at 54%. Al-Nuaimi et al. (2018) investigated psychiatric morbidity among physically injured Syrian refugees in Turkey and found that major depressive disorder was the most common condition, affecting 22.5% of participants, followed by adjustment disorder (20%) and post-traumatic stress disorder (15%). As the overwhelming devastation of the Syrian people mounted significantly, a new psychiatric terminology surfaced by SAMS, Human Devastation Syndrome (HDS) in 2017 which received an international attention (Hamza & Clancy, 2019). According to Davis,

C. (2017), 'it feels insufficient to say that children from Syria are suffering from "PTSD." The oft-orphaned survivors of a horrible ongoing humanitarian crisis are, likely, experiencing post-traumatic stress, but these children of war have experienced more trauma — physical and emotional — than the medical professionals who care for them have ever seen: the shredded remains of their mom or dad, blown apart by a regime barrel bomb, a Russian cruise missile, or, increasingly, U.S. airstrikes. That is Human devastation syndrome, as the emotional and material problems facing Syrian civilians are compounded every day by the crushing poverty and exploitation that Syrians experience at refugee camps — where 1 in 5 of the half-million inhabitants are under the age of 11 — and on the streets of Lebanon, Turkey, and Jordan, which host the majority of the more than 4.9 million people who have fled Syria since 2011, when mass protests for democracy were met with bullets by the regime of Bashar al-Assad. Another 6.3 million people are internally displaced, according to the United Nations Refugee Agency, and another half a million have been killed.'

The prevalence and burden of mental disorders among Syrian refugees and internally displaced persons are alarmingly high, yet there is a significant lack of mental health resources to address these needs. Only 5% of the necessary psychiatric services are currently provided for refugees in Syria, Lebanon, and Turkey (Almoshmosh, 2015). Additionally, there is a critical shortage of professionally trained mental health professionals in Syria (Hamza & Hicks, 2021). The country has just 0.5 psychiatrists, 0.5 psychiatric nurses, and eight psychiatric beds per 100,000 inhabitants, with virtually no psychologists or social workers available (Okasha et al., 2012). In stark contrast, the number of psychiatrists per 100,000 inhabitants in industrialized and neighboring countries is significantly higher: Lebanon has 2, Jordan 1, Turkey 1, Bahrain 5, Qatar 3.4, Kuwait 3.1, Iran 1.9, Saudi Arabia 1.1, while the United States has 13.7, Canada 12, and the United Kingdom 11 (Jacob et al., 2007). To address these pressing challenges, various authors have suggested implementing tele-psychiatry as a potential solution (Sultaji & Al-Nuaimi, 2016; Jefee-J, 2014; Moustafa, 2015; Nassan et al., 2015; Aadil et al., 2017; Hassan, 2018).

Mental health organizations have adopted several terms to describe services provided remotely through technology. These terms include telemedicine, telehealth, telemental health (American Psychiatric Association, 2023), telemedical psychology (American Psychological Association, 2023), and telebehavioral health (American Counseling Association, 2023).

All these organizations agree that utilizing technology in mental health care introduces additional professional and ethical considerations, while also creating unique opportunities to enhance access to services and address mental health disparities globally.

Telehealth not only facilitates interactions between clients and providers but also allows professionals to collaborate and consult more conveniently.

The effectiveness of telemental health has been well established (American Telemedicine Association, 2023). Telemedicine offers opportunities for increased access, enhanced reach of healthcare services, reduced costs, and added value for both service providers and clients (ATA, 2023). A systematic review by Hassan and Sharif (2019) found evidence—albeit limited—supporting the efficacy of telemental health in resource-constrained environments. In a study involving 1,206 clinicians across 100 countries, Montoya et al. (2022) reported that clinicians viewed telehealth as a feasible option based on positive client satisfaction outcomes. The authors own experience aligns with these findings. Clinicians working with the Syrian American Medical Society (SAMS) telemental health program found it highly effective in supporting patients with psychiatric illnesses. Initially, we were concerned that stigma and the perception that virtual consultations might be ineffective would hinder patient access. However, the experience revealed that patients were actively engaged with the services and showed clear clinical improvements in their symptoms. This positive experience led to patients referring others and spreading the word about the program, resulting in increased visits and consultations.

The tele-psychiatry program is open to all Syrians seeking mental health support. However, one of the most significant obstacles preventing Syrian refugees from accessing psychiatric treatment is the language barrier. The majority of the Syrian population speaks Arabic, while only about 5-10% are non-Arabic speakers, predominantly Syrian Kurds and Aramaic speakers. A severe shortage of Arabic-speaking mental health professionals in the region exacerbates this issue, largely due to the lack of educational programs offering relevant certification. This language barrier has proven to be a critical limitation for the telemental health program from a clinical perspective. While psychiatrists and allied health professionals have shown eagerness and generosity in supporting the program, their inability to communicate in Arabic or have a reasonable cultural and religious knowledge, have hindered effective interaction with both patients and clinic staff, significantly restricting the program's clinical capacity. Additional challenges include difficulties in accessing refugee populations and the high costs associated with hiring mental health professionals to remain in the area and provide follow-up care (Alpak et al., 2015).

Jefee-Bahloul et al. (2014) conducted a pilot study to assess the willingness of Syrian refugees with PTSD to access psychiatric and telemental health services. They found that 34% of the entire sample reported a perceived need to see a psychiatrist, with 45% of those expressing openness to receiving telemental health care. The study also explored the acceptance of mental health services and telemental health among Syrian refugees.

Many expressed hesitance toward using technology due to concerns about privacy, potential distortions in the doctor–patient relationship, and unfamiliarity with the technology. Similar concerns have been highlighted in other studies; patients in the Middle East often voice worries about physicians' backgrounds and cultural understanding, as well as issues related to technology, security, and privacy during consultations (Alajlani, 2010).

Bahloul and Mani (2013) published a review examining the cross-border use of telemental health. The inclusion criteria focused on studies conducted in real-time clinical settings, while exclusion criteria ruled out domestic telemental health in rural areas, non-videoconferencing modalities, and non-real-time approaches. Their search yielded only four studies that met all criteria; notably, no randomized controlled trials were identified, and all four were feasibility studies. While none of the reviewed studies measured clinical outcomes, those that assessed patient satisfaction reported high levels of contentment with telemental health services.

In another review, Bahloul and Mani (2013) analyzed international studies of telemental health, all of which involved psychiatric care provided in industrialized nations, including Western countries and China. To the best of the authors' knowledge, there are currently no services offering real-time and store-and-forward tele-psychiatric care from an industrialized nation to a resource-limited country or emergency setting, such as a conflict zone.

The authors would like to publish their experience of establishing, to the best of their knowledge, the first international tele-psychiatric service involving professionals from various industrialized nations providing both synchronous and asynchronous tele-psychiatric care to a conflict zone with very limited resources, and to shed light on the religious resilience observed throughout this conflict.

Spiritual and Cultural Considerations in Syria

1. Loss of Religious Climate, Communities, and Practices

Religion plays a central role in the lives of many Syrians, and their religious communities serve as critical sources of spiritual support. Islam (Sunnah), practiced by a majority of Syrians and based on monotheism and following practices, teachings, and examples set by Prophet Muhammad is deeply intertwined with their daily lives, language, daily activities, and cultural values. The Sunnah is considered a significant source of Islamic law and guidance for the majority of Syrian refugees, alongside the Qur'an which is the primary and most important reference for Muslims in matters of faith, worship, and conduct. Together, they provide a comprehensive framework for the beliefs and practices of

Muslims. The Syrian war has disrupted religious practices due to displacement, separation from religious leaders (many were killed by the Syrian regime and their allies), and destruction of mosques. This loss of religious climate and community created a vacuum for many Syrians.

2. Theological Reflections on Suffering

Another key spiritual challenge is reconciling faith with the immense suffering brought by war. Some Syrian refugees (specifically young ones) may question how their suffering aligns with their beliefs about a benevolent and just God (Allah). In Islam, suffering can be viewed as a test of faith or an opportunity for spiritual growth, an affliction of faith and a test for the day after. However, for individuals (specifically the youth) who have witnessed or experienced horrific violence, this theological explanation may not provide enough solace and comfort. Some may even experience a crisis of faith, asking why they have been subjected to such trauma and displacement. Others, the majority interviewed, diagnosed, or treated, exhibited unprecedented faith and resilience. The common response to the devastation they have faced were responded to by: "*Thanks to Allah (God), He knows best. This is a passing zone. The Day After (Al-Akhira) is lasting and most beneficial for us*". This spiritual phenomena and struggle can compound the psychological effects of trauma, leading to a diminished sense of purpose or hopelessness, augmented sense of faith and ideological mental construction, and the building of psychological resilience to survive. Similarly, Syrian Christians, though a minority, have faced their own unique spiritual challenges. Many Christian communities were devastated by the war, with churches destroyed and families scattered. For Christian refugees, understanding their suffering within the framework of Christian theology—particularly notions of persecution, martyrdom, and suffering for one's faith—can be both a source of comfort and distress.

3. Language Barriers

One of the most immediate cultural challenges in providing mental health services to Syrians is the language barrier. Arabic, the dominant language in Syria, is not widely spoken outside of the Middle East. Even within the Middles East, there are many Arabic dialects that can be quite foreign and misunderstood by both the telemental health provider as well as the Syrian patient. Language barriers can have significant impact in understanding the psychopathology of the patient due to miscommunication, affecting rapport building, decreasing patient and provider satisfaction as well as decreasing the quality of the care delivered (Al Shamsi et al., 2020)

4. Gender Dynamics and Cultural Expectations

Gender roles present another cultural challenge in providing appropriate mental health care. Syrian society is generally more conservative in terms of gender relations. Typically, patients are more comfortable receiving care from the same gender provider. This was especially true when managing the care of female patients that have experienced serious trauma. Regime security forces that are overwhelmingly males have brutally assaulted, raped, kidnapped, tortured and traumatized innocent Syrian civilians, particularly women and girls. For them, seeing a male mental health care provider can be triggering and forms a barrier to the patient-physician relationships. Men and boys were also subject to extreme inhumane abuse, rape and torture. Due to gender norms and expectations, they may experience extremely high levels of shame to disclose their symptoms and trauma to a female provider and may feel more comfortable with a male one. This aspect of care was needed to be taken into consideration when seeing patients.

Telemental health played a key role in connecting culturally sensitive, Arabic-speaking, highly qualified psychiatrists with Syrian patients in a relatively natural manner. Cultural competency training was not required due to the shared cultural, language and religious values of both providers and patients.

5. Religious Resilience

Authors' keen observations were noted that during the height of the Syrian conflict, when the regime's brutality turned cities into graveyards and families into refugees, an extraordinary form of religious resilience emerged among the Syrian people. In the face of relentless bombardment, loss, and displacement, many continued to thank Allah, expressing gratitude not for their suffering, but for the strength to endure it. Mosques reduced to rubble still echoed with whispered prayers, and amid the ruins, faith became both a refuge and a weapon of hope. For many Syrians, religion offered the only structure left standing when every other system—political, social, or humanitarian—had collapsed. Even more striking was the resilience of Syrian children, who grew up surrounded by scenes of death and destruction yet learned to find solace in phrases like *"Alhamdulillah"* ("Praise be to God"). Their ability to recite verses of patience and hope while witnessing unimaginable violence reflected a deep spiritual endurance passed down through generations. In a landscape where despair could have easily prevailed, the faith of the Syrian people became a quiet defiance—a way to reclaim humanity and dignity when everything else had been stripped away. Moreover, throughout the war, religious identity became a cornerstone of psychological survival. Imams and community elders emerged as beacons of moral guidance, leading prayers in basements and shelters when public worship was forbidden or unsafe. Sermons emphasized patience (*sabr*), trust in divine wisdom (*tawakkul*), and the belief that suffering purified the soul and strengthened faith. Even in refugee camps

scattered across Turkey, Lebanon, and Jordan, Syrians rebuilt their spiritual life, organizing collective prayers, Quranic recitations, and religious education for children. Faith-based solidarity created a sense of belonging that transcended displacement, reminding each person that they were part of something larger than their suffering. Ultimately, the Syrian people's unwavering spirituality during one of the darkest chapters in modern history stands as a profound testament to the power of faith under fire. As many victims shared with the doctors who treated them, *"In spite of the devastation we have endured for years, and the losses that can never be replaced, we feel Sakinah in our hearts — a peace of mind and soul, a calmness, and a deep spiritual connection to Allah."* This profound sense of Sakinah became a source of strength that allowed them to rise each morning amid ruins, to forgive when bitterness could have consumed them, and to continue living with faith as their compass. Even when surrounded by destruction, many described feeling an inner light — a serenity that transcended fear and pain, reminding them that true peace does not come from worldly safety, but from unwavering trust in the Divine will. Through prayer, remembrance (*dhikr*), and gratitude, they found a sanctuary within their hearts that no violence could ever destroy.

Development of the Telemental health Clinic

At the onset of the conflict and for several years afterward, the Syrian American Medical Society's (SAMS) Clinical Mental Health Committee (CMHC) focused on providing mental health support and humanitarian aid to war victims, particularly given the targeting of civilians and infrastructure by the Syrian regime. As the conflict escalated, addressing the mental health needs of both refugees and internally displaced persons became increasingly critical. In addition to psychosocial interventions, victims of war required thorough psychological and psychiatric evaluation, treatment, and management. Under the guidance of the CMHC, Drs. Al-Nuaimi and Saqqur led a team of mental health professionals to Reyhanli, Turkey, in December 2012. Accompanied by a few Canadian medical colleagues from an organization then known as Canadian Relief for Syria, their goal was to assess the mental health situation of Syrian refugees firsthand. Reyhanli, strategically located near northwestern Syria, emerged as a hub for numerous NGOs providing medical relief to both refugees and residents of northern Syria. The team returned to the region multiple times—August 2013, June 2014, and October 2014—visiting various locations in southern Turkey, including Reyhanli and Gaziantep, as well as medical sites in northern Syria. They toured several refugee camps, the major tertiary care facility near the Turkish border, Bab Al-Hawa Hospital, and various local clinics and rehabilitation centers. Countless hours were spent networking with global and local partners, and most importantly, engaging with patients, families, and healthcare workers, including mental health specialists. During these visits, the authors of this paper connected

with key mental health professionals dedicated to improving and supporting the mental health care needs of the Syrian population. As the demand for mental health interventions grew, organizations like SAMS and the Union of Medical Care and Relief Organizations (UOSSM) established Mental Health Committees to spearhead their mental health strategies. The field visits and extensive networking provided valuable insights into the needs and available resources on the ground.

The most striking gap identified by various teams was the near-total absence of psychological and psychiatric resources and infrastructure in northern Syria. While some organizations implemented psychosocial interventions and psychological first aid, as well as the mental health GAP program supported by the WHO, these efforts fell short of providing specialized care. The major psychiatric facility, Ibn Khaldoon Hospital in Aleppo, had been bombed and destroyed. The team concluded that telemental health was an essential tool that must be implemented, despite the barriers and challenges posed by the lack of resources and infrastructure. This recognition came well before any published calls to action advocating for the use of telemental health services in Syria.

Given the extensive resource limitations, the telemental health project commenced as a pilot initiative in the summer of 2014. It began with one clinical psychologist operating from a dedicated office in collaboration with a UOSSM-sponsored rehabilitation facility in Sarmada, northern Syria. The team gained valuable experience during this nearly year-long pilot phase.

SAMS was a pioneer in delivering telemedicine services to Syrians, having previously established a tele-ICU and tele-radiology service at Bab Al-Hawa Hospital. This support for innovation was crucial in bringing the telemental health project to fruition.

The Tele-Psychiatry Clinic in northern Syria was officially established on July 7, 2015, through the collaboration of SAMS' CMHC and UOSSM (Canada's Mental Health Committee). The clinic was temporarily closed from December 9, 2016, due to logistical and safety concerns but re-opened on February 1, 2017, and continues to operate today. The primary objective of the Tele-Psychiatry Clinic is to provide both synchronous and asynchronous psychiatric and mental health services to the people of Syria, regardless of gender, age, or any other factor. All services, including medications, are strictly humanitarian and delivered free of charge.

Main Services Provided by the SAMS CMH Telemental health Clinic

1. **Psychiatric Consultation & Management**
   The clinic offers treatment for children, adolescents, adults, and geriatric patients

with severe mental illnesses requiring specialist psychiatric management and/or medications. This is facilitated through telecommunication with a team of specialists, including psychiatrists and psychologists located in Canada, the United States, and the Gulf Cooperation Council, who specialize in both adult and child/adolescent psychiatry. All medications are procured by SAMS and provided free of charge to patients. Available medications include standard antidepressants, anxiolytics, antipsychotics, and mood stabilizers. Procurement has been challenging at times, requiring collaboration with partner organizations for donations or support. Ultimately, due to supply concerns, medications are exclusively sourced from Turkish suppliers.

2. **Psychological Care**
   Support for children, adolescents, adults, and geriatric patients is provided through individual and group psychotherapeutic interventions, including Cognitive Behavioral Therapy (CBT), behavioral therapy, parenting support, supportive therapy, and psychoeducation. The mental health staff, primarily psychologists, along with a psychiatric nurse and a general practice physician, deliver these services. A significant challenge has been the varying levels of training among staff, which were not standardized. To address this, online training was provided by trainers from the USA, Canada, and the United Kingdom, focusing on the theoretical foundations of the therapies and offering some clinical supervision. Most supervision, however, was conducted through case discussions with tele-psychiatrists online.

3. **Telephone Crisis Line**
   The clinic operates a crisis hotline staffed on an on-call basis, available 24 hours to address acute concerns from patients and their families. Calls typically involve inquiries about medication management, side effects, and dosage changes. Many families face transportation challenges and rely on the clinic for support.

4. **Mobile Response**
   This outreach component provides essential mental health services to nearby populations lacking established mental health resources. The main beneficiaries are seven internally displaced persons camps that do not have access to mental health services. Clinic staff visit these camps approximately once a week, coordinating all cases with the medical checkpoint on-site. Additional support is provided to various facilities, including an orphanage, a high school, and an obstetrics facility in the city of Aldana.

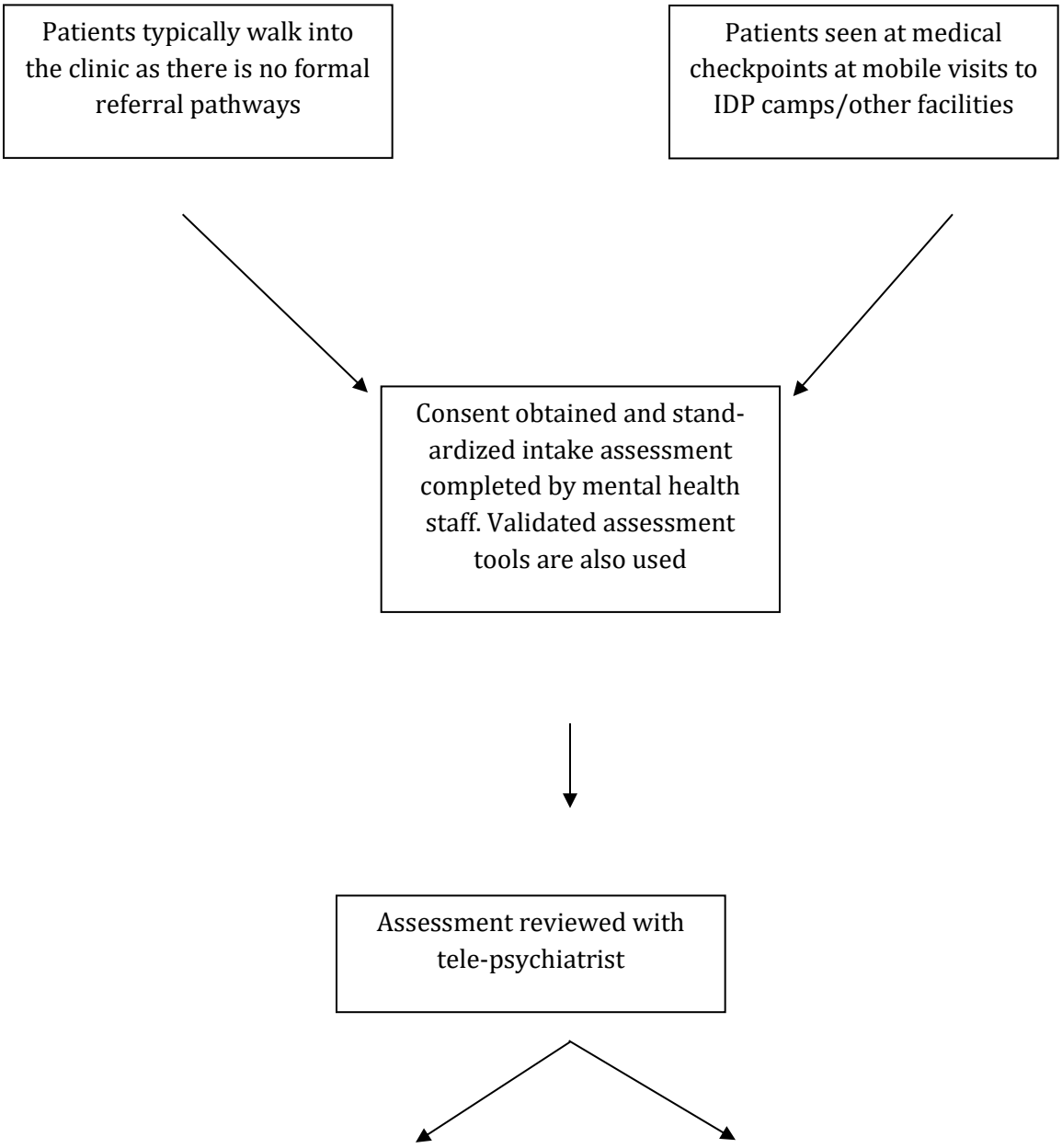
Methodology of Care

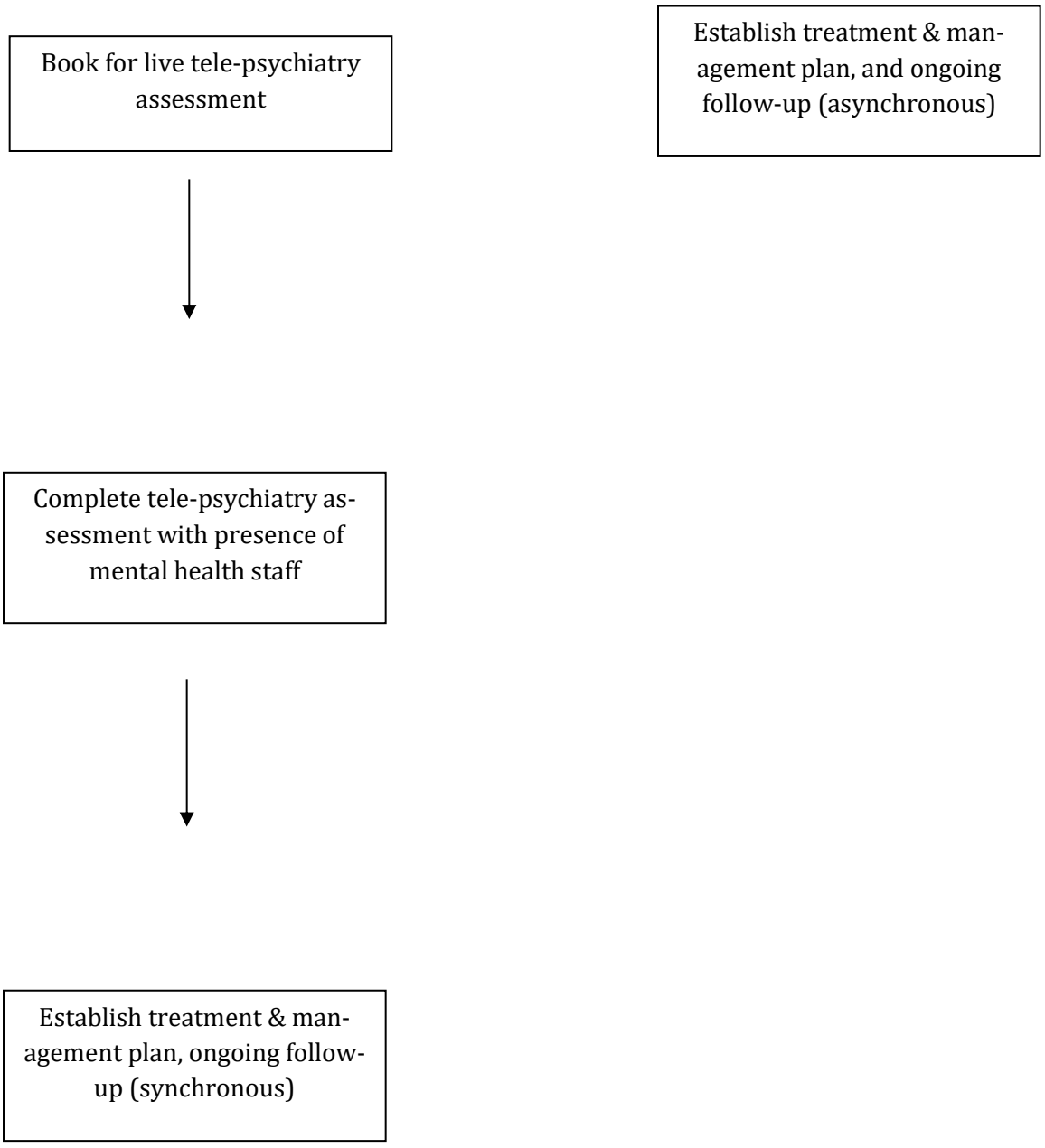
The Telemental health Program employs a specific model: a single-center psychiatric medical delivery system designed to provide care to patients with severe mental illnesses. This model has proven effective for delivering medical psychiatric care, where biological treatments (medications) form the foundation of management. The program adheres to the recommendations outlined in the Inter-Agency Standing Committee (IASC) Guidelines on Mental Health and Psychosocial Support in Emergency Settings, particularly section 6.2, which addresses the treatment of individuals with severe mental illness. It also follows the "Practice Guidelines for Videoconferencing-based Tele-mental Health" established by the American Telemedicine Association (Yellowlees et al., 2010). Given Syria's impoverished and war-ravaged context, these practice guidelines have been adapted to enhance the feasibility and functionality of the Telemental health Program. All clinical assessments and interventions are evidence-based, following Canadian and American treatment guidelines for various psychiatric conditions as outlined in the DSM-5-TR. A crucial aspect of the pilot phase was identifying gaps in the administrative, clinical, and technical components of the telemental health service. The team recognized the need for policies and manuals to ensure standardized operations within the clinic. Consequently, a manual/guide for tele-psychiatrists was created, along with standardized consultation templates, intake forms, a charting system, and medication management procedures. Protecting patient information through encryption and safeguarding measures was prioritized.

Roles, responsibilities, and duties for all staff members, including tele-psychiatrists, were clearly defined. Additionally, specific guidelines were developed for various clinical situations, such as protocols for managing acute agitation and acute withdrawal.

Clinical Pathway

Diagram 1.




Book for live tele-psychiatry assessment
Complete tele-psychiatry assessment with presence of mental health staff
Establish treatment & management plan, ongoing follow-up (synchronous)
Establish treatment & management plan, and ongoing follow-up (asynchronous)

The Telemental health Clinic operates six days a week during regular business hours. Outside these hours, patients can reach a 24-hour telephone crisis line for support as needed.

All cases requiring psychotropic medications are actively monitored by designated mental health professionals in the clinic, who receive ongoing supervision and follow-up from the tele-psychiatrist. For cases that require psychological interventions only, management is directly handled by qualified mental health professionals in the clinic. Additionally, case management and supervision for all patients are facilitated through teleconferencing with the tele-psychiatrist.

Discussion

We believe the success of the Tele-psychiatry Program stems from the following factors:

1. **Quality Care**: Telecommunication enables patients to access highly trained and qualified psychiatrists and psychologists. The clinic staff are well-qualified, eager to learn, and deeply committed to the program. They receive extensive training and supervision from tele-psychiatrists in all aspects of clinical management.

2. **Evidence-Based Practice**: The program adheres to the recommendations outlined in the Inter-Agency Standing Committee (IASC) Guidelines on Mental Health and Psychosocial Support in Emergency Settings, particularly section 6.2, which focuses on the treatment of individuals with severe mental illness. It is designed based on the practice guidelines for tele-mental health established by Yellowlees and colleagues (2010). All clinical assessments and interventions are evidence-based, following Canadian and American treatment guidelines for various psychiatric conditions.

3. **Cultural & Religious Competence**: Staff of tele-psychiatrists and psychologists are fluent in Arabic and possess Middle Eastern backgrounds. They have a reasonably deep understanding of the cultural, religious, and social contexts of the people living in northern Syria.

4. **Operational Competence**: The clinic operates with the financial, logistical, legal, and administrative support of SAMS. SAMS has extensive experience, capacity, and commitment in implementing tele-medicine programs in Syria and Turkey.

Challenges & Limitations

Establishing and successfully operating the tele-psychiatry clinic was a challenging journey. Funding remains a significant limitation for public mental health programs. The

authors faced extensive logistical issues, including unreliable internet connectivity, inconsistent access to electricity, and safety concerns related to bombardments by the Syrian regime. The safety of staff from potential harm posed by the Syrian intelligence apparatus and armed groups was also a major concern. Additionally, the human resources challenge was daunting. There is a severe shortage of mental health professionals in northern Syria, making recruitment difficult. Finding and retaining tele-psychiatrists and psychologists, specifically, who are culturally and religiously competent and fluent in Arabic proved to be an ongoing struggle. Also, lack of having an 'Integrative Psychological Treatment Model,' that comprises of extensively trained psychologists and psychiatrists trained in primary treatment of patients and mental health. Psychological and neuropsychological screening and evaluation should be part of the evaluation and treatment processes where psychologists analyze data, constructs, information, correlations, and careful studies of the patients' developmental, traumatic, and neurocognitive domains. An integrative approach and program into evaluating, assessing, and treating patients with severe trauma and psychological disorders.

Recommendations

To effectively enhance the tele-psychiatry program, it is crucial to gather comprehensive data on its implementation, including the number of beneficiaries served, types of services provided, and program duration. This data collection will help identify areas for improvement and demonstrate the program's impact. Given the ongoing conflict and population displacement, the tele-psychiatry program may face unique challenges, such as limited access to technology, difficulties in reaching vulnerable groups, and potential language and cultural barriers (Hassan & Sharif, 2019). Continuous monitoring and evaluation will enable us to address these challenges and meet the needs of the target population effectively (Hassan & Sharif, 2019). Demographic data can offer valuable insights into the number of beneficiaries and highlight trends in mental health issues. Unpublished findings suggest that a significant number of patients have pre-existing psychiatric conditions, particularly mood and psychotic disorders. This observation challenges the assumption that the tele-psychiatry program primarily addresses conflict-related issues, such as trauma or adjustment disorders. Identifying vulnerable groups is essential for tailoring interventions to ensure accessibility and cultural relevance for all members of the target population. Tele-psychiatry has proven effective in delivering mental health services to those displaced by conflict. However, employing validated assessment tools to analyze and interpret mental health status before and after interventions is crucial for evaluating service impact (Hilty et al., 2013). Scales such as the Harvard Trauma Questionnaire (HTQ), Impact of Event Scale-Revised (IES-R), and Hopkins Symptom Checklist-25 (HSCL-25) are particularly useful for monitoring symptoms of depression, anxiety,

PTSD, and psychosis. The HTQ, widely utilized in refugee populations, effectively assesses the prevalence and severity of PTSD and related symptoms, with validation in Arabic (Vindbjerg et al., 2020). The IES-R measures PTSD symptom severity—specifically intrusion, avoidance, and hyperarousal—and has been validated in Syrian Arabic for refugee and internally displaced populations (Grassi et al., 2021). The HSCL-25 evaluates anxiety and depression severity and is also available in Arabic, making it suitable for assessing the mental health of refugees and IDPs (Wind et al., 2017). Additionally, the Beck Depression Inventory (BDI), which measures depression severity, has been validated in Arabic (Al-Turkait & Ohaeri, 2010). Moreover, evaluating the program with social outcome measures, such as patient satisfaction and quality of life scales, is essential, as mental health outcome scales may not fully capture the breadth of benefits provided by tele-psychiatry services. For example, a patient may not show a significant decrease in depression scores yet may experience improved overall well-being and functioning, which can be assessed through quality of life measures. Patient satisfaction scales can provide critical insights into how individuals perceive the tele-psychiatry program and highlight areas needing improvement. The Sense of Coherence-13 (SOC-13) evaluates emotional control and coping ability under stress, with validation in Arabic (Alharbi et al., 2022). The World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) assesses functional impairment and has been validated in Arabic, with applications in studies of Syrian refugee populations (Akhtar et al., 2021). Lastly, the Kessler Psychosocial Distress Scale (K10) measures psychological distress across cultures and has also been validated in Arabic (Easton et al., 2017). In summary, a robust evaluation framework that incorporates both mental health and social outcome measures is vital for ensuring the effectiveness and accessibility of the tele-psychiatry program

Future Recommendations and Plan

To gain deeper insights into the experiences of beneficiaries and identify areas for improvement in the tele-psychiatry program, qualitative data collection methods should be prioritized (Collier et al., 2016). Focus group discussions (FGDs) are a particularly effective qualitative approach, providing valuable perspectives on beneficiaries' perceptions, experiences, and attitudes toward the program. FGDs can be conducted either with groups of beneficiaries or through individual discussions, allowing for a rich diversity of insights (Collier et al., 2016). Individual interviews represent another valuable method for gathering detailed information about beneficiaries' experiences. This approach can help pinpoint specific aspects of the program that have been effective or ineffective (Collier et al., 2016). To implement these evaluation methods, data can be collected through a variety of means, including paper-and-pencil surveys, electronic surveys, and interviews with both beneficiaries and program staff. Demographic data and patients' histories can be

effectively gathered via electronic surveys or structured interviews. For assessing mental health status, validated assessment tools and self-report questionnaires should be administered by trained program staff, either on paper or electronically.

Qualitative data can be captured through FGDs and in-depth interviews with beneficiaries and staff. The resources required for this plan include survey forms, electronic devices for data collection, trained personnel to conduct interviews and surveys, and software for data analysis. By incorporating these qualitative methods into the evaluation framework, understanding improves of the beneficiaries' experiences and refine the program to better meet their needs.

Conclusion

The state-sponsored violence and extrajudicial killings in Syria, which began fourteen years ago, have led to the displacement of millions and created one of the largest refugee crises in modern history. Syrian refugees have sought safety in various countries, including Lebanon, Jordan, Turkey, and numerous Western nations, enduring a relentless series of traumatic events that have profoundly affected their lives.

The spiritual and cultural challenges they face are vast and complex. The disintegration of religious and cultural structures, combined with the need to adapt to unfamiliar environments, often leaves refugees struggling to preserve their identities while coping with deep-rooted trauma. To effectively address these challenges, a holistic approach is essential—one that considers not only the physical needs of refugees but also their spiritual and cultural well-being. By acknowledging and supporting the multifaceted aspects of their experiences, host countries and humanitarian organizations can facilitate more successful integration and healing for Syrian refugees. This comprehensive understanding is vital for fostering resilience and enhancing the overall well-being of these individuals as they navigate their new lives.

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The Suicidal Thinking Self- Report Questionnaire/Rating Scale: Interface with Medical Psychology, the Biopsychosocial Model of Health and Illness and Medical Illness as a Risk Factor for Suicide

Jerrold Pollak, Ph.D., ABPP; ABN
Clinical Psychologist/ Neuropsychologist
Portsmouth, New Hampshire

Abstract

The Suicidal Thinking Self-Report Questionnaire/Rating Scale: Interface with Medical Psychology, the Biopsychosocial Model of Health and Illness and Medical Illness as a Risk Factor for Suicide

Rates of suicidal behavior and suicide completion continue to increase in the United States among a broad array of demographic groups despite the considerable attention paid to prevention, assessment and intervention by researchers and clinicians since the start of the 2000's. This article addresses the ongoing problems with the reliable prediction of imminent and near term suicide in the individual case.

The relevance of the biopsychosocial model of health and illness for medical psychologists is discussed in the context of suicide risk screening and assessment in work with patients with medical risk factors for suicidal behavior. This article also reviews research from the past decade pertaining to medical illness as a risk factor for suicide.

The content and application of the Suicidal Thinking Self-Report Questionnaire/Rating Scale in suicide risk screening for medical psychologists and other health care professionals is discussed. The need for research is emphasized to better ascertain the clinical utility of the Suicidal Thinking Self-Report Questionnaire/Rating Scale in the screening and assessment of medical patients who may be at heightened risk for suicide.

Introduction

Rates of suicidal behavior and suicide completion continue to rise in the United States among a broad range of demographic groups despite the significantly increased attention paid to suicide prevention, assessment and intervention since the advent of the 2000's (Curtin, Garnett & Ahmad, 2023). This state of affairs has been deemed a major public

Correspondence Address: Contact Jerrold Pollak, Ph.D Email: jmpoll49@comcast.net

health crisis by many researchers and practitioners (Harmer, Lee, Rizvi & Saadabadi, 2024; Pal, Jackson & McNamara, 2025).

Since the start of this century there has been a considerable amount of research specifically devoted to risk assessment in an effort to identify reliable predictors of "imminent" and "near term" suicidal behavior that can be expected to occur within hours, days or weeks following a formal evaluation. Additionally, since the 2000's, suicide risk assessment has become a multi-disciplinary healthcare "core competency" (Gold, 2020). Yet, this clinical practice remains mired in controversy regarding its ability to accurately identify level of suicidal risk and facilitate the development of effective safety interventions (Alameddine, 2025; Large, 2018; Murray & Devitt, 2017).

The significant difficulty accurately predicting suicidal behavior imminently and in the near term is tied to the ongoing failure to identify robust psychosocial and psychodynamic predictors as well as other risk factors which possess good predictive validity for this behavior (Large, Soper & Ryan, 2022). This situation is exacerbated by the lack of empirically supported "bio-markers," notably, findings from laboratory tests and/or neuro-imaging, which might reliably identify "at risk" persons (Ryan & Oquendo, 2020).

The dependable prediction of imminent and near term suicidal behavior and the determination of the most appropriate level of care based on concern about the potential for lethal self-harm remain elusive goals in everyday clinical practice (Bolton, Gunnell & Turecki, 2015). This is the prevailing state of affairs despite the pooled observations/expert opinions of clinical practitioners and researchers from the mental health disciplines as well as allied fields over many years of study. Consequently, suicide risk assessment continues to be a "work in progress" and should be considered an "imperfect" science.

Suicide risk assessment is also a "risky" enterprise for mental health clinicians and other healthcare practitioners due to the increased vulnerability to provoke "iatrogenic effects-" the unintended negative consequences of various healthcare interventions. This can include the inadvertent raising of false hope that the examining clinician and/or assessment team will be able to make an accurate determination of suicidal risk and recommend a clear and unequivocal course of action to successfully mitigate this risk.

Moreover, this practice has involved a predilection to over-diagnose serious suicidal risk thereby generating unacceptably high number of "false positive" errors especially among pre-adolescent and adolescent patients and to recommend unnecessarily restrictive interventions, notably inpatient level mental health care; a disposition which often runs counter to the wishes of the patient and/or the family (O' Rourke, Jamil & Siddiqui, 2023). On the other hand, risk assessment can also result in frequent instances of under-estimation

of risk. This involves the generation of an unacceptable rate of "false negative" errors which can inadvertently contribute to the making of a serious suicide attempt or death by suicide (Gold, 2020).

This "damned if you do; damned if you don't" clinical dilemma heightens the exposure of clinicians to ethics complaints to licensing boards as well as to malpractice actions following a serious suicide attempt or death by suicide.

In recent years the many problems associated with attempts to bolster predictive validity have led to greater attention paid to strategies to lower the risk of completed suicide via preventative and proactive measures and related interventions (Gold, 2020; Pal, Jackson & Harmer, 2025). This has involved facilitating timely transitions from inpatient mental health care to outpatient services accompanied by a safety plan and outpatient monitoring via wellness check-in calls, 24/7 mental health crisis phone lines and mobile crisis deployments. These interventions are often based in state funded community mental health services and crisis centers. Efforts continue, though, to enhance the predictive validity of risk assessments as reviewed below.

Approaches to Suicide Risk Assessment: There are three general approaches to suicide risk assessment which are cited in the clinical and research literature (Bouch & Marshall, 2005).

- The Clinical Interview (also referred to as the "diagnostic interview" and/or the "clinical approach"). This "one on one" interview with the patient may be supplemented by interviews with one or more informant(s) together with a review of records assuming the availability of these sources of information. (Rivas-Vazquez, Lengnick & Rivas- Vazquez).

- Actuarial Assessment: This assessment approach involves the use of algorithms and score profiles which are predicated on the findings of self-report screening tests/rating scales sometimes supplemented by results culled from informant and examiner based scales. In some instances the findings of these clinical tools are employed to generate probability statements about the degree of imminent and near term risk based on a "risk stratification" framework (see below- section on Risk Classification).

- Structured Clinical/Professional Judgment: This multi- method approach was originally designed to predict violence in forensic settings but in recent years it has been utilized to evaluate risk of suicidal behavior in a range of mental health settings (Bouch & Marshall, 2005). This is a "hybrid" method that incorporates

data from record reviews, the clinical interview and collateral interviews with informants. This information is the integrated with the findings of a profile of "risk and protective factors " as well as data gleaned from actuarial assessment.

There is a strong consensus that the traditional clinical interview is unreliable as an "unaided" or "stand alone" evaluation approach for accurately classifying suicidal risk, predicting suicidal behavior imminently and in the near term and for developing appropriate preventative and safety measures including a "safe" level of care (Rivas- Vazquez, Lengnick & Rivas Vazquez, 2024; Sommers- Flanagan, 2016). The credibility and utility of this approach is undermined by the high degree of variability in the conduct of such interviews as well as examiner differences in the way decisions are reached regarding case disposition.

In general, the lack of standardization in the conduct of suicide risk assessments and the difficulty in identifying reliable predictors of imminent and near term suicidal behavior results in an overreliance on clinical judgment which is highly susceptible to the negative impact of cognitive and affective biases (Pal, Jackson & McNamara, 2025; Yager, Kay & Kelsay, 2021).

There is no established "gold standard" for the assessment of suicidal risk (Andreotti, Ipuchima, Cazella, Beria, Bortoncello, Silveira & Ferrao, 2020; Harmer, Lee, Duong & Saadabadi, 2022). This includes the lack of a strong consensus regarding a well defined and empirically supported standardized assessment protocol. Moreover, there continues to be a limited evidence base which strongly supports a set of "best practices" for the clinical assessment of suicidal risk which is specifically designed to bolster predictive validity (Large, 2018).

In general, the lack of standardization in the conduct of suicide risk assessments and the difficulty in identifying reasonably reliable predictors of imminent and near term suicidal behavior has resulted in an overreliance on clinical judgment (Pal, Jackson & McNamara, 2025). Unfortunately, clinical judgment with respect to decision making in mental health care, is highly susceptible to the negative impact of cognitive and affective biases (Yager, Kay & Kelsay, 2021).

However, there is a growing trend to incorporate and integrate aspects of the risk evaluation approaches cited above into clinical decision-making, in particular the use of relatively brief psychological screening tests (Andreotti, Ipuchima, Cazella, Beria, Bortoncello, Silveira & Ferrao, 2020). By necessity though, a fair degree of clinical judgment continues to find its way into the decision-making process in spite of the established low reliability of this practice for making consequential healthcare decisions in psychiatric

and forensic mental health settings **(**Galloghly & Dear, 2020; Sommers- Flanagan, 2016).

As well, systematic and meta-analytic reviews of the literature since the 2010's which examined a number of frequently employed self-report or clinician- administered screening level assessment instruments offer meager support for their clinical utility in reliably detecting or ruling out serious suicidal risk and accurately predicting imminent and near term suicidal behavior (Carter, Milner, McGill, Parkis, Kapur & Spittal, 2017; Riblet, Matsunaga, Lee, Young- Xu, Shiner, Schnurr, Levis & Watts, 2022; Runeson, Odeberg, Pettersson, Edbom, Adamsson & Waern, 2017). There have been some exceptions to this general conclusion which have involved a few screening tests when specific scoring decision rules are employed including when certain cut-off scores are exceeded (Riblet, Matsunaga, Lee, Young- Xu, Shiner, Schnurr, Levis & Watts, 2022).

Assessment of Suicidal Thinking: One problem with many self-report screening instruments is the somewhat limited attention and coverage paid to suicidal thinking often referred to as " suicidal ideation"or "S. I." (Harmer, Lee, Rizvi & Saadabadi, 2024). For the purpose of this discussion suicidal thinking refers to a focus on a desire to die by deliberately ending one's life.

Suicidal thinking is subject to considerable fluctuation over time with respect to intensity/severity, frequency and duration. This state of mind can progress to the formulation of one or more methods/plans for one's demise, an increasingly strong intent to go forward and act on one or more of these methods/plans and, in some instances, mental and/or behavioral preparation/rehearsal to try to insure one's death (Harmer, Lee, Rizvi & Saadabadi, 2024).

Suicidal thinking, especially when associated with one or more workable plans, intent and/or preparation/rehearsal, is considered a cornerstone of risk assessment and appears to be the most frequent reason prompting a decision to proceed with a formal risk evaluation. At the same time, suicidal thinking is a complex construct which is not well defined in the clinical or research literature and lacks a "consensus" definition. It is a term which is often confused by non-mental health care practitioners as well as by patients and their families with other kinds of dysphoric and pessimistic thinking like morbid rumination and "passive" suicidal thinking.

Suicidal thinking is generally considered to be one of the more important risk factors for completed suicide particularly in the context of a recent history of one or more serious suicide attempt (s), "close calls" and/or admissions for mental health inpatient care which were prompted by suicidal behavior. That said, suicidal thinking, like all suicide risk

assessment constructs, is not a strong independent predictor of one or more suicide attempts or completed suicide despite the important role it continues to play in risk evaluation. For example, about two out of three patients with suicidal thinking appear to never make a suicide attempt and only about seven percent of patients with suicidal thinking make an attempt to end their life over the two years following a risk assessment (Klonsky, Dixon- Luinenurg & May, 2021). Overall, the "vast majority" of individuals with histories of suicidal thinking do not end their lives (Gold, 2020).

Furthermore, suicidal thinking can be especially difficult to assess in a clinical interview even by skilled and seasoned clinicians who are evaluating a reasonably cooperative and forthcoming patient. Vague and difficult to evaluate answers are relatively common and are often interspersed with comments like " I can't remember;" " I don't know" and "it's too hard to explain."

As part of the typical clinical interview patients are routinely asked about suicidal thinking, plans and intent and questions pertaining to suicidal thinking are also an integral part of the content of self- report self-harm screening tests. On the other hand, the clinical interview and at least some self- report screening measures do not routinely include questions which address, in a nuanced manner, key variables germane to suicidal thinking. More specifically, this includes limited, if any, coverage pertaining to the onset , time span, duration, frequency and degree of disruption/interference in everyday functioning referable to suicidal thinking; whether such thinking appears to be accelerating, decreasing or remaining stable in recent days and the degree of success the patient believes they have over controlling their suicidal thoughts.

As well, the coverage afforded by many self- report screening tests is frequently inadequate when it comes to greater specificity regarding prospective intent- an assessment of the likelihood of actually going forward and engaging in suicidal behavior imminently and in the near term from the patient's perspective. In the case of screening instruments like the Beck Suicide Intent Scale the content emphasizes the patient's thinking regarding intent retrospectively following a suicide attempt but not prospectively (Beck, Resnick & Lettieri, 1974)

Suicide Risk Assessment: Interface with the Biopsychosocial Model: Suicidal behavior is a heterogeneous, multifaceted and multi-determined phenomenon (Karthick & Barwa, 2017; Tandon, 2022). Despite decades of research and clinical interest which began in earnest in the 1950's with the establishment of the Suicide Prevention Center in Los Angeles, suicidal behavior remains an incompletely understood set of vexing difficulties when one considers the broad range of its underlying etiological determinants and,

as previously reviewed, the historic difficulties encountered with respect to its imminent and near term predictability.

Nonetheless, suicidal behavior can be productively investigated from both a research and clinical perspective through the conceptual framework of the biopsychosocial model of health and illness. This framework, now more than a half a century old, was introduced by Engel in the late 1970's (Engel, 1977). It proffers that states of health and illness are contingent on the often complex interplay and interconnection of biological, psychological and socio-cultural influences (Tripathi, Das & Kar, 2019; Wade & Halligan, 2017).

Over the decades that followed Engel's seminal paper this model has been employed to provide a holistic perspective when it comes to the understanding and treatment of many recurrent and chronic medical and behavioral health conditions seen by medical psychologists. In particular, it has been utilized to integrate a range of viewpoints germane to etiology, prevention and intervention which have direct relevance to optimizing positive healthcare outcomes for hard to "unpack" neuropsychiatric conditions like suicidal behavior (Kajitani, Kodancha, Anderson, Smith, Goodings, Siddaiah & Mthethwa, 2024)

Medical psychologists have a good working familiarity with this conceptual framework as it is highly simpatico with the efforts of practitioners within this specialty to make sense of the diverse influences at play when working with patients with complicated neuropsychiatric conditions like suicidal behavior and concurrent serious medical illness. This includes the often intricate interaction of neurobiological, psychosocial and personality/psychodynamic factors in the context of a broad array of stressors/triggers which can significantly influence risk for suicidal behavior in the individual case (Tandon, 2022).

This framework can help medical psychologists grapple more successfully with how to best understand their patients and constructively intervene on their behalf. This includes patients who can vary greatly with respect to their susceptibility to suicidal behavior and responsiveness to self- harm prevention and treatment efforts despite having comparable medical morbidity and psychosocial dilemmas/life circumstances which have developed in response to their medical problems and/or have been exacerbated by these difficulties.

When conducting a risk assessment the biopsychosocial model can also help the medical psychologist to remain mindful of the intriguing, albeit, often elusive relationships between physiological and psychological functioning among patients with medical illness. This would include the many medical conditions which are considered important risk factors for suicidal behavior (see below: **Medical Illness as a Risk Factor for Suicide).**

These encompass illnesses which may be life threatening and are characterized by and/or result in one or more of the adverse consequences cited below.

- A relapsing-remitting, chronic or deteriorating course.
- Persistent physical and/or psychological pain
- Psychosocial Stigma
- Impede and forestall the attainment of important immediate, near term and/or longer term life goals
- Disrupt or contribute to the loss of important interpersonal relationships and other attachments
- Financial losses/setbacks due to job loss and health care costs
- Compromised executive functioning and significant "functional" limitations with respect to the performance of one or more activities of daily living

One of the many challenges for medical psychologists when working within the biopsychosocial framework is to integrate the realities of a patient's medical status with psychosocial influences, psychodynamic/personality patterns/traits and the person's unique life situation. In some instances these variables can operate as additional risk factors but they may also serve as protective influences. The latter would include patients who may possess a surprisingly high degree of "resilience" in the face of the existential threats posed by serious medical illness (Metais, Burel, Gillham, Tarquino & Martin- Kramm, 2022).

The biopsychosocial model is not without its skeptics and critics (Hatala, 2012; Roberts, 2023). Nevertheless, the application of this model to neuropsychiatric conditions like suicidal behavior in the context of a problematic medical status has been of benefit in viewing this behavior from a broad perspective. This can result in positive downstream effects like enhanced empathy for medical/psychiatric patients at risk for suicide and a greater appreciation for the persons who care for and about them.

Medical Illness as a Risk Factor for Suicide: Medical illness is cited in the clinical literature as an important risk factor for suicide but often such discussions do not include empirical support for this assertion (Gold, 2020). Evidence based support for medical illness as a significant risk factor in suicide can help to provide a balanced view of risk factors in suicide which, historically, has been seen as resulting predominantly from mental health conditions and situational stressors.

Review of Evidence-Based Studies Pertaining to Medical Illness as a Risk Factor for Suicide.

Selected citations specifically pertaining to death by suicide and possible linkages to medical illness as a risk factor were reviewed spanning the time period 2015- 2025 Findings of these studies are summarized below in chronological order by year of publication.

1. Bolton et. al. (2015) compared over two thousand persons who died by suicide over a thirteen year time period with over six thousand "general population controls" with respect to several diagnosed medical conditions These conditions included the following: Asthma, chronic obstructive pulmonary disease, ischemic heart disease, hypertension, diabetes, cancer, multiple sclerosis and inflammatory bowel disease.

After adjusting for co-morbid mental health conditions, cancer was associated with a modestly increased risk of suicide as reflected in an odds ratio of 1.40. The odds ratio significantly increased to 4.10 over the first three months following the "initial diagnosis" but "decreased to non-significance after one year" from the diagnosis. There was a significant effect based on gender as women with respiratory disorders were found to be at elevated risk for suicide while men with these particular medical conditions were not found to be at heightened risk.

2. Fassberg et. al. (2016) reviewed sixty five studies pertaining to "associations between physical illness/functional disability and suicidal behavior" including suicide mortality among patients sixty five years and older. There were no associations between cardiac disease or diabetes and suicide and "little evidence" for associations between suicide and thyroid conditions.

However, linkages were found between suicide mortality and the following medical conditions: Chronic obstructive pulmonary disease, liver disease, end stage renal disease, cerebral vascular disease/hemiplegia, osteoporosis, and cancers of the prostate, lung and genitals. It was reported that there was a two to three fold increase in suicide risk among older adults with seizure disorders.

3. A study by Ahmedani et. al. (2017) involved over 2600 patients who completed suicide over a thirteen year period together with over 267,000 controls. Nine of seventeen medical conditions were associated with an elevated risk for suicide. Three medical conditions were found to have a two-fold increased risk of suicide after adjustments were made for age and gender as well as a history of mental health difficulties and/or substance abuse: Traumatic brain injury, sleep disorders and HIV/AIDS. Overall, a "nearly

two- fold" increased risk of suicide was found among patients with significant medical morbidity especially patients who had multiple medical conditions.

4. Wang et. al. (2017) reviewed 28 studies which involved suicide risk among patients with diabetes. Based on an meta-analysis the risk ratio for suicide for a combined sample of patients with diabetes (both Type 1 and Type 2 diabetics) was 1.56. The risk ratio increased to 2.25 among a sample of patients with Type 1 diabetes.

5. A study by Petrosky et. al. (2018) found that among nearly one hundred and twenty three thousand people who died by suicide nearly nine percent had evidence of chronic pain. The authors noted that this finding was thought to be an "underestimate" of the number of suicide decedents with chronic pain based on the methodology employed in this study.

6. Sampaio et. al. (2019) conducted a review and a meta-analysis involving nearly fourteen hundred patients with chronic obstructive pulmonary disease/COPD who had died by suicide. Patients with chronic obstructive pulmonary disease had a nearly two fold increase in completed suicide when compared to patients without this medical condition: Odds Ratio= 1.90

7. A study by Onyeka et. al. (2020) involved a cohort of over one million adults eighteen years and older. The main finding of this investigation was a strong relationship between the activity level of patients with one or more medical conditions and risk of suicide. More specifically, rates of suicide were over three times as frequent among patients with significant "activity limitation" secondary to their medical status than among patients with no limitations.

The risk of suicide as a function of "activity limitation" due to medical status was lower but still significant with patients being nearly two times as likely to complete suicide when adjustment was made for "poor mental health." The effects of "activity limitation" were most pronounced among patients who were between eighteen and thirty- four years of age.

8. Gunak et. al. (2021) reviewed multiple data bases in order to ascertain the rates of suicide attempts and suicide involving close to one hundred and forty eight thousand United States veterans who had "recent" diagnoses of "mild cognitive impairment" or "dementia." The key findings were significantly higher rates of suicide attempts by patients with either cognitive disorder when compared to patient controls who did not have a diagnosis of a cognitive disorder. However, neither clinical group was shown to be more likely to die by suicide compared to controls who did not have a cognitive disorder when

adjustments were made for “demographic” factors and “ medical and psychiatric comorbidities.”

9. A literature review by Alegos et. al. (2023) examined the relationships between the risk of suicide and frequently diagnosed neurologic illness. This review concluded that there was a “higher risk” of suicide among patients with seizure disorders, migraine headache, multiple sclerosis and several “neurodegenerative” conditions: Alzheimer’s Disease, Parkinson’s Disease, Huntington Disease and Amyotrophic Lateral Sclerosis. It was also noted that suicide risk increased in relation to three factors: A relatively short time period following formal diagnosis, the onset of “disabling” symptoms and the presence of “psychiatric co-morbidities” especially significant depressive mood symptoms.

10. Choi et. al. (2023) examined the role of medical conditions as a “precipitant” for suicide among a total of nearly thirty-five thousand men and women from their mid- fifties to over the age of seventy five. It was concluded that having one or more medical conditions was the” predominant precipitant” for suicide among nearly twenty-six percent of patients between the ages of fifty-five and sixty four, nearly forty- two percent of patients sixty five to seventy four and nearly fifty- eight percent of patients who were seventy five years and older.

11. Nafilyan et. al. (2023) examined relationships between life threatening medical conditions and suicide using a data base of forty-seven million patients. This study found that there was an increased risk for suicide for all the medical conditions which were studied one year after diagnosis. There was a “more pronounced” risk of suicide observed in the first six months following diagnosis when compared to “matched controls:”

The medical conditions studied included “low survival” cancer, chronic ischemic heart disease, chronic obstructive pulmonary disease and neurodegenerative disorders. The suicide risk was highest among patients with neurodegenerative disorders with nearly one hundred and fifteen suicide deaths per one hundred thousand men and women over the course of one year.

12. Favril et. al. (2023) completed an “umbrella” review of risk factors for death by suicide. A “two fold” increased risk for completed suicide was reported for several medical illnesses, notably patients with cancer, chronic obstructive pulmonary disease and head injury. A nearly three fold risk was found for patients with seizure disorder.

13. Hu et. al (2023) studied a “population based” cohort group of nearly seventeen million persons with cancer spanning the time period 2000 to 2016. This group was compared with the “general United States population” which served as the control group. The

overall Standardized Mortality Ratio/SMR was 1.26 for suicide for patients with cancer which is indicative of a modest increase in risk. The rate of suicide among patients with cancer was close to two-fold in patients in 2000: SMR= 1.67 but decreased to an SMR of only 1.16 based on suicide rates among patients diagnosed later in the 2000's.

A higher suicide risk was seen in patients within the first two years of their diagnosis, who were older at the time of their diagnosis and were assessed as being at a more advanced disease stage at the time of their diagnosis. Within the first two years following diagnosis, cancer of the esophagus was associated with the highest risk of suicide – a two fold increase in risk compared to general population estimates. However, the highest risk of suicide was found in patients in the first six months following the disclosure of their diagnosis. This group was seven times more likely than patients in the "general population" to end their lives: SMR: 7.19.

The lowest rates of suicide were found among patients with cancers involving the prostate, liver and intrahepatic bile duct or who had melanoma – all with SMR's below 1.0 indicating no increased risk compared to general population estimates. The following additional factors were associated with the highest suicide rates: Diagnosis at a relatively "late stage" and cancer types with a poor prognosis and a significantly elevated "symptom burden-" cancers of the lung and bronchus, oral cavity and pharynx, esophagus, pancreas and stomach.

14. Wang et. al (2023) reviewed eighty- eight articles which addressed "epilepsy" as a risk factor for suicide. This involved nearly one million, two hundred thousand " patients with epilepsy and nearly seven million "controls." The risk of suicide was somewhat greater than two fold among patients with epilepsy compared to controls: Odds ratio= 2.36

15. Ostergaard et. al. (2024) studied a cohort of over six million patients. The main finding was a "statistically significant" elevated risk of suicide among patients across nine categories of medical illness.

Risk was somewhat more "pronounced" for patients with gastrointestinal disorders, hematological conditions and cancer. A "higher burden" of medical conditions, as reflected in the severity of medical related disability, was associated with a higher risk of suicide but only among patients who did not have a history of hospital treatment for a mental disorder.

16. Kinslow et. al. (2024) sought to clarify the risk of suicide among patients who received diagnoses of cancer over a six month time period. There were sixteen hundred and

ten deaths by suicide within this period of time among a group of about six million, seven hundred thousand persons who had been diagnosed with cancer. This suicide rate was ascertained to be three times higher than in the general population.

17. Kim et. al. (2024) studied the suicide rate of patients with pulmonary fibrosis by comparing a cohort of three thousand two hundred patients with this respiratory condition with a control group of patients without this condition based on a data set from the Korean National Health Insurance Service.

Following a median follow-up of a little over twelve years the risk of suicide was nearly two fold among patients in the cohort group than in the control group: Hazard Ratio= 1.80.

The suicide risk within the cohort group was highest among patients who were hospitalized with idiopathic pulmonary fibrosis due to a heightened symptomatic status and those patients who had co-occurring cancer and depression.

18. Asheim et. al. (2024) addressed the issue of suicide risk among patients being discharged from hospitals subsequent to treatment for "acute" medical conditions. The cohort encompassed the entire population of Norway and was comprised of two groups- patients between the ages of twelve and sixty- four and patients who were sixty five years old and older.

Compared to non-patient controls there was a significantly elevated risk of suicide among both age groups treated for acute medical illness with the younger age group being nearly two and half times more likely to die by suicide within four weeks of discharge and the older group being nearly seven times more likely to end their lives within this time interval. Rates of suicide, though, significantly declined for both age groups beginning with week five post-discharge

19. Talaslahti et. al (2024) studied rates of suicide among three clinical groups employing "national registries" of patients diagnosed over a seventeen year period: 1998-2015 who were followed for about three years. This included patients with "degenerative neurocognitive disorders, "alcohol – related neurocognitive disorders" and "traumatic brain injuries."

The standardized mortality ratios/ SMR's were significantly elevated for the alcohol- related neurocognitive disorder: 3.69 and the traumatic brain injuries group: 2.99. The standardized mortality ratio was only modestly elevated for the group with degenerative neurocognitive disorders. 1.31.

20. Desai et. al. (2024) reviewed fifty four studies pertaining to "suicide outcomes" in patients with "dementia" based on information from "five databases." The risk of dying by suicide for patients with dementia was modestly elevated: Odds ratio= 1.30. However, there was nearly a three fold risk of dying by suicide among younger patients with dementia: Odds ratio= 2.88.

21. Rafati, Pasebani & Kwon (2025) compared the rates of suicide among persons with and without a history of seizure disorder via a meta-analysis and a "descriptive analysis" involving review of the records of over seven thousand patients. Patients with a history of seizure disorder were found to have two and half times the rate of completed suicide when compared to persons without this medical history.

22. Kim et. al. (2025) studied the relationship between asthma and suicidal risk which employed a data base of nearly four million patients from the Korean National Health Insurance Service over about a twelve year follow-up time period. Patients with asthma were found to have a twenty six percent elevated risk of suicide compared to non-asthmatic controls: Hazard ratio: 1.26.

Hazard ratios were modestly higher than this figure for patients who were "hospitalization prone" and had mixed respiratory disease which involved both asthma and chronic obstructive pulmonary disease. Hazard rations were significantly higher among patients who were underweight, had mental health disorders like anxiety, depression and schizophrenia or who had cancer. There was approximately a three fold risk of death by suicide among patients with asthma and concurrent depression or schizophrenia

23. Kim et. al. (2025) investigated the relationship between chronic obstructive pulmonary disease and suicide using a data base from the Korean National Health Insurance Service. Individuals without a history of this respiratory condition served as the control group.

Over a median follow-up period of nearly one year patients with chronic obstructive pulmonary disease were found to have a modestly increased risk of suicide compared to the control group. Hazard ratio= 1.35. However, patients with co-occurring depression: Hazard ratio= 3.46; cancer: Hazard Ratio= 1.67 and those patients who continued to smoke: Hazard Ratio=1.99 had a "significantly higher risk" of dying by suicide than patients who comprised the control group.

24. He et. al. (2025) completed a meta-analysis which involved twelve "cohort studies" pertaining to risk of "suicidal behavior" including suicide mortality which had been published between 2004 and 2024. A current asthma status was associated with a modest

increase in suicide risk: Risk Ratio= 1.58 while having a history of asthma carried a nearly two fold increase in risk: Risk Ratio= 1.87.

Discussion: Based on the findings of the twenty–four studies cited above which span a period of ten years: 2015-2025, a number of serious high base rate medical conditions appear to be significant risk factors for suicide. This includes both acute and chronic medical conditions including chronic obstructive pulmonary disease and especially illnesses with a poor prognosis like neurodegenerative disorders and late stage cancers. However, this research also includes medical conditions that may well be overlooked in everyday clinical practice as posing such risk: Asthma, chronic pain, migraine headache, head trauma, Type 1 diabetes and seizure disorders.

Suicide appears to be correlated with the number of co-occurring medical conditions as well as with the severity of medical illness related disability, notably the limitations on everyday activity associated with a patient's physical health status. Moreover, pre-existing psychiatric co-morbidities, especially depression, appear to potentiate the risk posed by medical illness by helping to create a concerning synergy with medical illness and functional impairments

Patients who are informed of their medical diagnosis particularly when it involves conditions that are expected to progress and/or have a poor prognosis may be at higher risk for suicide in the first several months following this disclosure than after a more substantial amount of time has passed before being informed of their clinical status. There were also findings that suggest that patients with one or more significant medical conditions and who are at the extremes of the age range - in the later adolescent and young adult years versus adults in their seventies or older- may be more susceptible than middle aged or "younger" elderly patients to ending their lives.

The studies reviewed above, many of which employed quite substantial sample sizes and data bases which allow for more reliable comparisons between clinical groups and control groups, offer good support for the longstanding clinical observation that consequential medical illness is an important risk factor for suicide. This conclusion justifies the need for a good working knowledge of the evidence base for medical illness as an important risk factor for suicide. This linkage should be considered a core competency for health care practitioners, especially medical psychologists, who consult and treat patients who face existential threats referable to their physical/health status. That said, more research is needed on medical illness as an significant risk factor for suicide.

The Suicidal Thinking Self-Report Questionnaire/Rating Scale: This rating scale is designed to rapidly assess a range of key parameters of suicidal thinking using an easy to

complete and review multiple choice checklist format. Time to completion generally takes less than twenty minutes which includes test administration and examiner review of the screening protocol.

This screening test is intended for use for individuals eighteen years and older but can be meaningfully employed with adolescents as young as sixteen who possess adequate reading skills and appear motivated to disclose possible self-harm feelings and thoughts in a reasonably forthright manner. Administration should be limited to patients who have not made a recent suicide attempt as far as can be determined.

The Suicidal Thinking Self- Report Questionnaire/Rating Scale incorporates some of the content pertaining to the intensity/severity of suicidal thinking from the Columbia Suicide Severity Rating Scale/C-SSRS, notably the sections devoted to frequency, duration and controllability of suicidal thinking. Based on the administrative guidelines for the C-SSRS these parameters can be employed by clinicians who choose to go beyond the administration of the standard six item "screening level" inquiry when using this screening test.

The Suicidal Thinking Self- Report Questionnaire/Rating Scale extends this content to include several additional parameters of suicidal thinking: Time span of suicidal thinking, the degree to which suicidal thinking is experienced as intrusive and provokes anxiety/stress; the extent of perceived disruption/interference with everyday functioning as a consequence of suicidal thinking and whether suicidal thinking is decreasing, accelerating or remaining stable in recent days.

This screening test also expands on the construct of suicidal intent which is part of Question # 5 of the Columbia Suicide Severity Scale. This involves a question pertaining to the probability of engaging in suicidal behavior imminently and in the near term.

The content and format of this screening test also draws on the frequent observation that for some patients direct face to face inquiries pertaining to mental health difficulties, especially issues related to suicidal thinking and behavior, which is an approach employed by some suicide screening tests including the Columbia Suicide Severity Rating Scale, can be threatening and evoke considerable anxiety, defensiveness and non-compliance. One can often obtain more accurate and forthright disclosures when patients are initially left on their own to report on their difficulties/symptoms using a brief and simple to use multiple choice format which can then serve as a springboard for productive "face to face" clarification and inquiry.

Risk Stratification: This is a common clinical practice which typically employs the categories of Low, Moderate and High Risk to classify the probability of imminent or near term suicidal behavior (Pal, Jackson # McNamara, 2025). However this practice lacks satisfactory empirical support with respect to enhancing predictive validity and it's clinical utility is questionable (Carter, Milner, McGill, Pirkis, Kapur & Spittal, 2017; Large, Kaneson, Myles, Myles, Gunaratne & Ryan, 2016; Seyedsalehi & Fazel, 2024).

Nonetheless, for clinicians who strongly prefer to use risk stratification, the following guidelines may serve as potentially helpful "rules of thumb" using a dual classification system. This involves the designation of Relatively Low Risk versus Relatively High Risk when employing the Suicidal Thinking Self-Report Questionnaire/Rating Scale.

Relatively Low Imminent and Near Term Risk**:** A patient with the following profile would be considered at relatively low risk for imminent or near term suicidal behavior in the absence of collateral data/information to the contrary.

- Question # 2- Frequency- No higher than endorsement of choice #2;
- Question # 3- Duration- No higher than endorsement of choice # 2
- Question # 4: Disruption/Interference in everyday functioning as a consequence of suicidal thinking: No higher than endorsement of choice # 3
- Question #5: Changes in Frequency/Duration/Intrusiveness- No higher than endorsement of choice # 1.
- Question # 6: Ability to Control Suicidal Thinking: No higher than endorsement of choice # 3
- Question # 7: Probability of acting on suicidal thoughts: No higher than choice # 2

Relatively High Imminent and Near Term Risk**:** Conversely, a patient with the following profile would significantly raise the index of suspicion for being at relatively high suicidal risk for imminent or near term suicidal behavior in the absence of conflicting collateral information which might serve to attenuate risk.

- Question # 2: Ratings of 3 or 4
- Question # 3: Ratings of 3 or 4
- Question # 4: Ratings of 4 or 5

- Questions #5 : Rating of 3
- Question # 6: Ratings of 4 or 5
- Question # 7: Ratings of 3 or higher

As a general rule of thumb, the higher the number of item endorsements comprising Question # 1- Time Span, the more potentially concerning the risk.

Regarding the section directly following Question # 5 which pertains to the way (s) suicidal thinking may be increasing, the general guideline would be that the higher the number of item endorsements the more potentially concerning the risk.

Historically, the designation of Moderate Risk has not been well defined in the clinical and research literature and is a "difficult call" when conducting safety evaluations. However, for practitioners who have a strong preference for the traditional Low, Medium and High classification, patients with a mix of low risk and high risk item endorsements across the first six questions and the choice of # 3 in response to question # 7 can be considered as being at Moderate Risk for Imminent and Near Term Suicidal Behavior.

The interpretative guidelines reviewed above should be employed in a flexible and tentative manner. For example, regarding Question # 5- Changes in Frequency/ Duration/Intrusiveness of Suicidal Thinking- endorsement of choice # 2 instead of choice # 1 would not automatically rule out the assignment of the designation of Relatively Low Imminent or Near Term Suicidal Risk. Similarly, endorsement of choice # 2 does not ipso facto exclude the assignment of the designation of Relatively High Imminent or Near Term Suicidal Risk.

As is true of all self- report neuropsychiatric symptom screening tests the Suicidal Thinking Self- Report Questionnaire/Rating Scale should be considered susceptible to response bias involving under-reporting or over-reporting in response to the various parameters of suicidal thinking which comprise this screening measure.

Scores on this screening test range from 7 to 31. A near minimal or minimally low score of 7/31 can be considered suspicious for possible under-reporting of suicidal thinking. A near maximal or a maximally high score of 31/31 can be viewed as suspicious for possible over-reporting of suicidal thinking.

Additionally, the higher the total score the more concerned the examiner should be about possible elevated risk for imminent or near term suicidal behavior especially when the protocol also includes a score of 3 or higher on Item # 7. Scores of 3 or higher in

response to this item should be considered a key "go to" indicator of a likely acute mental health crisis which may necessitate an emergency department work-up followed by a possible inpatient mental health admission.

Caveats: All of the interpretative guidelines reviewed above clearly need evidence-based support. Moreover, The Suicidal Thinking Self- Report Questionnaire/Rating Scale is not a "stand alone" assessment tool. In accord with the Structured Professional Judgment model this screening test should be employed as part of a more detailed clinical evaluation as outlined below.

When workable in the setting where the patient is being assessed, findings from this screening test ought to be coupled with efforts to complete a review of available records and as well as a reasonably reliable remote and recent history of non-suicidal and suicidal self- harm. Inquires should also be made regarding any recent/current suicidal feelings, impulses/urges, plans and mental and/or behavioral preparation/rehearsal for suicidal behavior.

Assessment is also needed which would include discussion of possible barriers/deterrents to going forward with an imminent and near term suicide attempt, in particular, "reasons to live" and other "protective" factors. There should also be discussion about risk factors to include possible individual/family psychodynamics, lifestyle variables, recent/current and anticipated stressors/triggers and access to lethal means especially guns which may heighten the vulnerability to engage in suicidal behavior.

The taking of a medical history as well as a substance use history is also strongly advised. These histories may well reveal evidence for the potential destabilizing effects of one or more medical conditions as well as recent/current substance use. Ideally, all of these factors need to be viewed in the context of an assessment of mental status to include inquires which may uncover evidence of additional risk factors for suicidal behavior, notably, confusion, psychosis and/or homicidal thinking.

Preferably, this information gathering should be coupled with the judicious use of self-report and informant- based psychological screening tests that address risk factors which, for the most part are not covered by screening tests including The Suicidal Thinking Self-Report Questionnaire/Rating Scale. This would include possible symptoms of anxiety, depression, hypomania/mania and hopelessness and their relative severity, the degree of susceptibility to being impulsive as well as evidence of low resilience in response to adversity (Wood & Gupta, 2017).

The Suicidal Thinking Self-Report Questionnaire/ Rating Scale: Interface with Medical Psychology: This self-report tool is likely to be especially useful to medical psychologists for patients with significant risk factors for suicidal thinking and behavior referable to the struggle to cope with the functional limitations and other stressors secondary to serious medical illness.

As deemed appropriate this screening instrument can be administered at one or more "critical junctures" in the assessment and treatment process: During the intake evaluation; one or more times post- intake for safety assessment and treatment planning (especially in response to psychosocial and/or medical setbacks experienced by the patient), as well as at the closing of an episode of care. This screening test can be easily re-introduced in the event that the patient returns to treatment services.

The Importance of Evidence-Based Research: Evidence- based research is clearly needed to better determine the strengths and limitations of The Suicidal Self- Report Screening Questionnaire/Rating Scale for use by medical psychologists and other healthcare clinicians who see patients with combined medical and mental health difficulties. This would include establishing negative and positive predictive values as well as cut-off scores for under and over- reporting of various parameters of suicidal thinking and for risk classification.

It would also be important to try to determine whether certain items, item clusters and/or sections of this rating scale may have greater usefulness than other parts of this screening test in identifying profiles of suicidal thinking which could enhance predictive validity with respect to imminent and near term suicidal behavior and, hopefully, contribute to attenuating the risk for suicidal behavior.

In addition, it would be of interest to learn whether some of the considerations reviewed above which derive their relevance from the biopsychosocial model can be productively included into self- report rating scales pertaining to suicidal thinking. This might involve the inclusion of items which ask patients about what medical, psychosocial, psychodynamic, lifestyle and/or situational influences seem to attenuate, amplify or have no discernible impact on various parameters of their suicidal thinking.

Ultimately though, screening level instruments like The Suicidal Thinking Self- Report Questionnaire/Rating Scale may prove most useful as one among a number of indicators of a patient's vulnerability to suicidal behavior and how this susceptibility may be influenced positively or negatively by the evolving biopsychosocial profile and clinical status of that individual.

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The Suicidal Thinking Self-Report Questionnaire

Jerrold Pollak, Ph.D

Name _____

Date Of Birth _____

Age _____

Today's Date _____

Location _____

This self- report questionnaire/rating scale is designed to understand more about suicidal thinking that people sometimes experience.

Please answer the following question below.

Have you been having suicidal thoughts (thoughts about killing yourself/ending your life) in recent months, weeks and/or days?

___ Yes ____ No

If you answered No to this question do not complete the rest of this questionnaire/rating scale.

If you answered Yes to this question please complete all of the questions below

1. Time Span: 1 to 4 Points: I have been having suicidal thoughts:

1. ____ Today only

2. ____ The last few days including today

3. _____ The last few weeks

4. _____ The last few months

2. Frequency: How often in a typical week do you have suicidal thoughts? 1 to 4 Points

1. ____ A few times a week

2. _____ At least a few times a week

3. _____ Nearly everyday

4. _____ Daily

3. Duration: When you have suicidal thoughts how long do they usually last before going away at least for awhile ? 1 to 4 Points

1. ___ They come and go quickly- within a few seconds or a few minutes

2. ____ They last an hour or two most of the time

3. _____ They last at least a few hours most of the time

4. _____ They are more or less constant through the day**;** they hardly ever go away once I start having them.

4. Disruptive/Interfering: How bothersome are your suicidal thoughts most of the time when it comes to causing anxiety/distress, interfering with your attention/concentration and/or "getting in the way" of doing your everyday activities and routines? 1 to 5 Points

1. _____ Not at all

2. _____ Hardly at all

3. _____ Sometimes

4. _____ Often

5. _____ Persistently Bothersome

5. Changes in Frequency/Duration/Intrusiveness: Have your suicidal thoughts been decreasing, increasing or staying about the same in recent days with respect to how

often they occur, how long they last and/or how intrusive- disruptive/interfering they are? 1 to 3 points

1.___ Decreasing

2. ___ Staying about the same

3. ____ Increasing

If your suicidal thinking has been increasing in recent days in what way (s) has it been accelerating: Check all that apply: 1 to 4 points

1. _____ Frequency (how often suicidal thoughts occur)

2. _____ Duration (how long they last before going away at least for awhile)

3. _____ Becoming more intrusive and/or disruptive/interfering

4. _____ All of the Above

6. Ability to Control Suicidal Thinking: In general, how well are you able to stop thinking about suicide when you try to do so? 1 to 5 points

1. ____ Easily

2. ____ With little difficulty/effort

3. ____With some difficulty/effort

4. _____ Only with a great deal of difficulty/effort

5. _____ I am unable to control/stop my suicidal thinking despite my best efforts

7. Acting on Suicidal Thoughts: How likely are you to act on your suicidal thoughts and try to end your life today, over the next few days or over the next few weeks? 1 to 6 points

1. ____ I am nearly certain that I would not act on my suicidal thoughts and try to end my life today, over the next few days or over the next few weeks

2. ____ Unlikely

3. ____ Possibly

4. ____ Likely

5. ____ I am nearly certain that I will act on my suicidal thoughts and try to end my life today, over the next few days or over the next few weeks.

6. ____ I have decided to go ahead and try to end my life as soon as I can- today, over the next few days or over the next few weeks.

In the space below please feel free to add any additional information regarding the suicidal thinking you have been experiencing which has not been addressed above.

Resonances Between Ancient Mythological Narratives and Contemporary Understandings of the Human Psyche

Kenneth Larsen, DMin, PhD, ABMP Feb 2025

Abstract

This paper explores the profound connections between ancient mythological narratives and contemporary psychological, neuroscientific, and medical understandings of the human psyche. Drawing on Jungian psychology, historical patterns, and modern research, this article will examine how myths encode fundamental truths about human consciousness, and the age-old struggle between order and chaos. It will consider the role of psychopharmacology and medical psychology in shaping our understanding of brain function, trauma, and the interplay between unconscious forces and conscious integration. Advances in neuroscience, including studies on the Default Mode Network (DMN), the autonomic nervous system, and the HPA axis, provide new insights into how myths serve as templates for psychological resilience and cognitive organization. By integrating perspectives from religious traditions, psychological archetypes, neurobiology, and medical treatments for trauma, this study offers a multidisciplinary approach to understanding the crises of modern consciousness. In doing so, it suggests pathways for cultural renewal, emphasizing the importance of myth, depth psychology, spirituality and medical science in fostering balance between individual agency and collective stability.

Keywords

Myth, Neuroscience, Psychopharmacology, Trauma, Spirituality

Introduction

I was drawn to myth out of necessity—when the cultural structures of the ’60s and ’70s fell silent, no longer offering me a voice I could trust. I found myself standing at the crossroads of identity, torn between the definitions imposed by the collective and the deeper currents stirring within me. My religion, once a vessel of meaning, was a cup that no longer held water. The turbulence of those times demanded something deeper, something more enduring, and so I turned inward. By sheer fortune, I stumbled into the emerging tradition of depth psychology, which became my gateway to the vast and vibrant world of ancient myths, the place where the forces of creation first stirred. Stories from Native American traditions[1] and

Correspondence Address: Contact Kenneth Larsen, DMin, PhD, ABMP Email: drklarsen@gmail.com

Norse mythology[2] ignited my imagination, revealing symbols far beyond the narrow and often rigid cultural constructs of my early years.

I was introduced to the Medicine Wheel of the Cheyenne and Sioux traditions, a sacred map of existence that wove together the seen and unseen, the personal and the cosmic. At the same time, I encountered the burning ice and biting flames of Norse creation imagery—a world forged in the violent embrace of opposites, where fire and frost clashed to birth the first stirrings of life. These mythic landscapes spoke a language deeper than words, one that resonated with something primal within me, something the cultural narratives of my upbringing had never touched.

Ancient myths are more than relics of the past; they are psychological blueprints, shaping our understanding of consciousness and civilization. Across cultures, these myths encode symbolic representations of the individuation process, the struggle for moral and psychological balance. Mythological narratives serve as a bridge between the unconscious and conscious mind, providing archetypal frameworks that help individuals and societies make sense of human existence, suffering, and transformation. Myths not only shape cultural identity but also reflect deep psychological structures that resonate with the way human cognition has developed over millennia.[3]

Jungian psychology posits that myths emerge from the collective unconscious, carrying universal themes that transcend time and geography.[4] These narratives articulate fundamental psychological truths, illuminating the journey of self-awareness, the integration of shadow elements, and the delicate balance between power and ethics.[5] Furthermore, modern neuroscience corroborates the relevance of these ancient stories by demonstrating how symbolic thought, memory, and emotional regulation shape the brain's structure and function.[6] The dynamic between chaos and order, so often depicted in myths, mirrors the neurological processes that govern human cognition, particularly in response to trauma, adaptation, and resilience.

By examining these narratives through the lens of Jungian psychology, historical analysis, and contemporary neuroscience, we uncover patterns that continue to influence the evolution of human consciousness. This paper explores how mythological structures parallel modern cognitive science and medical psychology, shedding light on the intersections between ancient wisdom, trauma, and the regulation of the human psyche. In doing so, it offers insights into how mythic frameworks provide guidance for navigating contemporary political, cultural, and psychological crises.

The Mythic Structure of Consciousness Formation

Jung argued that myths arise from the collective unconscious and serve as representations of deep psychological truths. The Hero's Journey, as articulated by Joseph Campbell, mirrors the process of individuation—the journey from unconscious wholeness to self-aware individuation.[7] Myths of creation, destruction, and rebirth, such as the Babylonian *Enuma Elish*,[8] Norse *Yggdrasil*,[9] and Egyptian cosmology,reflect the unfolding of human consciousness moving from primitive instinct to rational self-awareness.
The creation myths of various cultures serve as symbolic representations of the emergence of human cognition. Egyptian cosmology, with its emphasis on Ma'at (order) against Isfet (chaos), reflects the psychological need to balance rational structure with the unpredictable forces of the unconscious.[10] The *Enuma Elish* describes the cosmic battle between Tiamat (chaos) and Marduk (order), mirroring the struggle between the tenacity of the primal unconscious, resisting the slow and steady development of the organizing structures of ego-consciousness. The Norse Creation Story develops this further. Starting with the primordial clash between Ice and Fire, human consciousness begins to take shape, forged in the dynamic tension between opposing forces—cold rigidity and burning transformation, inertia and creation. Norse *Yggdrasill*, the World Tree, embodies, in mythopoetic form, the interconnected layers of reality, foreshadowing our contemporary understanding of the neurological networks that sustain memory, emotion, and awareness in the human brain. What makes the Norse mythological framework particularly compelling is its tripartite structure, which divides existence into three realms: the lower world (Niflheim and Hel), the middle world (Midgard), and the upper world (Asgard and Vanaheim). This division foreshadows modern psychological attributes and neurological functioning in profound ways.[11]

In psychological terms, these three worlds correspond to different levels of consciousness and cognitive processing. The lower world, with its deep, shadowy associations, represents the unconscious mind—the reservoir of repressed memories, instinctual drives, and ancestral inheritance that shape human behavior from below. It is the realm of unresolved trauma, intergenerational genetic memory, and autonomic processes that operate beyond conscious awareness, much like the limbic system and the more primal structures of the brain, including the brainstem and basal ganglia.[12]

The middle world, Midgard, functions as the domain of the ego, where human consciousness resides. It is the realm of daily experience, decision-making, and the negotiation between primal instincts and higher awareness. Neurologically, this corresponds to the prefrontal cortex, which governs executive function, rational thought, and the integration of sensory and emotional data into coherent self-narratives. Just as Midgard stands between

the primal chaos of the lower world and the divine spiritual wisdom of the upper realms, so too, does the ego mediate between subconscious drives and aspirational ideals.

The upper world, home to the ruling gods, aligns with the highest faculties of human cognition—the aspirational and transcendental elements of thought, wisdom, and enlightenment. This world represents the neocortex, particularly the association cortices and the regions responsible for advanced reasoning, moral contemplation, and spiritual insight. The inhabitants of Asgard, such as Odin, the god of wisdom, and Frigg, the goddess of foresight, symbolize the neurological processes that enable humans to anticipate and plan for the future, engage in metacognition, and strive toward self-actualization.

This tripartite model in Norse cosmology is unique in its ability to capture the interdependent nature of different aspects of consciousness. Unlike many mythologies that depict a binary opposition between good and evil, light and darkness, or order and chaos, the Norse mythic structure suggests a dynamic equilibrium between these states.[13] The ongoing exchanges between these three realms mirror the interplay between the lower, middle, and upper functions of the brain. This mythic representation aligns with modern understandings of neural plasticity and interconnectivity, in which lower brain functions shape higher cognition, while conscious reflection and learning, in turn, reshape deeper neural pathways.

Further reinforcing this connection is the symbolism of the roots and branches of Yggdrasill,[14] which span all three worlds and facilitate the flow of wisdom and energy between them. The tree's roots drink from the wells of fate, knowledge, and primal forces—Urd, Mimir, and Hvergelmir—suggesting that human consciousness is sustained by Memory, Wisdom, along with the Spring of Chaos, the untamed energy of the unconscious. These wells resonate with modern neuroscience, as they parallel the fundamental components of cognition: memory encoding and retrieval, the reflective insights necessary for growth, and the primal, affective energies that drive human experience and adaptation.

Yggdrasill's resilience, despite suffering repeated assaults—such as the gnawing of Nidhogg, the serpent of destruction — mirrors the brain's remarkable ability to withstand trauma, regenerate neural connections, and adapt through neuroplasticity. This mythic endurance reflects the core principles of psychological resilience, where adversity and transformation are deeply intertwined, and where consciousness, like the World Tree, persists despite the presence of chaos and entropy.

Expanding on this idea, one could argue that Norse mythology provides an early metaphorical blueprint for the layered structure of cognition and the ongoing negotiation between instinct, rational thought, and spiritual insight. This dynamic is not only reflected in individual psychology but also in cultural and societal development. Just as the Norse

cosmos requires the integration of all three realms for balance, so too must individuals and civilizations integrate their primal instincts, rational faculties, and aspirational wisdom to function in harmony. Sadly, attitudes that are being challenged in contemporary culture.

Thus, the *Yggdrasill* model of consciousness presents a compelling mythopoetic foreshadowing of modern neuroscience, offering a vision of human thought that is not static, but evolving, interconnected, and continuously shaped by the tension between past, present, and future. This makes Norse mythology one of the most sophisticated narrative structures in world mythology, both in its complexity and in its implicit anticipation of modern psychological theory.[15]

Modern neuroscience reveals profound parallels with these enduring mythic themes that show up all around the globe.[16] The transition from undifferentiated awareness to complex self-reflective thought can be understood through the development of the prefrontal cortex, which governs higher cognition, decision-making, and ethical reasoning. The limbic system, responsible for emotional processing and survival instincts, represents the older, more primal aspects of human nature, akin to the mythological chaos deities that precede structured reality. Furthermore, the Default Mode Network (DMN), active during introspection and self-referential thought, echoes the introspective and symbolic functions of myth, suggesting that mythology may have played a vital role in early human attempts to navigate consciousness.[17]

As myths mirror the gradual differentiation of the human psyche, they provide not only historical insight but also psychological tools for modern self-discovery. Myths serve as pathways for individuation, allowing individuals to engage with their unconscious depths, confront personal and collective fears, and integrate their inner conflicts into a cohesive sense of self. In this way, mythology remains relevant, offering the discovery of latent unexplored aspects of self, in a structured yet flexible model for human development in both ancient and contemporary contexts.

In my own personal journey through analysis, a pivotal experience forced me to confront an imbalance within myself: an over-reliance on intellectual function at the expense of emotional expression. This misalignment became starkly apparent during a committee appearance, where I failed to engage emotionally with a group that sought a more holistic connection. Despite presenting well-prepared papers that they considered some of the best they'd read, I stumbled when faced with questions probing the deeper feeling aspects of the material. As someone deeply entrenched in thinking, my immediate access to the feeling function was limited. This event pushed me into a deep depression, a descent into the unconscious that mirrored the emotional void I had been avoiding. It was during this time that my Jungian analyst suggested I turn to my Viking roots for insight, pointing me

toward *Norse Myths* by Kevin Crossley- Holland. The book contained 32 surviving Norse myths, but one resonated with me on a level that transcended mere intellectual curiosity.

The Myth of Freyr and Gerd

The myth of Freyr and Gerd became an image schema that provided me with a roadmap for reconciling my inner divide. The story begins with Freyr, a god who sits in Odin's chair where he did not belong—a place of intellectual and spiritual dominance—but this action itself hints at his misalignment. The myth mirrored my own internal situation: by sitting too long in the "throne of intellect," I had isolated myself from my deeper emotional and instinctual life. From this lofty perch, Freyr gazes down and sees Gerd, a woman cloaked in winter's icy beauty, representing the frozen fields of winter, the emotional landscape I had neglected. Immediately stricken by love and longing, Freyr sends Shimmer, his aide (enlightenment) to plead for Gerd's hand in marriage. The journey Shimmer undertakes is perilous, symbolizing the difficult path of coming down from the head, navigating the emotional terrain below, and embracing the feeling world. Gerd's eventual acceptance – though delayed for nine nights, representing the fullness of time required for transformation – symbolized the necessary maturation of the emotional self, grounded in the long, patient process of integration.

This myth, and my connection to it, illuminated for me the nature of my own emotional winter and the process through which I could unite intellect with feeling, the masculine with the feminine. Over the following months, I embraced this process of reconciling my inner world, patiently waiting for the "nine nights" of maturation to pass. As time passed, the balance between my intellect and emotions gradually shifted, bringing with it a renewed sense of groundedness and a deeper self-identity, rooted in the embrace of my heritage – my ancestral tail. I was able to approach my committee again, not as the isolated thinker I once was, but as someone capable of integrating both thought and feeling. The myth of Freyr and Gerd, as ancient as it is, had become a living image for my own psychological and spiritual development—reminding me that the path to wholeness is not linear but rather a journey through the coalescence of both the mind and the heart. It is the wedding of Freyr and Gerd in the valley of golden wheat and barley – in the 'fullness of time.'

Jung speaks of this essential connection to the "depths" as respecting one's "ancestral tail", a metaphor for the unconscious inheritance that shapes individual and collective development.[18] This idea resonated deeply with me as I prepared this article, surfacing in a dream-image of Jung's "Nine-Million-Year-Old Man"—a vision of ancient wisdom buried beneath the layers of modern consciousness. The dream guided me to reconnect with the origins of that archaic wisdom – a compensation for my profound unease with the relentless harshness of contemporary reality. A reality where fact and truth are increasingly

distorted, where meaning is eroded by the noise of disinformation, extreme polarization, and where the roots of human consciousness risk being severed from the very myths and symbols that once provided coherence, direction, and depth. When contemporary reality lacks sense, the rational mind tends towards earlier non-rational forms. In my distress, the archaic dream-image compelled me to compose the following poem, a meditation on a return to a deeper reality – one where meaning is not dictated by transient cultural forces, but by the deep sustaining currents of the psyche itself.

In Search for The Nine-Million-Year-Old-Man

Beneath the strata of time's slow turning, He waits—
Nine million years deep,
pressed in the rock of forgetting,
his bones the silent syllables
of an unfinished sentence
in the language of becoming.

Splinters of memory pressed like fossils against dark walls.

Yet his ghost stirs.

Through fissures in the modern world,
the fragments press forward,
golden veins of knowing,
a shimmer of something older
than the first word spoken.

He is reaching—
not for return, but for reunion,
not to reclaim that wilderness,
but to weave it into the waking dream
of the ones who have forgotten
how to listen to his sacred call.

Our ancestral tail is not a relic. It is a bridge.

And we, the scattered ones,
stand between forgetting and remembering,
between the stone and the stars,
where the nine-million-year-old man
still waits,
still breathing,
still dreaming us forward.

Ken Larsen

The Neuroscience of Myth, Trauma, and Evolving Consciousness

This section is best understood through the lens of trauma, where the intersection of neuroscience and myth reveals how the mind weaves meaning, resilience, and identity in the wake of psychological upheaval. There have been many moments of crisis throughout my life when I have felt the urgent need to revisit ancient mythopoetic wisdom—to anchor myself in something more enduring, something with a sense of permanence, something that could tether me to whatever I imagined, at the time, was my essential self. These were times of woundedness, confusion, and existential anxiety, when the narratives I had inherited no longer sufficed, and I was compelled to seek deeper meaning.

One such turning point came in the early 1970s, when I made the life-altering decision to transfer from a combat branch of the Army to Chaplaincy. I remember that moment with absolute clarity, as if it had happened yesterday, the deep resolve that gripped me, the certainty that I wanted to be part of the solution rather than part of the problem. It was a time when the country was reeling from the seemingly unending war in Vietnam, and I felt the weight of history pressing upon me, demanding a choice.

A decade later, in the aftermath of another war, I found myself confronting a different but equally profound crisis. As a supervising director at a State Psychiatric Hospital in the Boston area at the close of the Gulf War, I recognized the growing tide of psychological wounds among returning soldiers. Seeking deeper insight, I reached out to Bessel van der Kolk, inviting him to speak at a biannual conference I hosted for community-based psychologists, psychiatrists, ministers, and social workers. The topic: the repatriation of soldiers and the mounting crisis of PTSD. Bessel accepted without hesitation, and that moment marked the beginning of an unexpected trajectory—one that led me ever further into the medical and clinical application of trauma treatment.

Modern neuroscience supports the idea that myths reflect fundamental cognitive structures, influencing both personal and collective psychological development.[19] Myths provide a pre-cognitive framework for understanding human experiences, offering narratives that shape identity, resilience, and adaptation to change. The brain's ability to process and internalize symbolic meaning plays a crucial role in how individuals navigate their realities, much like how ancient myths served as guides for early societies.

The Default Mode Network (DMN) is one of the most significant neuroscientific discoveries in relation to mythic consciousness.[20] This network, active during introspection, self-referential thought, and imagination, aligns closely with the mythic function of storytelling. When the DMN is engaged, the brain weaves narratives from fragmented experiences, creating meaning from personal and collective histories. This neurological function

reflects the mythic tradition of structuring human existence into coherent stories that help individuals integrate their past, present, and future.
The latter is central to the treatment of trauma, as the Default Mode Network (DMN) helps individuals construct a coherent self-narrative, reweaving fragmented and dissociated experiences into a meaningful whole. In Norse mythology, this role of the DMN finds a profound parallel in the Norns – the Weavers of Fate, powerful female beings who shape the destiny of gods and mortals alike. They reside at the base of Yggdrasill, the World Tree, tending to its roots while weaving the threads of memory and ancestral knowledge, of the present and becoming, and of the forces shaping what is yet to come. The three primary Norns are Urd representing stored autobiographical past, Verdandi the active reprocessing of memory reshaping experience in the present, and Skuld who represents the anticipated future influenced by memory and interpretation. In trauma healing, the ability to reweave fate aligns with modern neuroscience, where integrating past experiences into new narratives allows transformation — like the mythic work of the Norns. This mythic imagery beautifully encapsulates the neurobiological process by which the DMN retrieves, processes, and reinterprets autobiographical memory, allowing individuals to reframe past traumas within a greater continuity of selfhood.

From a neurological perspective, trauma often disrupts the normal function of DMN, fragmenting the timeline of experience and leaving individuals caught in hyperarousal or dissociative loops, unable to integrate painful memories into an ongoing personal narrative. Therapeutic interventions—such as Eye Movement Desensitization and Reprocessing (EMDR), Eidetic Memory Reprocessing (Trauma Theater technique), and deep psychotherapeutic work—can help re-engage the DMN, facilitating narrative reconstruction akin to the mythic work of the Norns. In this sense, trauma healing is a process of "reweaving" fate, drawing the scattered threads of experience back into a coherent pattern.

From a psychopharmacological perspective, this mythic-neuroscientific relationship finds a striking reflection in substances that modulate DMN activity. For example, psychedelics, such as psilocybin are increasingly studied and used with depression resistant patients – as well as with those who have suffered trauma of abuse and neglect.[21] The mechanism temporarily quiets the DMN, dissolving rigid self- referential patterns and allowing new narrative possibilities to emerge—akin to the Norns reshaping the strands of destiny. Similarly, SSRIs and MDMA (3,4-methylenedioxymethamphetamine) are psychoactive substances that have gained significant attention in psychedelic-assisted psychotherapy, particularly in the treatment of post-traumatic stress disorder (PTSD) and other trauma-related conditions.[22] MDMA-assisted therapy has been shown to enhance emotional processing and promote the reintegration of traumatic memories by modulating serotonin and

oxytocin pathways, fostering the kind of biochemical interconnectedness that the Weavers also represent.

Yggdrasill itself, as the great axis mundi, serves as an apt metaphor for the brain's integrative networks— its vast branches stretching into mythic and imaginative realms while its deep roots draw from the unconscious wellsprings of memory. The act of storytelling, myth-making, and therapeutic meaning- making thus mirrors the cosmic function of the World Tree: binding disparate realms into a living, breathing whole. Just as the Norns weave the fabric of existence, the DMN weaves the story of self, making integration not only a neurological process but a deeply mythic or spiritual one.

The human response to trauma also often follows mythic structures of death and rebirth, a theme deeply embedded in creation myths, shamanic traditions, and religious rituals. Trauma disrupts normal cognitive functioning, often leading to dissociation, hypervigilance, or emotional dysregulation—states that can be understood through mythic symbols such as the Underworld journey, where the hero descends into darkness before returning transformed.
The HPA (Hypothalamic-Pituitary-Adrenal) axis, a key regulator of stress responses, plays a significant role in how humans process and recover from trauma. This axis governs the body's fight-or-flight response, much like the recurring themes in myth where gods and heroes must face overwhelming adversity before restoring balance. The autonomic nervous system (ANS), which regulates bodily states between activation (sympathetic system) and restoration (parasympathetic system), further connects mythology to neuroscience. The balance between these two states mirrors the mythic interplay between chaos and order, destruction and creation.[23]

Research has shown that substances like psilocybin and Ketamine (*Spravato*) temporarily dissolve the rigid boundaries of the Default Mode Network, allowing for greater connectivity across different regions of the brain. This results in visionary experiences akin to the prophetic dreams and divine encounters found in myths. Ancient shamanic traditions, which often involved the use of entheogens (Greek for 'divinely inspired' or 'filled with god'), suggest that early humans used these substances to access expanded states of awareness, influencing the development of mythology as a cognitive tool for mapping non-ordinary reality.[24]

In examining the intersection of neuroscience and mythology it becomes clear that myths are not just cultural artifacts but essential mechanisms for organizing human consciousness. They provide cognitive scaffolding for the processing of emotions, the formation of identity, and the navigation of existential crises. By recognizing the neural correlations of mythic structures, we gain insight into how ancient wisdom anticipated modern

psychological and neurological discoveries. This understanding allows us to apply mythic frameworks in therapeutic contexts, helping individuals integrate fragmented experiences, process trauma, and develop a deeper sense of purpose.

As modern neuroscience continues to uncover the mechanisms behind symbolic thought, it validates what ancient civilizations seemed to intuitively understand — that stories, dreams, and myths are not mere fantasies but essential components of the psyche's ability to construct meaning and sustain resilience.

Conclusion

The Echo of Myth in the Mind of Medicine

As we have explored, the ancient narratives that once shaped the mythic imagination continue to resonate within contemporary understandings of medical psychology. The stories of Prometheus, the Viking Norns, and the Babylonian creation legend are not relics of a bygone era but living blueprints of the psyche, encoding deep truths about trauma, healing, and the birth of consciousness itself. Neuroscience now maps what mythmakers intuited: that the mind, like the world tree Yggdrasill, is woven from past, present, and future, and that the process of integration, whether through psychotherapy, psychopharmacology, or deep introspection—mirrors the age-old work of the Weavers of Fate.
Medicine, psychology, and mythology are not separate domains but overlapping realms of human experience, each seeking to reconcile suffering with meaning, chaos with order, and the fragmented self with wholeness. In rediscovering these resonances, we do not merely study myth—we step into it, recognizing that the ancient impulse to narrate, heal, and transform remains as vital now as it was in the dawn of consciousness. If the modern mind has forgotten the language of myth, the body and soul have not. Perhaps, then, the task before us is not only to diagnose and treat but to 'listen deeply' to the old stories repeated in the modern psyche living in forgotten songs and in whispered truths still pulsing in the depths of human experience. Still piercing the dark veil, navigating through dreams, visions, and the mist of intuition — ever leaning toward the mystery of what remains undiscovered.

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Contact Information:

Dr Kenneth Larsen drklarsen@gmail.com

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