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The Crisis in Clinical Psychopharmacology

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Abstract

For many years after the intoduction of Prozac and other Selective Serotonin Reuptake Inhbitors (SSRIs) in the early 1990s, many mental health pratictioners, particularly psychiatrists, elevated psychopharmacology and its new medications to the status of magic, albeit cloaked in pharmacological science. Since then, the dominant monoamine theory, actually only a hypothesis, has slowly lost its appeal given the lack of scientific data to validate the purported method of action of SSRIs. Coupled with no real additions of novel psychotropic medications over the past decades and the growing database of studies questioning the effectiveness of these drugs, clinical psychopharmacology is facing a crisis. Moreover, there appears to be no solution going forward as behavioral interventions continue to demonstrate clinical effectiveness and efficiency in treating a wide array of disorders.

The Crisis

Although clinical psychopharmacology was seen by many in mental healthcare as manna falling from heaven, early expectations essentially have given way to marketing hype. The single failure of psychopharmacology is that overall—it does not work[1,2]. Much of pharmacology relies upon its ability to explain, among other important explanations, the mechanism of action or how a drug actually works. Psychopharmacology with its many classes of psychotropic medications, fails on many fronts to provide real evidence about how these drugs actually work. For example, in the case of drugs to treat depression, drug manufacturers have settled upon the monoamine hypothesis (MH) to explain how antidepressants work. Moreover, other classes of drugs also utilize the MH to explain a medication's mechanism of action. The MH associated with depression is explained by a neurochemical depletion in the levels of specific neurotransmitters. Depletions in serotonin, norepinephrine, and/or dopamine are the neurotransmitters typically cited in the literature as the underlying process to explain the neurochemical basis for depression and psychosis[3,4].

There are several problems with the MH in that there are no accepted normal parameters of the neurotransmitters predicted as causallly related to depression. Some laboratories cite the normal range for blood serotonin levels to be in the range of 101–283 nanograms per milliliter (ng/mL). This level, however, differs depending upon the lab doing the analysis, the measurements and samples that are tested. Moreover, serotonin levels are not constant and may vary according to diet, health condition of the patient, and time of day the sample is collected. This lack of specificity is common to all neurotransmitters associated with the MH. Moreover, measuring the amount of a substance in the blood is not the same as a measurement of that same substance in the brain. To even attempt to obtain such measurements, a spinal tap would be necessary and would be potentially harmful and painful to the patient. Further, just knowing the amount of increase or decrease of a neurotransmitter does not necessarily establish a causal relationship to a given behavior such as depression or schizophrenia. Complicating any causal connection between the amount of serotonin in the brain is that serotonergic receptors comprise many subtypes and are located throughout many areas of the brain and in the human gut. Serotonergic receptors are found in areas of the limbic system, the hypothalamus, hippocampus, septum, neocortex

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and regions associated with motor behavior, including the substantia nigra and globus pallidus. Outside of the brain serotonin receptors can be found in the gut.

The MH is not logically consistent with how the brain and neurochemistry interact and their subsequent relationship to specific behaviors. Essentially, the MH localizes this process to a single neurotransmitter and postulates that a deficit in the production of that neurotransmitter then results in behavioral change. Nothing stays local in the brain. A good analogy is to look at brain chemistry as a recipe. There are varying amounts of ingredients (neurotramsmitters etc) each with a specific amount in proportion to the whole. If even one ingredient is changed, the total recipe changes and each proportion likewise changes. So, in essence, a change in the amount of serotonin, for example, will change brain chemistry to the extent that the brain must also change and make adjustments locally and elsewhere.

The human brain is a complex organ that works to produce homeostasis with respect to processes going outside normal parameters, whatever normal may mean. Brain function is based on signaling between neurons that are assembled in complex networks. Homeostasis is the brain's function for self-regulation. The goal is to maintain stability and equilibrium then adjusting conditions within the body to restore balance. If homeostasis is not achieved then negative changes will occur. From the perspective of homeostasis, any deficit in a specific neurotransmitter should logically lead to the brain restoring balance. In the case of a decrease in serotonin, one would expect the brain producing more serotonin. Depression can hardly be described as behavioral equilibrium, which is the prime function of homeostasis. If in fact the MH is correct, then this implies that the homeostatic function of the brain, for some unknown reason, fails with respect to neurotransmitters.

Generally, neurotransmitter homeostasis is believed to occur by restoring equilibrium to several processes including vesicular release from the presynapse, diffusion, uptake by transporters, non-synaptic production, and regulation of release by autoreceptors. Moreover, there may be many other processes that presently are unknown that can also affect neuronal homeostasis. What is clear, however, is the role of the processes in achieving neurotransmitter homeostasis is not well understood. In the case of a decrease in serotonin, one can interpret the attributed depression to a breakdown in the homeostatic function surrounding serotonergic receptors. Alternatively, depression may be the body's normal homeostatic response to restore equilibrium but signaling that several processes are not in balance. Since there is a sufficient and growing database demonstrating the ineffectiveness of antidepressant medications, medications whose stated function is to restore an abnormally low level of serotonin, the MH cannot be an accurate description of serotonin related depression. Levels of serotonin, in themselves, cannot be attributed to or resulting in depression. The process is much more complicated.

This leads to another problem with the MH. Depression is a response to something. MH focuses on neurochemical and neuroanatomical physiological functions to attribute depression as a breakdown in these processes. The MH is a unidimensional approach to a multi-dimensional process—physiology and perhaps genetics on the one side and, in most cases, environmental factors on the other. As to a causative explanation, there is extensive data supporting that environmental events can produce structural changes in the brain [5,6]. There are many environmental events, to name a few, that can cause extreme stress including physical and mental abuse, death of a loved one, financial loss, injury, homelessness, illness, racial, ehnic, and gender discrimination, and exposure to actual or perceived harm or death. On the physiological side, one would expect these high levels of stress to produce some structural changes in the brain. However, as many of the changes in brain structure related to environmental stress remain relatively unknown—treating depression with drugs, for example, is questionable and the relative lack of improvement from

these drugs support skepticism about the claims coming out of psychopharmacology. It would seem that focusing on affecting the environmental events that patients with depression are experiencing would yield better results. In fact, behavioral treatment for depression is a safe, effective, and an efficient treatment option.

Brain Structure Changes Through Neuroplasticity

The brain is the premier organ whose structure responds to change. Through the process of learning, technically called neuroplasticity, the human brain is capable of definitive changes as learning causes the brain to selectively organize connections between neurons in our brains. As new connections form, the internal structure of the existing synapses also change. Although neuroplasticity generally occurs at the neuron level, other parts of the brain can also be impacted through this process. Recent studies are reporting that neuroplasticity occurs in the posterior parietal cortex (PPC) after learning a task[7,8]. The PPC is located between regions of the parietal cortex that is posterior to the primary somatosensory cortex and its adjacent sulcus, the post central sulcus. The PPC plays an important role in the spatial representation of objects for action planning and control. It appears that the PPC integrates sensory input to facilitate information from diverse sources. Neuropsychologists call these “higher-order” functions. The PPC, however, is best characterized for its role in attention.

One of the most salient symptoms of depression and many other behavioral disorders is the lack of attention comprising the complaints of many patients. Much of behavioral therapy is to teach patients to gain control over their mood states through emotional regulation[9]. The inability to focus, or provide attention, is one of the major impediments to emotional regulation. When the patient’s ability to focus occurs through successful behavioral intervention [10-12], based on the findings of the above studies some structural changes to the PPC is expected to occur. Learning or neuroplasticity is a function of complex neurobiological processes and changes in behavior, through behavioral interventions, for example, is accomplished through these processes. With respect to the use of medications to treat mental, emotional, and behavioral disorders, there is scant evidence that these drugs induce neuroplasticity, at least in a positive direction[13]. Well know side effects of antipsychotic medications, for example, include movement disorders, high sedation, and significant weight gain. This implies neuoplasticity resulting in undesirable changes to the brain perhaps even reaching into the hypothalamus, which is a region of the forebrain below the thalamus that communicates the autonomic nervous system and the activity of the pituitary. These functions include controlling body temperature, thirst, hunger, and other homeostatic systems, and are involved in sleep and emotional activity. Many of the functions governed by the hypothamus appear as dysfunctional symptoms that are common complaints from patients presenting with depression.

This type of harm is not associated with behavioral interventions. Further, behavioral interventions promote neuroplasticity and may best explain why and how these interventions produce positive outcomes in patients. Drug manufacturers would argue that the delayed action of psychotropic medications is a good indicator that neuroplasticity is occurring[14]. However, the fact that the positive placebo effect can be attributed to many psychotropic medications implies that any positive effect of these drugs reported by patients is more probably due to patient individual differences[15]. Moreover, the large proportion of patients, about 33%, report a worsening condition while on these medications[16] suggesting that both individual differences and negative neuroplasticity is occurring.

While there are many other brain processes and structures that are impacted by neuroplasticity, the data suggests that structures such as the cerebrum, hippocampus, and the amygdala, which are important structures associated with emotion and memory, can also

undergo changes through behavioral interventions. As this article is not focused on neuroplasticity associated with behavioral change through interventions, this brief discussion is presented to alert readers that psychopharmacology in its present iteration in practice, is a very problematic approach to treatment. Moreover, the prescribing practices with psychotropic medications present patients with narrow and potentially harmful treatment options as current prescribing practices are not based upon guidelines derived from science. The present "art" of prescribing can be dangerous to patient health.

The salient issue of importance is that medical psychology practice is a more holistic and enlightened practice that is based upon science as opposed to other healthcare professionals, particularly psychiatry, where the emphasis on treatment relies upon the art of prescribing. With keen awareness of the many individual differences of patients seeking treatment and the role of neuroplasticity, which is the foundation of behavioral interventions, medical psychologists can provide safer and more effective treatment options to patients than any other practitioner. The training in clinical psychopharmacology affords medical psychologists great latitude and expertise to recommend non-drug interventions to patients. In the present environment, where drugs are seen as first line treatments, it is important that patients hear and understand the scientific underpinnings that provide the pitfalls and potential harm that many of these drugs offer. What clinical psychopharmacology needs is a science-based prescribing model. The present prescribing practices by PCPs and psychiatrists, more often than not, is derived from drug manufacturer recommendations through their sales agents and through their individual experiences. The marketing idiom, "Individual results may vary" is not working for patients but is producing enormous profits for drug manufacturers. It is time for many psychopharmacologists to come to grips that, as a whole, the underpinning of the specialty needs a new foundation based upon science and not mechanisms of action that cannot be explained or have no scientific basis.

Another face of the failure of psychopharmacolgy can be found in its inability to have produced any real innovative medications over the past decades. Since the introduction and approval of Prozac in 1987 followed by a slew of other SSRIs mainly to treat symptoms of depression, there has been relatively no innovation. Since the introduction and approval of "novel" neuroleptics such as risperidone in 1993 and followed by a few others, no new drugs have been approved. Drugs with new names have been approved. Drugs with very small changes in an isomer or two have been approved. What is "new" is the current advocacy by psychiatry to recycle recreation drugs such as MDMA, LSD, psilocybin, and ketamine to treat depression and to give false hope to patients who have failed to show any improvement with the current menu of drugs. Although the use of recreational drugs to treat depression has been gaining attention, there are few studies to support efficacy, safety, or even applicability for these drugs to treat depression. The few that do exist are based on very small samples and with subjects who have prior experience with these drugs[17]. With respect to psilocybin, which frequently is cited as a "drug of interest" by psychiatry, there are no clinical trials assessing psilocybin as a treatment for depression[18]. MDMA, the chemical name for the drug Ecstasy, is yet another recreational drug that is becoming fashionable in psychiatric circles. Given that finding a standard dosage or composition of MDMA is relatively impossible, which is true of all recreational drugs, there appears to be more talk than substance about these drugs as real treatments[19]. Ketamine is an anesthetic, used to induce a loss of consciousness and to relieve pain. It is a short acting drug that prior to its use in humans was used by veterinarians to treat horses. The drug can be dangerous and highly addictive. With very limited studies to assess the efficacy and safety of ketamine, one study reported there was "a significant improvement in depression, anxiety, and the severity of illness after 2 weeks and 1 month of the last dose of ke-

tamine"[20]. But, no new drugs based upon even an unvalidated method of action has appeared. Aside from marketing hype, polypharmacy, and the recycling of current drugs, coupled with scant to none support for how any of these drugs really work, there is a real crisis in psychopharmacology but not in medical psychology.

What is noteworthy of the ketamine study is that the subjects were highly selected to participate. All were male, no history of prior substance abuse, no history of psychosis, and no history of any physical disorders. All subjects had to be experiencing depression. For those of us who have a history of practice, I am sure that we have never seen a single patient presenting with depression that could match the above criteria. Although there are few studies to assess any of these recreational drugs, a Goggle search shows that there is a large heap of web articles citing the hope and "efficacy" of these drugs. Clearly, with so many people who are experiencing depression hope of any treatment that could improve and treat depression would get attention. Attention from Internet opinions is not science and the attempts by psychiatry to foster hope sin data is unacceptable.

For the record, the author is not against the utilization of drugs as part of a treatment plan for some patients, when appropriate. In my opinion, I'm sure that there is a small subset of the population with a dysfunctional genetic predisposition affecting specific neurotransmitters and who may be helped with a trial of SSRIs or other drug along with behavioral intervention. Identifying these patients is the challenge. This can be achieved with the utilization of specific guidelines for prescribing these drugs. For example, prescribing an AD for a limited period of time to gauge improvement. No improvement over 30 days, for instance, may indicate that the drug should be discontinued. Medication should never be the first line treatment and any patient placed on a drug will need to have concurrent psychotherapy as part of the treatment plan.

Lastly, the criticisms in this article do not mean that RxP as a goal should be abandoned by medical psychologists not currently authorized to prescribe. Patients have largely been coerced into believing that medications are the correct choice to trtreat their presenting issues. However, if medical psychologists obtain prescriptive authority in all states it will provide us with the opportunity to control the treatment of our patients. The ability to prescribe gives the practitioner the ability not to prescribe. Currently, in jurisdictions where RxP is not available, PCPs, nurse practitioners, physician assistants, and even dentists can prescribe psychotropic medications. They control the treatment. So, our support for RxP should be based on that factor alone—we need to control the treatment of our patients so that we can ensure they are receiving the highest quality of care. Sometimes that may mean a trial on a medication to see if it improves a patient's complaint and at other times no medication in the treatment plan. This is why medical psychology is the best evolution of clinical psychology.

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Treating Depression using CBT in a Patient with Chronic Pain after a Traumatic Amputation: A Case Study

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Abstract

Chronic pain can be a debilitating condition that is often compounded by comorbid depression. In the treatment of both of these conditions, cognitive behavioral therapy (CBT) has been shown to be effective. The following case study investigates the case of a patient who sustained a traumatic amputation at work. The patient started suffering from chronic pain and depression after the traumatic amputation. Through 20 sessions of CBT, the patient achieved a 92% decrease in his level of depression and a 67% decrease in his pain severity. As a result, utilizing CBT, the patient was able to improve both psychologically and physically. The results of this case emphasize the potential benefit of applying CBT when treating patients with comorbid medical and mental health conditions.

Introduction

Chronic pain is a complex, often disabling condition that is compounded by depression and poor self-efficacy (Nash et al., 2013)[1]. Depression is a frequent comorbid condition in individuals with chronic pain, with reported rates ranging from 20% to 54%. Moreover, depression is associated with higher levels of pain intensity and disability in individuals with chronic pain. Reviews have shown that both depression and anxiety are risk factors for poor outcomes in chronic pain. Furthermore, pain, especially pain in multiple locations, is associated with an increased risk for developing anxiety and depression (Ólason et al., 2018)[2].

Cognitive behavioral therapy (CBT) has been shown to be effective in treating a wide range of disorders, including depression, anxiety, and chronic pain. Cognitive behavioral therapy (typically programs with components of education, coping strategy training, and cognitive therapy) has been found to be effective in reducing chronic pain immediately after treatment compared with no treatment. CBT has also been found to be effective in reducing disability immediately after treatment. The results of pure behavioral treatments (typically relying on relaxation, biofeedback, contingency management, or exposure) were also promising in the treatment of chronic pain and depression. The effects of CBT on decreasing depression associated with chronic pain, are reported to persist at 6 months (Eccleston et al., 2013)[3].

In a condition like chronic pain, with documented negative impacts and with so few effective treatment options, it is useful to know that at least one treatment—CBT— has evidence of its long-term efficacy when it comes to the treatment of depression related to chronic pain (Ólason et al., 2018)[2].

In this case study, we are showing that CBT is effective in the treatment of depression in a patient who experiences chronic pain. The following case study utilizes a retrospective patient chart review to assess one individual case. In this case, the patient is suffering from

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depression related to chronic pain after a traumatic amputation. The patient was evaluated and treated using CBT. The patient was assessed and treated in an integrated, multidisciplinary medical clinic in which psychologists work alongside medical doctors, physical therapists, and other medical professionals. The patient initially completed a psychological evaluation in which background

information was obtained and symptoms were assessed. During the initial evaluation, quality of life, level of depression, pain catastrophizing level, the severity of pain, restrictions in activities of daily living, and emotional distress were assessed and baseline measures were established. This information was then used to establish a diagnosis and an individualized treatment plan for the patient. The patient then attended individual face-to-face sessions of cognitive-behavioral therapy over a span of eight months. At the end of treatment, a final evaluation was completed in which symptoms were reassessed and compared to initial baseline measures.

Case Study

The following case presents a male patient in his late-50s who presented for initial evaluation and treatment following a work-related injury. During the initial evaluation, the patient reported that his job description consisted of cutting wood and he had been employed with his employer for less than one month. The patient reported that on the date of injury, he was cutting wood, when the machine got stuck, and the saw cut his right hand. The patient reported that four of his fingers on his right hand were cut off. After this traumatic amputation, he was transported to the hospital, where he had surgery, and three of the fingers were replanted. The patient reported that he has had 4 more surgeries since then. The patient reported that he continued to experience pain in his right hand. The patient reported that he is right-handed. The patient reported that he was able to use his right hand minimally.

Stress Assessment: The patient reported multiple psychological symptoms including isolation, agitation, anger, anxiety, fear, avoidance, nightmares, panic attacks (nightly), loss of energy, fatigue, loss of interest, excessive sadness, emotional pain, hopelessness, worthlessness, problems with attention/concentration/memory, problems with sleep (initial, mid; four-five hours/night), and changes in eating habits (eating more; gained 35 lbs since the incident). The patient was motivated for treatment. The patient indicated that he would like a therapy first approach.

Diagnosis and Treatment Plan: Based on the initial evaluation, the patient's mental status, medical records, and the psychometric testing results (see below), the patient met criteria and received a diagnosis of Major Depressive disorder, severe, recurrent, without psychotic features. The patient was recommended cognitive behavioral therapy as his treatment plan.

Treatment Process: The patient attended 20 sessions of cognitive behavioral therapy over the span of approximately eight months. At the onset of treatment, the therapist worked with the patient on developing rapport, establishing goals, and understanding the patient's strengths and protective factors. The therapist then assisted the patient in developing a "toolbox," which consisted of positive and adaptive coping strategies the patient could use regularly for emotion and pain regulation. More specifically, the therapist taught the patient various activities including diaphragmatic breathing exercises, mindfulness meditation, and grounding. Once the patient had the opportunity to practice and master these skills, the therapist worked with the patient on identifying catastrophic, maladaptive, and negative thought processes about himself and his pain. The therapist used journaling and dysfunctional thought records to assist the patient in altering those thought processes to make them more adaptive and functional. As the therapy progressed, the therapist worked with the patient on developing a schedule of activities for maximal functioning. The thera-

pist also worked with the patient on pacing his everyday activities so that they did not aggravate his pain.

Over time, with practice and support, the patient started to feel better. The patient reported he had learned coping skills in cognitive behavioral therapy. The patient reported that he was actively implementing these coping skills to effectively decrease his stress. The patient also reported that his depression was under control.

Psychometric Tests Pre- and Post-Treatment: During the initial evaluation, the patient completed several psychometric tests to assess his overall quality of life, level of depression, catastrophic thought process, level of pain, level of activity limitation, and level of emotional distress. In order to obtain an objective presentation of the patient's overall progress, each screening assessment was administered pre- and post-treatment. A description of the tests along with the patient's pre- and post-treatment scores are as follows:

The patient completed the Quality of Life Scale (QOLS). This psychometric test measured six conceptual domains of quality of life: material and physical well-being; relationships with other people; social, community, and civic activities; personal development and fulfillment; recreation; and independence. During the initial evaluation, the patient obtained a score of 42 on the QOLS, which is below the average total score of 90 for healthy populations. During the final evaluation, the patient obtained a score of 88. Score comparisons demonstrate a 110% increase in the patient's overall quality of life.

The patient completed the Patient Health Questionnaire 9 (PHQ9). This psychometric test is designed to screen for, assist in diagnosing, and assess the severity of depression. During the initial evaluation, the patient obtained a score of 25 on the PHQ9, which is indicative of severe depression. During the final evaluation, the patient obtained a score of two, which is indicative of minimal depression. Score comparisons demonstrate a 92% decrease in the patient's level of depression.

The patient completed the Pain Catastrophizing Scale (PCS). This psychometric test is designed to assess the patient's thoughts and feelings when experiencing pain. During the initial evaluation, the patient obtained a score of 52 on the PCS, which is indicative of catastrophizing all the time. During the final evaluation, the patient obtained a score of zero, which is indicative of no negative/catastrophizing thought process. Score comparisons demonstrate a 100% decrease in the patient's catastrophic thinking.

The patient completed the AMA Guides to the Evaluation of Permanent Disability. Fifth Edition. Table 18-4 Ratings Determining Impairment Associated with Pain. This psychometric test is designed to provide information about three domains including severity of pain, restrictions in activities of daily living, and emotional distress. During the initial evaluation, the patient obtained the following mean scores on each domain: 7.5 pain severity score, 4.8 activity limitation score, 8.8 emotional distress score. During the final evaluation, the patient obtained the following mean scores on each domain: 2.5 pain severity score, 2.2 activity limitation score, one emotional distress score. Score comparisons demonstrate a 67% decrease in the patient's pain severity, 54% decrease in the patient's activity limitations, and 89% decrease in the patient's emotional distress.

Conclusion

Cognitive behavioral therapy was found to be effective in helping this patient, who experienced depression and chronic pain after a traumatic amputation. Through cognitive behavioral therapy, the patient was able to improve his overall quality of life, decrease his level of depression, decrease his catastrophic thinking, decrease his pain, decrease his activity limitation, and decrease his emotional distress. As a result, cognitive behavioral therapy was effective in helping the patient achieve improvement both psychologically and

physically. This case study underscores the importance of treating patients with comorbid medical and mental health conditions using cognitive behavioral therapy.

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Treating PTSD using CBT in a Medical Setting: A Multi-Case Study

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Abstract

Cognitive behavioral therapy (CBT) is a valuable therapeutic technique used in the treatment of post-traumatic stress disorder (PTSD). The following multi-case study investigates the effect that CBT had on two individual cases, both suffering from PTSD, who were treated in an integrated medical setting. The first case is a patient who's bank was robbed while she was working at her job as a bank teller. The second case is a patient who was working, driving his semi-truck on the highway, when his truck hit and ran over an individual on the highway. Each patient received 15 sessions and 12 sessions of CBT, respectively. Utilizing CBT in both cases caused a reduction in symptoms of depression, anxiety, post-traumatic stress, and somatic symptom severity. Specifically, the patients experienced reductions of 70% and 100% in their PTSD symptoms. The results that both patients achieved show the importance of utilizing CBT when treating PTSD.

Introduction

Cognitive behavioral therapy (CBT) has gained a strong foundation in treating various psychological symptoms and disorders, including post-traumatic stress disorder (PTSD). The various components of CBT, including cognitive restructuring, recognition of dysfunctional thoughts and thinking errors, creation of alternative rational thoughts, and the reappraisal of beliefs about oneself, the trauma, and the world have been found to be particularly effective in treating patients suffering from PTSD (Zayfert & Becker, 2019)[1]. More specifically, allowing patients the opportunity to engage in systematic exposure while developing and implementing effective coping strategies may be helpful in reducing patient distress and overall symptom severity (Watkins et al, 2018)[2].

The following case study utilizes a retrospective patient chart review to assess two individual cases, both suffering from PTSD, who were evaluated and treated using CBT. Each patient was assessed and treated in an integrated, multidisciplinary medical clinic in which psychologists work alongside medical doctors, physical therapists, and other medical professionals. Each patient initially completed a psychological evaluation in which background information was obtained and symptoms were assessed. During the initial evaluation, cognitive functioning, quality of life, level of depression, level of anxiety, post-traumatic stress symptoms, and somatic symptom severity were assessed and baseline measures were established. This information was then used to establish a diagnosis and an individualized treatment plan. Each patient then attended weekly individual face-to-face sessions of cognitive behavioral therapy over the span of four months. At the end of treatment, final evaluations were completed in which symptoms were reassessed and compared to initial baseline measures.

Case #1

Case number one presents a female patient in her mid-20s who was evaluated a few weeks following her traumatic experience. During her initial evaluation, the patient reported

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that she works at a bank as a teller. The patient reported that while she was working, a man tried to rob the bank. The patient reported that a shooting ensued between the robber and the police. After the shooting stopped, the patient and her coworkers were walked out of the bank by the police.

The patient reported seeing the man's dead body on the ground as she was being escorted out of the bank. The patient then gave her report to the police. The patient indicated that she has not worked at the bank since then.

Additionally, the patient reported that she had one therapy session through her employer after the incident. The patient reported that this was helpful. The patient reported no other psychological treatment history.

When asked about medical history, the patient reported suffering from headaches, for which she takes Ibuprofen.

Stress Assessment: The patient reported multiple psychological symptoms including isolation, agitation, anxiety, fear, intrusive thoughts, avoidance, nightmares, panic attacks (two-three since the incident), loss of energy, fatigue, problems with sleep (initial, mid, terminal; six hours/night), and changes in eating habits (eating less). The patient reported experiencing these symptoms since the incident. The patient was motivated for treatment and indicated that she would like a therapy first approach.

Diagnosis and Treatment Plan: Based on the patient's report and psychometric test results (see below), the patient met criteria and received a diagnosis of acute stress disorder. The patient's was recommended cognitive behavioral therapy as her treatment plan. The patient was also recommended a modified duty work status of alternate location.

Treatment Process: The patient attended 15 sessions of cognitive behavioral therapy over the span of approximately four months. At the start of treatment, clinician and patient collaboratively worked together to assist patient in developing adaptive coping strategies, diaphragmatic breathing exercises, guided imagery, grounding techniques, and mindfulness. Patient was asked to practice and implement each technique throughout the week. Once patient was ready, clinician worked with patient to develop an anxiety hierarchy using the Subjective Units of Distress (SUDS). Starting with items that elicited the least amount of anxiety and working up the hierarchy, patient engaged in imaginal exposure until patient reported decreased distress. Additionally, negative thoughts were identified and worked through using cognitive strategies to develop adaptive thought processes. Patient also collaborated with therapist in creating a trauma narrative, which required patient to repeatedly state all details of the incident remembered until the incident no longer elicited strong distressful memories or anxious emotions.

Following the imaginal exposure, patient engaged in in-vivo exposure by gradually preparing to go back to the location of the incident. At first, patient drove by the location of the incident without entering the parking lot. Once this activity was completed without strong anxious feelings, patient was then asked to drive into the parking lot of the bank, but was not required to enter the branch. Lastly, patient agreed to enter the branch and spend a few minutes observing. Throughout the entirety of this process, patient was asked to continually be aware of her own thoughts, and challenge those thoughts that were catastrophic or overall maladaptive. Once patient was able to complete this process without experiencing maladaptive thoughts or emotional distress, the patient was returned to work with no restrictions, and the work status modification of "alternate location" was removed. At this point, the patient returned to work full duty.

Psychometric Tests Pre- and Post-Treatment: During the initial evaluation, the patient completed several Neurocognitive and Psychometric Tests to assess her overall cognitive functioning, psychopathological symptoms, and overall quality of life. In order to obtain an objective presentation of the patient's overall progress, each screening assessment was administered pre- and post-treatment. A description of the tests along with the patient's pre- and post-treatment scores are as follows:

The patient completed the Montreal Cognitive Assessment (MOCA). This psychometric test is designed as a rapid screening instrument for mild cognitive dysfunction. During the initial evaluation, the patient obtained a score of 23 on this measure, which indicates below normal levels of cognitive functioning. During the final evaluation, the patient obtained a score of 27 on this measure, which indicates normal levels of cognitive functioning. Score comparisons demonstrate a 17% increase in the patient's cognitive functioning.

The patient completed the Quality of Life Scale (QOLS). This psychometric test measured six conceptual domains of quality of life: material and physical well-being; relationships with other people; social, community, and civic activities; personal development and fulfillment; recreation; and independence. During the initial evaluation, the patient obtained a score of 55 on the QOLS, which is below the average total score of 90 for healthy populations. During the final evaluation, the patient obtained a score of 67, which is below the average total score of 90 for healthy populations. Score comparisons demonstrate a 22% increase in the patient's overall quality of life.

The patient completed the Patient Health Questionnaire 9 (PHQ9). This psychometric test is designed to screen for, assist in diagnosing, and assess the severity of depression. During the initial evaluation, the patient obtained a score of 11 on the PHQ9, which is indicative of moderate depression. During the final evaluation, the patient obtained a score of four, which is indicative of minimal depression. Score comparisons demonstrate a 64% decrease in the patient's level of depression.

The patient completed the Generalized Anxiety Disorder 7 (GAD7) scale. This psychometric test is designed to screen for, assist in diagnosing, and assess the severity of anxiety. During the initial evaluation the patient obtained a score of 11 on the GAD7, which is indicative of moderate anxiety. During the final evaluation, the patient obtained a score of five, which is indicative of mild anxiety. Score comparisons demonstrate a 55% decrease in the patient's level of anxiety.

The patient completed the PTSD Checklist for DSM-5 (PCL-5). This psychometric test assesses DSM-5 symptoms of post-traumatic stress disorder (PTSD). During the initial evaluation, the patient obtained a score of 30, which is borderline the current cut point of 33 for the PCL-5. During the final evaluation, the patient obtained a score of nine, which does not exceed current cut point of 33 for the PCL-5. Score comparisons demonstrate a 70% decrease in the patient's symptoms of post-traumatic stress.

The patient completed the Patient Health Questionnaire 15-Item Somatic Symptom Severity Scale (PHQ-15). This psychometric test is designed to screen for and assess the severity of somatic symptoms. During the initial evaluation, the patient obtained a score of 14 on the PHQ-15, which is indicative of medium somatic symptom severity. During the final evaluation, the patient obtained a score of 10, which is indicative of medium somatic symptom severity. Score comparisons demonstrate a 29% decrease in the patient's somatic symptom severity.

Case #2

Case number two presents a male patient in his 20s who was evaluated a few days following his traumatic experience. During the initial evaluation, the patient reported that he works as a truck driver. The patient reported that as he was driving his semi-truck on the highway, there was an individual on the highway. The patient reported that he did not have a chance to stop. The patient reported that his truck hit and ran over the person. The patient reported that he went to help the individual, and as he was doing so, he was almost hit by a car. The patient reported that the police came and he made a report. The patient reported that he has not worked since the incident.

Additionally, the patient reported no psychological treatment history.

The patient also reported neck pain. The patient reported not taking any medication.

Stress Assessment: The patient reported isolation, anxiety, fear, intrusive thoughts, avoidance, nightmares, excessive sadness, emotional pain, hopelessness, worthlessness, problems with sleep (initial, mid, terminal; six hours), and changes in eating habits (eating less). The patient reported experiencing these symptoms since the incident. The patient was motivated for treatment. The patient indicated that he would like a therapy first approach. The patient did not want to take psychotropic medication.

Diagnosis and Treatment Plan: Based on the patient's report and psychometric test results (see below), the patient met criteria and received a diagnosis of acute stress disorder. The patient's was recommended cognitive behavioral therapy as his treatment plan. The patient was also recommended a work status modification of no truck driving.

Treatment Process: The patient attended 12 sessions of cognitive behavioral therapy over the span of approximately four months. The patient's treatment plan focused on incorporating various aspects of CBT into each session. In the initial session, psychoeducation about PTSD and a breathing technique to reduce stress and pain associated with muscle tension were discussed. Subsequent sessions focused on the foundations of CBT (thoughts, feelings, and behaviors) and how they can be utilized to challenge the patient's pessimistic thoughts about his accident, calm his anxious emotions, and replace negative behaviors with healthier alternatives. The therapist encouraged the patient to identify his negative thoughts, evaluate the likelihood of these thoughts occurring in real life, and to question the validity of his beliefs. In each session, the therapist checked in with the patient about how he was feeling and how his previous week had gone, inquired about homework given from the previous session, and discussed skills to be utilized the following week. The patient was encouraged to build upon the techniques learned each week in session to create a "toolkit" of skills that the patient could rely upon in the future. A portion of each session was used to address symptoms of PTSD and focused on ways to reduce the anxiety the patient felt about triggering stimuli. For example, exposure therapy was utilized to help the patient reduce his anxiety about returning to work as a semi-truck driver. The therapist and the patient collaborated to create a hierarchy to desensitize the patient to anxiety he felt about driving a semi-truck in the future. A Subjective Units of Distress (SUDs) scale from 0 to 100 was utilized to provide a common language that the therapist and the patient could use to gauge the patient's anxiety throughout the process. The process began with the patient becoming comfortable again, as he had been before the accident, in his family car while his wife drove. After this was accomplished the patient graduated from riding as a passenger in his family car to driving. Next, the patient visited a semi-truck lot and viewed semis similar to the one he previously drove. Eventually, with successive iterations, the patient was able to test drive a semi-truck similar to the one he drove the day of the

accident. By the end of treatment, the patient's anxiety level had dropped significantly and he was able to resume his work driving the same semi that was in the accident.

Psychometric Tests Pre-Treatment: During the initial evaluation, the patient completed several Neurocognitive and Psychometric Tests to assess her overall cognitive functioning, psychopathological symptoms, and overall quality of life. In order to obtain an objective presentation of the patient's overall progress, each screening assessment was administered pre- and post-treatment. A description of the tests along with the patient's pre- and post-treatment scores are as follows:

The patient completed the Montreal Cognitive Assessment (MOCA). This psychometric test is designed as a rapid screening instrument for mild cognitive dysfunction. The patient obtained a score of 27 on this measure, which indicates normal levels of cognitive functioning. During the final evaluation, the patient obtained a score of 28 on this measure, which indicates normal levels of cognitive functioning. Score comparisons demonstrate a four percent increase in the patient's cognitive functioning.

The patient completed the Quality of Life Scale (QOLS). This psychometric test measured six conceptual domains of quality of life: material and physical well-being; relationships with other people; social, community, and civic activities; personal development and fulfillment; recreation; and independence. The patient obtained a score of 98 above the average total score of 90 for healthy populations. During the final evaluation, the patient obtained a score of 103, which is above the average total score of 90 for healthy populations. Score comparisons demonstrate a 5% increase in the patient's overall quality of life.

The patient completed the Patient Health Questionnaire 9 (PHQ9). This psychometric test is designed to screen for, assist in diagnosing, and assess the severity of depression. The patient obtained a score of 21 on the PHQ9, which indicates severe depression. During the final evaluation, the patient obtained a score of one, which is indicative of minimal depression. Score comparisons demonstrate a 95% decrease in the patient's level of depression.

The patient completed the Generalized Anxiety Disorder 7 (GAD7) scale. This psychometric test is designed to screen for, assist in diagnosing, and assess the severity of anxiety. The patient obtained a score of 15 on the GAD7, which indicates severe anxiety. During the final evaluation, the patient obtained a score of zero, which is indicative of no anxiety. Score comparisons demonstrate a 100% decrease in the patient's level of anxiety.

The patient completed the PTSD Checklist for DSM-5 (PCL-5). This psychometric test assesses DSM-5 symptoms of post-traumatic stress disorder (PTSD). The patient obtained a score of 42 which exceeds the cut-off point of 33 for the PCL-5. During the final evaluation, the patient obtained a score of zero, which does not exceed current cut point of 33 for the PCL-5. Score comparisons demonstrate a 100% decrease in the patient's symptoms of post-traumatic stress.

The patient completed the Patient Health Questionnaire 15-Item Somatic Symptom Severity Scale (PHQ-15). This psychometric test is designed to screen for and assess the severity of somatic symptoms. The patient obtained a score of five, which indicates low somatic symptom severity. During the final evaluation, the patient obtained a score of zero, which is indicative of no somatic symptom severity. Score comparisons demonstrate a 100% decrease in the patient's somatic symptom severity.

Conclusion

Overall, CBT was found to be effective in reducing various symptoms of patients diagnosed with PTSD. More specifically, when two patients, with separate and distinct trau-

matic experiences, were treated using CBT, they reported experiencing a reduction in symptoms of depression, anxiety, post-traumatic stress, and somatic symptom severity. Specifically, with regards to PTSD, the patients experienced reductions of 70% and 100%, representing a significant improvement in each patient's mental health. Finally, both patients were returned to work full duty.

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Assessment of Cognitive Complaints/Symptoms in Medical Psychology Practice

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Abstract

This article reviews a screening protocol which can be utilized by medical psychologists for the evaluation of adults and older adults presenting with cognitive complaints/symptoms or an admixture of cognitive, psychiatric and somatic difficulties This screening approach can also be employed when questions are raised by significant others and/or the treating medical psychologist as to whether a patient may have a relatively early stage clinically significant change in cognition which has important implications for differential diagnosis and treatment planning. Also addressed is the utility of the Everyday Memory Inventory/EMI—a self-report questionnaire which is designed to address the growing need for screening level evaluation of "real world" memory functioning in medical psychology practice. Specific examples of test protocols seen in clinical practice are provided which illustrate this screening approach in facilitating differential diagnosis and treatment planning. Included is a copy of the EMI to obtain a clearer understanding of how it can be employed as part of the screening process.

Introduction

Cognitive difficulties/symptoms frequently co-occur with a broad range of medical and psychiatric disorders. In some instances, these difficulties/symptoms may precede or develop soon after the development of one or more medical and/or mental health conditions (Schildkrout, 2014)**.** Cognitive difficulties/symptoms increase in number, duration, frequency and severity as a function of the aging process especially after the age of fifty.

Since the late 1980's there has been a significantly increased demand for the clinical assessment of adults and older adults with known or suspected cognitive complaints/symptoms. Presenting difficulties include problems with various aspects of neuro-cognitive functioning; most frequently an insidious onset change in everyday memory based on patient report, the history which is obtained from referring healthcare provider(s) and/or the accounts of significant others.

However, these complaints/symptoms are sometimes reported in passing by the patient and/or informants during an intake evaluation for psychotherapy or following the initiation of treatment. Additionally, cognitive difficulties may become apparent to the medical psychologist over the course of treatment in the absence of patient and/or informant report.

Objectives

This article outlines a screening level protocol for medical psychologists for the assessment of adults and older adults with cognitive complaints/symptoms or a blend of cognitive, somatic and psychiatric complaints/symptoms. This protocol can also be employed when concerns are raised by significant others and/or the medical psychologist about a possible clinically significant change in cognition. This discussion includes an overview of the Everyday Memory Inventory/EMI- a self- report tool which was developed by this writer to meet

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the expanding need for screening level assessment of “real world” memory functioning by medical psychologists.

The use of this screening approach to assist in differential diagnosis and treatment planning is reviewed utilizing specific examples of test protocols frequently seen in clinical practice. In addition, a copy of the EMI is included to gain a clearer picture of its role in a screening level assessment protocol of this kind.

Screening Level Assessment Protocol: A clinical interview to obtain relevant history and to complete a basic mental status, supplemented by informant report, is a helpful first step in the assessment of neuro-cognitive status (Sommers- Flanagan, 2016). However, it is also important to gather more specific and quantitative data, via patient self-report inventories, regarding cognitive complaints/symptoms as well as possible “high base rate” co-occurring psychiatric symptoms like anxiety and depressive mood symptoms (Austin, Mitchell & Goodwin, 2018; Mulvaney-Day, Marshall, Piscopo, Korsen, Lynch, Kamell, Moran, Daniels & Ghose, 2018).

This should be followed by administration of a standardized cognitive screening test (Tsoi, Hirai, Wong & Kwok, 2015). Self- report and informant rating scale data pertaining to the performance of “instrumental” activities of daily living can also be considered as part of this screening approach (Jekel, Damian & Frolich, 2015).

The findings from such a protocol can help to determine the need for additional evaluation. Depending on the circumstances and results this could include a recommendation for a primary care/medical evaluation, neurological examination, psychopharmacologic assessment and/or comprehensive psychological/neuropsychological testing (Roebuck- Spencer, Glen, Puente, Denny, Ruff, Hostetter & Bianchini, 2017). Findings can also prove useful in decision- making as to whether to modify psychotherapeutic approach and/or other interventions to better match the evolving needs of the patient including his/her neuro-cognitive status.

Facilitating Accurate Assessment: Unfortunately, patient and informant interviews can sometimes provide little in the way of reliable and clinically useful information (Sommers-Flanagan, 2016; Tracey, Wampold, Lichtenberg & Goodyear, 2014). That said, while far from perfect with regard to diagnostic accuracy, self- report inventories pertaining to everyday memory and psychiatric complaints/symptoms should, in most instances, improve incremental validity when combined with the clinical interview, input from informants and findings from a standardized cognitive screening test (Hogan & Tsushima, 2016).

In cases where inaccurate reporting on self-report instruments is suspected this can still contribute to diagnostic clarity based on a good working familiarity with the clinical implications of “under-reporting’ and “over-reporting” response sets- see below- “Under**-**reported**”** and **“**Over-reported” Assessment Protocols for further discussion.

Everyday Memory Inventory/EMI: This questionnaire is designed to assess a broad range of “real world” memory complaints/symptoms of adults and older adults seen by medical psychologists. The content of this self-report tool includes patient appraisal of the longitudinal course of his/her complaints/symptoms in recent days**,** weeks, months and years to clarify issues of stability, improvement or progression over time. The perceived severity of everyday memory complaints/symptoms is assessed through a 1 to 10 rating system: Lower ratings reflect report of less significant problems while higher ratings denote more severe difficulties with everyday memory. These ratings are categorized as follows: No problems: 1/10, Minimal problems: 2-3/10, Minor/Mild problems: 4-5/10, Moderate problems: 6-7/10, Major problems: 8-10/10.

The patient is also asked to provide an overall assessment of the degree to which the endorsed symptoms disrupt/interfere with everyday functioning: “Not at all”, “Sometimes” and “All the time.” As well, the patient is queried as to how concerned/worried he/she is about difficulties with everyday memory: “Not concerned”, “Somewhat concerned” and “Very concerned.” Additionally, there is a section which surveys the use of compensatory strategies to bolster everyday memory and includes a 1 to 10 rating as to the overall

helpfulness of such strategies.Most patients seen by medical psychologists can successfully complete this questionnaire in under twenty minutes. However, a subset of patients who may have more pronounced cognitive difficulties/symptoms than may be immediately apparent can be expected to have problems managing the demands of this inventory especially the section involving assigning ratings to the list of everyday memory situations. In this circumstance, this section of the inventory can be omitted or a decision made to forgo the completion of this inventory in its entirety.

Profile Analysis

The following assessment profiles can help to facilitate diagnostic clarity when employing the EMI and other screening tools.

Under-reporting of everyday memory complaints/symptoms is suggested by the following constellation of findings:

- Steadfast denial of a distal and/or recent history of cognitive change in the clinical interview. This is often associated with comments like “I’m feeling fine,” “I’m old now, everyone my age is complaining about their memory” and “I wish my family would just leave me alone about this.”
- These protestations are frequently seen in the context of at least mildly severe cognitive difficulties based on the interview- based mental status. This is likely to involve one or more of following: Mild and circumscribed difficulties with temporal orientation; difficulty providing an adequate psychosocial and medical history, tangential thinking and/or word finding difficulties as well as relatively poor memory/recall for prominent recent/current national and/or international events.
- Maximally low scores on self-report anxiety and depressive mood scales.
- Consistently low 1 to 10 ratings on the EMI—typically no higher than 2-3/10—“Minimal problems.” Cognitive complaints/symptoms, if reported, are also characterized as not interfering with everyday functioning or worsening over time.
- Under-reporting is also highly associated with denial of any recent functional decline related to cognitive difficulties or any concern/worry about one’s neurocognitive status. Often, there is minimal, if any, endorsement of compensatory strategies to bolster everyday memory.
- Relatively poor performance on a cognitive screening test with scores in the range for possible DSM-5 diagnoses of Mild Neurocognitive Disorder or Major Neurocognitive Disorder—mild to sometimes moderate severity.
- Informant (s) who report a consistent and credible picture of concerning cognitive change and functional decline regarding performance of “instrumental “activities of daily living over months and sometimes the past year or more.

This profile is reasonably suspicious for Anosognosia which roughly translates to “denial of illness” or “lack of insight” into symptoms/mental status change (Pollak, 2021). This dif-

ficulty is common among patients with acute onset, chronic or progressive neurologic disease which significantly impacts neuro-cognitive functioning. This can involve one or more cerebral vascular events like a right hemisphere and/or frontal lobe infarction or hemorrhage.

Anosognosia is also strongly linked to a diagnosis of Mild Neurocognitive Disorder especially when this syndrome is likely referable to underlying and relatively early stage slowly progressive neurodegenerative conditions like Alzheimer's Disease or Frontotemporal Lobar Degeneration which are often accompanied by limited or poor insight**.**

Additionally, under-reporting of everyday memory complaints/symptoms is frequently observed in patients with insight- impairing neuropsychiatric illness, most commonly schizophrenia which is strongly associated with long term co-occurring neuro-cognitive impairment **(**Pollak, 2021). In some instances, this is followed by a worsening neuro-cognitive status in older age and an eventual additional diagnosis of a Major Neurocognitive Disorder of varied type (Stroup, Olfson, Huang, Wall, Goldberg, Devanand & Gerhard, 2021).

A characterologic predilection to minimize or deny a range of neuropsychiatric complaints/symptoms can be amplified by insight - impairing neuropsychiatric illness like schizophrenia or neurodegenerative disorders like Alzheimer's Disease and Frontotemporal Lobar Degeneration.

Over-reporting of everyday memory complaints/symptoms is suggested by the following pattern of findings:

- Report of multiple and severe complaints/symptoms during the clinical interview and in response to self-report inventories like the EMI as well as psychiatric symptom questionnaires.

  Regarding the EMI this involves ratings of 8-10/10 indicative of "Major problems" for most if not all of the cognitive difficulties/symptoms included on this inventory coupled with report of significant disruption in everyday functioning as a consequence of these symptoms and a worsening of neuro-cognitive difficulties over time. The patient is likely to deny use of compensatory strategies to try to improve their symptoms or minimize their utility when acknowledged.
- An absence of clear indicators of cognitive impairment based on the mental status in the interview coupled with the ability to provide a reasonably adequate history.
- More often than not cognitive screening test scores fall within the broad Normal range. However, in cases of suspected Factitious Disorder or Malingering—see below, test scores may fall within Impaired limits despite a generally unremarkable mental status.
- There is no evidence of compromised everyday functioning based on informant report or other data that would be consistent with such persistent and severe neuro-cognitive and neuropsychiatric complaints/symptoms.

Over-reporting can reflect a number of diagnostic possibilities:

- The patient has significantly conflated normative age- related neurocognitive change with clinically significant symptoms. This may be aggravated by a proclivity to overreact, in an anxious/distressed manner, to benign alterations in mental functioning that accompany the aging process.
- An amplification of the clinical significance and severity of cognitive symptoms which can sometimes accompany anxiety and depressive mood disorders as well as somatic symptom disorders.

- A "cry for help" in a patient with real and/or perceived unmet psychosocial needs. In some instances, this dynamic can be expressed as a preoccupation with difficulties with everyday memory and related aspects of cognitive functioning.
- A more or less deliberate attempt to exaggerate or feign cognitive symptoms and sometimes other neuropsychiatric difficulties. This dynamic can be in the service of the adoption of the "sick role" in conditions like Factitious Disorder or motivated by one or more external incentives as reflected in the DSM-5 V code of Malingering (Boone, 2021).

A substantial number of persons with borderline personality disorder over-report cognitive difficulties/symptoms in the interview and on self-report inventories/rating scales usually along with a number of neurologic, neuropsychiatric and somatic complaints/symptoms particularly in response to situational stressors and/or psycho-dynamically mediated triggers. In some instances, the cognitive complaints/symptoms in patients with this clinical syndrome may be referable or at least aggravated by recurrent dissociation (Krause- Yutz, Frost, Chatzaki, Winter, Schmahl, & Elzinga, 2021).

Additional Clinical Profiles

Normative Aging: **S**ome older adults with active and cognitively challenging lifestyles report changes in their everyday memory. The assessment protocols of these patients are negative for suspicion of concerning cognitive change but indicate little, if any, use of compensatory strategies to bolster everyday memory commensurate with the realities of the aging process.

The EMI protocol reflects few, if any, ratings beyond Minor/Mild problems- ratings of 4-5/10, together with the lack of a strong endorsement of use of compensatory strategies: Many more ratings of "Never" and "Sometimes" versus "Always."

In these circumstances there is good awareness of cognitive change on the part of the patient but this is often in the context of denial or minimization of the need for lifestyle adjustments, notably regular use of compensatory strategies, to help counter these bonafide, albeit benign, age- related alterations in mental status.

Anxiety/Depression- Related Everyday Memory Complaints/Symptoms**:** This category includes patients with everyday memory complaints/symptoms referable to new onset, a recurrence or a recent worsening of baseline anxiety and/or depressive mood symptoms of generally mild to moderate severity but who do not have histories of psychotic illness or evidence of concurrent psychotic symptoms (Wright & Persad, 2007).

Assessment findings typically involve the following:

- Preserved ability to provide an adequate history which may include awareness of psychodynamic and/or situational triggers for high base rate complaints/symptoms like anxiety and/or depression.
- A mental status which is significant for anxiety/distress and/or depression but not for obvious cognitive impairment.
- Elevated but not over-reported scores on self-report psychiatric screening tests.
- Near Normal to Normal range scores on a cognitive screening test.
- A number of at least Minor/Mildly severe ratings on the EMI: Ratings of 4-5/10 and above.
- Informant observations which are generally compatible with patient self-report and which support a probable psychiatric basis for the everyday memory complaints/symptoms.

- There is no evidence of a functional decline based on self-report of neuro- cognitive status and the observations of informants.

Neurocognitive Mild Disorder - With Preserved Insight**:** These patients typically present with more or less intact self-awareness regarding what may be a genuine and potentially concerning early change in their neuro-cognitive status. Additional findings are cited below:

- Preserved ability to provide a reasonably good history.
- A generally unremarkable mental status in the interview.
- Psychiatric symptom inventories may be mildly elevated but symptoms of anxiety and depression do not appear to satisfactorily explain the cognitive complaints (Ma, 2020).
- Findings from the EMI include a number of mild to moderately severe ratings of problems with everyday memory: Ratings of Minor/Mild problems- 4-5/10 to Moderate problems: 6-7/10.
- Findings from a cognitive screening examination are often suspicious for a relatively mild and circumscribed negative change from baseline which is not well explained by the effects of longer term and/or more recent onset psychiatric symptoms.
- There may or may not be evidence of a relatively recent mildly severe and circumscribed decline in the ability to perform one or more “instrumental” activities of daily living.

The cognitive change (s) may not become clearly noticeable to significant others for an indefinite period unless the cognitive difficulties worsen and become more widespread leading to increased functional disability. This typically occurs in cases where the underlying etiology is an insidious onset early-stage neurodegenerative process like Alzheimer’s Disease. However, in the short term**,** some patients are able to utilize compensatory strategies to adequately cope with the ongoing changes in their neuro-cognition and/or possess good cognitive reserve thereby “masking” their deficits.

Medically Unexplained Complaints/Symptoms: There are a number of patients with neurocognitive complaints/symptoms, including problems with everyday memory, which are considered to be medically unexplained. These include patients with histories which can be associated with a multiplicity of neuropsychiatric complaints and symptoms: Mild head trauma, fibromyalgia/chronic fatigue, chemotherapy treatment, electroconvulsive therapy/ECT and infections like Lyme Disease and COVID-19 (Husain & Chalder, 2021; Jann, 2020).

Many patients with medically inexplicable cognitive complaints/ symptoms describe their state of mind as involving “brain fog,” “mental fatigue“ and feeling “mentally slowed.” These patients often state that they need additional time/mental effort to “process” new information and/or retrieve recently learned and remote information. They are also likely to report decreased ability to multi-task and/or competently manage multi- step directions/procedures.

A relatively common profile of this admittedly heterogeneous group of patients is as follows:

- Preserved ability to provide an adequate history.
- A generally unremarkable mental status.
- Normal range to sometimes mildly elevated scores on anxiety and depressive mood scales.

- Normal range performance on cognitive screening tests but sometimes “equivocal” findings for possible mild cognitive change.
- Informant report of minimal, if any, cognitive change from baseline and no clearcut accompanying functional decline.

By way of contrast, these patients report a number of fairly significant complaints/symptoms on self-report instruments like the EMI. This includes some ratings within the “Major Problem” classification- ratings of 8-10/10, although the screening test protocol, in its entirety, is not usually considered “over-reported.” Historically, many of these patients have been viewed as probably suffering from situational and/or longer term stressful life experience including an exaggerated reaction to one or more medical conditions or procedures and/or the effects of psychosocial trauma.

In contemporary clinical practice diagnoses of Anxiety Disorder, Depressive Disorder and Somatic Symptom Disorder as well as a rule out of a trauma-related disorder are sometimes made when symptoms persist or worsen over time. In a relatively small number of cases these patients receive diagnoses of Factitious Disorder or Malingering. That said, advances in the understanding of the neurobiological substrates of behavior, together with the use of increasingly sensitive neuro-diagnostic tests, offer some evidence-based support for the everyday memory complaints/symptoms of some of these patients.

For example, there is a subset of patients with histories of mild head injury which involve residual everyday memory complaints/symptoms and other cognitive difficulties (sometimes with concurrent report of functional disability) which are disproportionally severe relative to neurologic and cognitive/neuropsychological test findings and the amount of time which has elapsed since the onset of the injury.

Studies with diffusion tensor imaging highlight white matter change which may be referable to relatively subtle axonal injury due to mild head trauma and which is not evident on “structural” neuro-imaging like CT and MRI (Asken, DesKosky, Clugston, Jaffe & Bauer, 2018); a finding which lends legitimacy to the patient’s report of disruptive and impairing cognitive symptoms.

Likewise, recent studies of patients in recovery from infection by COVID- 19 report high rates of persistent cognitive, affective and somatic complaints/symptoms—a constellation of difficulties referred to as “post-acute sequelae of SARS-Co V-2 infection”—acronym: PASC. This heterogeneous cluster of symptoms significantly impact aspects of executive functioning and performance of some instrumental activities of daily life and is associated with a reduced quality of life. This syndrome may be best understood as the probable outcome of multiple factors which are likely to include pre-existing psychological and medical vulnerabilities, immunological influences and iatrogenic complications of medical treatment for COVID-19 infection (LaSalvia, Maley & Keshaven, 2021).

Recommendations

Research on the psychometric properties of the Everyday Memory Inventory/EFI is clearly needed which, hopefully, would offer empirical support for the clinical utility of this instrument as a self-report neuro-cognitive screening tool including for the profiles and scenarios discussed above. In addition, the development of an informant-based version of this questionnaire would be highly desirable for clinical use as well as for expanding the evidence- base pertaining to the differential diagnosis of everyday memory complaints/symptoms among patients seen by medical psychologists.

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Everyday Memory Inventory/EMI

Name: _____ **Date of Birth:** _____

Age: _____ **Today's Date:** _____

The following questions ask about how well you are recalling and remembering information on a day to day basis.

Based on the 1 to 10 scale cited below how would you rate your everyday memory/recall most days of a typical week. What overall rating would you give.

Please provide a number between 1 and 10 which best reflects your opinion about your everyday recall/memory based on the scale below: **Note: Lower numbers reflect less difficulty recalling and remembering information; higher numbers reflect more difficulty recalling and remembering information.**

1 to 10 Scale: No problems: 1/10, Minimal Problems: 2-3/10, Minor/Mild Problems: 4-5/10, Moderate Problems: 6-7/10, Major Problems: 8-10/10

Overall Rating: /10

Based on the 1 to 10 Scale cited above how are you at recalling/remembering information which occurred:

- Earlier on the same day: /10
- The previous day: /10
- A week ago: /10
- A month ago: /10

Based on the classification below how would you rate your recent/current everyday memory/recall compared to the way it was:

Classification: Better, Same, Worse, Much Worse

- Six months ago: _____
- One year ago: _____
- Three years ago: _____

Based on the 1 to 10 scale cited above please rate the following with regard to how much of problem they are for you to remember/recall most days in a typical week.

- Names of familiar people: /10
- Names of people you recently met: /10
- Matching the faces of familiar people with their names: /10
- Words that you want to use in conversation: /10

- Phone numbers that you just checked: **/10**
- Phone numbers that you use frequently: **/10**
- Directions to places that you have been before: **/10**
- Where you have placed things that you need: **/10**
- Appointments: **/10**
- One or more things that you planned to buy: **/10**
- Going to a store and remembering/recalling what you had planned to buy: **/10**
- Bills that need to be paid: **/10**
- Returning important voice mails, text messages and/or E-Mails: **/10**
- Starting to do something and forgetting what you are doing and/or why you are doing it: **/10**
- Entering a room in your home and/or workplace and having difficulty recalling the reason(s) you are there: **/10**
- Trouble keeping up and retaining what is being talked about in a conversation: **/10**
- Losing track of what you are talking about in a conversation: **/10**
- Remembering what was discussed during a recent conversation: **/10**
- Problems remembering to pass along important information to another person: **/10**
- Problems recalling whether you have already told someone something: **/10**
- Mixing up in your mind/becoming confused about information you were recently told: **/10**
- Remembering the content of television programs, movies, podcasts etc. from the previous day: **/10**
- Remembering the content of television programs, movies, podcasts etc. from earlier on the same day: **/10**
- Remembering material that you read Magazines, books etc. the previous day: **/10**
- Remembering material that you read: Magazines, books etc. earlier on the same day: **/10**
- Remembering whether you recently took one or more of your medications: **/10**
- Trouble recalling when in time an important recent event/situation happened **/10**

Based on the classification below, please rate the degree to which the problems with everyday memory cited above using the 1 to 10 Scale are, in general, interfering with your daily functioning. Circle one of the five categories below.

Classification: Not at all, Hardly Ever, Sometimes, Often, All of the time.

Based on the classification below circle the category that best describes how concerned/ worried you are about your everyday memory.

Not Concerned, Somewhat Concerned, Very Concerned

How often do you use one or more of the following to help you with recalling/remembering information?

Classification: Never, Sometimes, Always

- Keep an appointment book, calendar and/or scheduler:
- Maintain a "memory notebook" for essential information:
- Make "to do" lists:
- Write yourself reminder notes:
- Keep things that you need in the same place where you will notice them easily:
- Keep important /needed information in your phone and/or your computer that you can easily access:
- Keep to routines when completing certain daily activities/tasks to avoid forgetting or omitting steps
- Checking periodically through the day that you have your keys, wallet, phone etc. when coming and going from one place to another:
- Use an organizer/planner for your medications:
- Rely on others for needed information that you are inclined to forget:
- Employ phone aids/apps (includes reminder apps; alarms) to improve your everyday memory:
- Eat certain food (s) and/or take "over the counter" supplements to i mprove your everyday memory:
- Take prescribed memory enhancement medication:
- Other compensatory interventions/strategies- please specify:

If you answered **Sometimes or Always to** any of the above, please indicate using a 1 to 10 Scale how helpful, overall, these interventions/strategies have been: **Note:** Lower numbers indicate the interventions/strategies are, in general, less helpful; higher numbers indicate the interventions/ strategies are, in general, more helpful: **/10**.

Please indicate below any additional information, including other difficulties that you may be having with your everyday memory/recall, which have not been covered above.

_____

_____