

Mental Health through Prism of Neuro-Integral Modeling

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Abstract

The unexpected changes of societal and professional aspects have taken a toll on the mental health of each individual throughout the globe. The advancements being registered on each front has led to a state of oscillating work – life – mental peace balance throwing mental health perspectives into thin air. Coupled up with climate change, these have registered cascading effects on mental health considerations. The Indian Institute of Management, Gaya (India) in a Conference has opined, “Ulrich Beck, in an almost prophetic vision, speaks about the emergence of a modernity that is increasingly structured around and affected by new qualities of risk which are predominantly undetectable, inescapable, and irreversible”. In an International Research Conference on Mindfulness (IRCM), the Institute opined that, “As time passes and technology advances, the pace of change continues without slowing down, gently influencing our lives. At the same time, when almost every human mind has been engulfed in stress, mindfulness has emerged like a bud blooming in adversity. Mindfulness to our mind is like a string to a kite that directs it on its path and prevents it from drifting away. Mindfulness molds a person into a better human being, for the self and for the society”. This paper deals with the case study of a Subject who was a victim of mental depression and how mental management could be successfully registered through the Prism of Neuro-Integral Modeling.

Key Words: Neurointegral Methodology, Mental Health, Neuro-Integral Modeling, Wellbeing and Adapted Neurosciences.

Introduction

This is the case of an 82 year old female Subject, who reported with severe depression symptoms. Her vitals were reportedly normal and showed no signs of any external injury. There were no reports of any emotional problems in relationship, there were no cases of death of family member or friend, there were no reports of any job loss, financial problems, problems of housing or school, legal problems, arrests, divorce, parenting problems, victim of physical abuse, forced to have sex, victim of sexual abuse or being afraid of partner and or any member of family. She was married and blessed with three Children. She was not a sports person, never consumed alcohol or tobacco, never consumed drugs and suffered any body pain. But, she was suffering from insomnia. Subject has never received any treatment for psychiatry or disability. As an older adult, she appeared in the company of her daughter, eldest of three siblings. With no apparent physical illness, the daughter stated that all the children constantly socialized with the Subject.

Reason for Consultation

Female Subject, over 82 year old, stay-at-home spouse who lived alone at that time. Subject was an older adult who lived alone and had been in a state of alertness and fear of being alone for two months. This symptom was generated by the accident of a neighbor of same age. The neighbor referred to lived in the same conditions as her: alone, and it was difficult to help her at the time of the accident. Due to this event, Subject became distressed at being alone in her house. She resorted to calling her children to stay with her, but she refused to move from her home to any of their homes. Without relative mental illness, despite her age she was an oriented, lucid person, with good eating habits and good physical build. Subject shows obvious signs of aging, as well as a notable reduction in her motor skills.

Personal Medical History

	NC	YES	NC
Nervous system: Headaches, seizures, dizziness, paralysis, mental disorders.	x		x
Cardiovascular: Hypertension, heart attacks, angina, murmurs, arrhythmia, coronary heart disease			
hemolymphatic system: Anemia, blood disorders or coagulation problems.	x		x
Respiratory: Asthma, emphysema, laryngeal or bronchi affection			
Digestive system: Ulcer, gastritis, cirrhosis, diverticula, colitis, hemorrhoids	x		x
Urinary: Kidney failure, stones, blood in urine, frequent infections, disease of prostate			
Sense organs: Cataracts, coryza, deafness, nearsightedness, otitis, deviated septum, sinusitis, tonsillitis	x		x
Orthosteoarticular: Spine diseases, knee pathologies, deformities			
Endocrine - metabolic: Diabetes, thyroid diseases, alterations in blood fats or uric acids	x		x
Infectious: Hepatitis, Tuberculosis, AIDS or HIV (+), sexually transmitted diseases			
Immunological: Lupus, rheumatoid arthritis, others	x	x	
Surgeries, traumas, (accidents)			
Cancer, tumors, radiotherapy or chemotherapy	x		x
Gynecological: Tumors or masses in ovaries, uterus, abnormal menstruation			
Mammary glands: Pains, masses, secretions	x		x
Pathological or abnormal vaginal cytology			
She is not pregnant	x		x
Treatment with medication			
Allergic reactions	x		x
Anti-coagulated			
Recent infections	x		
Blood type = O +			

SUBJECT EVOLUTION**Session No. 1**

Objective Evaluate the Subject's condition, interview and case analysis.

Description In this session, work began on therapeutic strategies to address the Subject's fear of loneliness. Coping techniques were introduced and emotional support was provided. Therapy began with a conversation about strategies Subject could use to feel safer in her home. Practical measures to increase their sense of security were discussed, such as improving lighting, installing additional locks and carrying an emergency telephone. In addition to practical measures, emotional support was discussed and the Subject's social networks were explored. Subject was encouraged to communicate more with friends and family, and the possibility of joining local support groups was suggested. Subject also shared her anxiety about the possibility of falling at home. The importance of fall prevention was discussed and strengthening and balance exercises were suggested. The session concluded with an assessment of how Subject felt about the strategies discussed and a follow-up appointment was scheduled.

Activities

- Discussion on practical measures to increase the feeling of security at home.
- Exploring social networks and possible connections with friends and family.
- Conversation about fall prevention and strengthening exercises.

- Evaluation of the Subject 's receptivity to therapeutic strategies.

Observations

Subject showed interest and willingness to implement practical safety measures in her home.

She expressed her desire to connect more with friends and family.

She appreciated the importance of fall prevention and was willing to work on her balance and physical strength.

Diagnosis	Signs and symptoms	Consequences
Generalized anxiety disorder. Specific situational phobia (fear of being alone, of getting hurt). Major depressive disorder. Motor shortening and decreased pro-prioception.	Sadness. Wakefulness, sleep disturbance. Feeling of emptiness, feeling of guilt. Vulnerability. Excessive attachment to her family. Clumsiness and fear when walking.	Excessive crying. Dependence on family members, insomnia. Intense feeling of vulnerability. Little mobility and hopelessness.

Session No. 2

Objective Training the family about brain behavior and VR training with neurofeedback and biofeedback.

Description The third session focused on continuing Virtual Reality (VR) training to help Teresa faced her fear of loneliness gradually. It was conducted in a comfortable and safe environment. Teresa put on the VR headset and immersed herself in a virtual environment designed specifically for her therapy. The virtual environment represented situations and places that normally caused her anxiety due to her fear of loneliness. During the session, Teresa experienced gradual exposure to these virtual scenarios. She started with less challenging situations, and as she gained confidence, she moved on to situations that tended to cause her more anxiety. Guide her through relaxation and breathing techniques to help her stay calm during the exposure. Teresa was able to practice facing her fears in a safe and controlled environment. She was encouraged to express her thoughts and emotions during the experience. The session concluded with a conversation about Teresa's accomplishments and how she felt during the VR exposure. The importance of continued practice was highlighted and a follow-up appointment was scheduled.

Activities

- Continuation of Virtual Reality (VR) training with focus on gradual exposure.
- Virtual exposure to situations that generate anxiety due to fear of loneliness.
- Use of relaxation and breathing techniques during exposure.

Observations

Teresa showed a willingness to face her fears in the virtual environment.

She expressed her thoughts and emotions during the experience.

Session No. 3

Objective Progressive visualization and laughter yoga session.

Description In this session, the main objective was to help Teresa relax and face her worries in a positive and effective way. The therapy took place in a quiet and comfortable space. Teresa took a comfortable chair as I guided her through a progressive visualization. The session began with a series of breathing exercises for Teresa to focus inward and relax. She closed her eyes and immersed herself in the experience, slowly breathing in and out all the stress and worry she had built up. As she followed the instructions, her body began to relax, and her thoughts became calmer. Then, I guide her through a progressive visualization. Teresa immersed herself in a safe and welcoming place, where she felt completely protected and accompanied. This environment gave her a sense of security and comfort that helped her face her fear of loneliness. As the visualization progressed, Teresa began to experience a deep sense of inner peace. She realized that she could feel surrounded by love and support even when she was alone. This experience helped change her perception of loneliness and reminded her that she always had internal resources to face her fears. After the visualization, I introduced Teresa to the Laughter Yoga session. We performed contagious laughter exercises that helped release additional tension and create an atmosphere of joy and positivity. The genuine, shared laughter during this therapy was also intended to improve her mood and increase her self-confidence. At the end of the session, Teresa felt noticeably relaxed and with a renewed sense of hope.

Activities

- Progressive visualization to help Teresa relax and release accumulated tension related to her fear of loneliness.
- Laughter yoga to help Teresa release additional tension and create an environment of joy and positivity.

Observations

Subject was receptive to progressive visualization and laughter yoga techniques.

Teresa experienced a feeling of relaxation and hope at the end of the session.

Session No. 4

Objective Jacobson technique and chi kung training.

Description The session took place in a calm and serene environment, designed to encourage relaxation and concentration. Teresa sat comfortably in a chair, ready to learn techniques that would help her manage her fear of loneliness. We begin by explaining Jacobson's progressive relaxation technique. I guided Teresa to consciously identify and tense various muscle groups in her body, and then to deliberately release that tension. This process helped Teresa recognize the difference between tension and relaxation in her body. As she progressed with Jacobson's technique, Teresa noticed how her body became more relaxed and her worries slowly faded away. This technique provided her with an effective tool to relieve tension and anxiety related to her fear of loneliness. After completing the Jacobson technique, we introduced the practice of Chi Kung. I explained to her how Chi Kung focused on the regulation of life energy through breathing and gentle movement of the body. Teresa learned simple Chi Kung exercises that she could do to calm her mind and maintain a state of emotional balance. During Chi Kung practice, Teresa focused on her breathing and the fluidity of her movements. She realized how this ancient practice could help her improve her physical and emotional well-being.

Activities

- Explanation of Jacobson's progressive relaxation technique.

- Practice of Jacobson's progressive relaxation technique.
- Explanation of Chi Kung practice.
- Practice of simple Chi Kung exercises.

Observations

Teresa was receptive to Jacobson and Chi Kung's progressive relaxation techniques.

Teresa experienced a feeling of relaxation and balance at the end of the session.

Session No.5

Objective Reinforce progressive visualization and brain gymnastics.

Description The reinforcement session with Teresa was an important step in her process of overcoming the fear of loneliness that arose after the incident with her neighbor. Teresa showed great courage and determination to face her fears. We began the session by reinforcing the progressive visualization technique, which had proven to be a powerful tool to change the perception of loneliness and help Teresa feel safer in her home. Through visualization, Teresa was guided to imagine her environment as a safe and welcoming place, where she felt protected and at peace. Then, we incorporated brain gymnastics as part of her treatment. This activity helped Teresa stay busy and distracted from her fears. Brain gymnastics involved mental exercises designed to stimulate her mind and promote concentration and emotional well-being. By the end of the session, Teresa felt noticeably calmer and confident in her abilities to deal with her fear of loneliness. She had shown great progress in her recovery process and was willing to continue working on her emotional well-being.

Activities

- Reinforcement of the progressive visualization technique to change the perception of loneliness and feel safer in her home.
- Brain gymnastics to keep Teresa busy and distracted from her fears.

Observations

- Teresa was receptive and committed to the progressive visualization and brain gymnastics techniques.
- At the end of the session, Teresa experienced a feeling of relaxation and security, indicating progress in her treatment.

Session No. 6

Objective Diaphragmatic breathing training and mindfulness scenes with VR.

Description In this session, we focused on diaphragmatic breathing training and mindfulness practice using Virtual Reality (VR). Both techniques are effective in relaxing the body and mind, and can help reduce anxiety. We begin with an explanation of the basics of diaphragmatic breathing. Teresa learned how to use her diaphragm to breathe deeply and in a controlled manner. We practiced diaphragmatic breathing exercises together, allowing her to experience the feeling of relaxation that this technique can provide. Then, we introduced VR as a tool to practice mindfulness. Teresa selected a virtual scene of a beautiful garden. Through VR, she experienced the feeling of being present in that virtual environment. We practiced mindfulness techniques in the virtual scene, which allowed her to be fully present in the moment and reduce anxiety related

to her fear of loneliness. At the end of the session, Teresa felt noticeably more relaxed and composed. She had demonstrated receptivity to diaphragmatic breathing and mindfulness techniques and was acquiring valuable tools for her emotional well-being.

Activities

- Explanation of the basic concepts of diaphragmatic breathing.
- Practice diaphragmatic breathing exercises.
- Introduction to VR as a tool to practice mindfulness.
- Selection of a virtual garden scene.
- Practice of mindfulness techniques in the virtual scene.

Observations

Teresa was receptive and committed to diaphragmatic breathing and mindfulness techniques.

At the end of the session, Teresa experienced a feeling of relaxation and serenity, indicating continued progress in her treatment.

Session No. 7

Objective Family training session in Mindfulness.

Description In this session, we focus on family training in Mindfulness, an effective practice to reduce anxiety and stress. We also discuss how practicing Mindfulness in the family context can strengthen family bonds and provide support to family members who are experiencing difficulties. We begin by explaining the basic concepts of Mindfulness to Teresa's family. Together, we practiced a brief Mindfulness meditation that allowed them to experience the present moment and reduce tension. Afterwards, we had a discussion about how to apply Mindfulness in everyday life and how this practice could be beneficial for everyone, not just Teresa. Teresa's family was receptive and committed to the practice of Mindfulness. It was evident that they were willing to support Teresa in her process of overcoming her fear of loneliness. During the session, Teresa felt supported and understood by her family, which helped strengthen her confidence on the road to recovery.

Activities

- Explanation of the basic concepts of Mindfulness.
- Practice a brief Mindfulness meditation.
- Discussion on how to apply Mindfulness in everyday life.

Observations

- The family was committed to the practice of Mindfulness and willing to support Teresa.
- Teresa felt supported and understood by her family during the session, which contributed to her recovery process.

Session No. 8

Objective Completion of VR sessions and Jacobson technical reinforcement.

Description The session focused on completing the VR sessions and reinforcing the Jacobson technique. Teresa had made considerable progress in her recovery process. We began the session reflecting on Teresa's journey. We talked about the challenges she had faced and the achievements she had made during treatment. Teresa expressed her gratitude for the support she had received and for the progress she had made in overcoming her fear of loneliness. We discussed Teresa's progress and how she felt safer being left alone. She shared how she had begun to enjoy her time alone and how her perception of loneliness had changed. We encouraged Teresa to continue practicing the techniques she had learned during treatment, including the Jacobson technique. I reminded her of the importance of staying in touch if she needed additional support in the future. Teresa was visibly excited and relieved to have completed her treatment. She expressed her gratitude for the support provided and was committed to continuing to work on her recovery.

Activities

- Reflection on Teresa's journey.
- Expression of gratitude for Teresa's progress.
- Discussion about Teresa's progress.
- I encourage Teresa to keep practicing.
- Teresa's commitment to stay connected.

Observations

- Teresa was excited and relieved to complete her treatment.
- I appreciated the support provided.
- She was committed to continuing to work on her recovery and staying in touch, if necessary, in the future.

Session No. 9

Objective Neuroecology of emotions workshop.

Description In this session, we focused on a neuroecology of emotions workshop, which provided a safe and welcoming space for Teresa to explore her emotions and learn to manage them effectively. The workshop focused on understanding how emotions work at the brain level and how to use this understanding to confront the fear of loneliness more effectively. We began by introducing the basic concepts of the neuroecology of emotions. We explored how fear and anxiety affect a person's brain and emotional well-being. Through neuroscience-based presentations, Teresa learned strategies to regulate her emotions and reduce the stress response. The workshop provided a space for Teresa and other participants to share their experiences and emotions related to the fear of loneliness. Teresa was visibly engaged and motivated throughout the session. She felt connected to the other participants and was able to share her emotional struggles openly and respectfully. At the end of the workshop, Teresa gained a greater understanding of her emotions and how to deal with them. She had learned neuroscience-based strategies to manage her anxiety and fear of loneliness more effectively.

Activities

- Introduction to the basic concepts of the neuroecology of emotions.
- Exploring how fear and anxiety affect the brain and emotional well-being.
- Learning strategies based on neuroscience to regulate emotions and reduce the stress response.
- Share experiences and emotions related to the fear of loneliness.

Observations

- Teresa actively participated and was committed during the workshop.
- She felt connected to the other participants and was able to share their emotional struggles.
- She gained a greater understanding of her emotions and how to deal with them through the strategies learned.

Conclusions

Teresa's case and her nine therapy sessions illustrate a story of transformation and improvement. From the beginning, Teresa demonstrated a determined commitment to facing her fear of loneliness. Throughout the sessions, various therapeutic techniques were used, such as progressive visualization, Laughter Yoga, diaphragmatic breathing, Virtual Reality, mindfulness, neuroecology of emotions and the Jacobson technique, providing Teresa with tools effective in controlling her anxiety and changing her perception of loneliness. Her family's involvement strengthened her support network. Teresa became empowered and discovered a greater understanding of her emotions, which led her to feel more confident and able to face emotional challenges, highlighting the importance of seeking help and working together to overcome emotional difficulties and improve quality of life. Treatment results reflect considerable progress in overall health. Specifically, she has experienced notable improvements in the following areas

Managing Fear of Loneliness She has achieved a significant reduction in her fear of loneliness, which was the main concern that led her to seek therapy. Through various therapeutic techniques, she has learned to change her perception of loneliness and to feel safer and more comfortable when she is alone.

Anxiety Reduction The treatment has helped Subject reduce her anxiety level. Relaxation strategies, such as progressive visualization, diaphragmatic breathing, and mindfulness, have helped her feel calmer and more relaxed in situations that previously caused anxiety.

Emotional Empowerment Through therapy, she has acquired effective tools to regulate her emotions. She has learned to recognize and control her emotional responses, which has given her a greater sense of control and self-confidence.

Strengthening Family Relationships Her family's participation in one of the sessions has strengthened family ties and provided an additional support system. The family is committed to supporting her in her recovery process.

Application of Therapeutic Techniques Subject has demonstrated receptivity and ability to apply a variety of therapeutic techniques, from progressive visualization to Virtual Reality and the practice of mindfulness. These skills have allowed her to face her fears more effectively.

In summary, the treatment has had a positive impact on the Subject 's life by helping her face her fear of loneliness, reducing anxiety, strengthening her family relationships, and providing her with effective emotional tools for the future. These results reflect considerable progress in her overall health.

Factors that contributed to the success of the treatment

- **Subject Commitment** Subject demonstrated genuine commitment and admirable determination to face her fears and work on her emotional well-being from the beginning of treatment.
- **Therapeutic Support** The therapeutic relationship I established with Subject was essential for her progress. I provided emotional support and guidance, allowing a safe space for her to explore her fears and concerns.
- **Diversity of Therapeutic Techniques** The use of a variety of therapeutic techniques, from progressive visualization to Laughter Yoga, diaphragmatic breathing and Virtual Reality, provided Subject with a wide range of tools to address her concerns and emotions.
- **Family Participation** The active participation of the Subject 's family in one of the sessions strengthened the support system and contributed to her recovery. Family support was a key factor in her progress.

Concluding Observations

1. **Maintenance of Therapeutic Practices** Continuing the regular application of the therapeutic techniques and strategies learned during treatment is essential to maintain progress. The constant practice of progressive visualization, diaphragmatic breathing, mindfulness and other tools will allow Subject to maintain control over their anxiety and emotions.
2. **Open Communication** Encouraging open and honest communication with her support network, including family and close friends, is essential. Sharing her thoughts and emotions will help maintain an effective support system and strengthen relationships.
3. **Continuous Self-Care** Prioritizing self-care is essential for long-term well-being. Establishing a self-care routine that includes exercise, healthy eating, adequate rest, and activities that bring joy and relaxation will be beneficial.
4. **Goal Setting** Continuing to set personal and professional goals can give her a sense of purpose and direction. These goals can help maintain her motivation and provide a positive focus in her life.
5. **Remember Progress** In times of difficulty; remember the progress she has made throughout treatment. This reminder can be a source of motivation and emotional strength.
6. **Practice Gratitude** Cultivating an attitude of gratitude toward the positive things in her life can contribute to her emotional well-being. Regularly taking a moment to reflect on the things she is grateful for can help her maintain a positive outlook.
7. **Sharing Your Story** If you feel comfortable, considering sharing your experience and story of overcoming with others can be inspiring and can help destigmatize emotional challenges.

In summary, the path to overcoming fears and anxiety is continuous, and these tips can serve as a guide to maintain and strengthen the progress made in treatment.

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