

THE ROLE OF EXPRESSIVE ART THERAPY AND NEUROFEEDBACK ASSESSMENTS IN IMPROVING CLINICAL HYPNOSIS ADHERENCE AMONG ANXIETY SUFFERERS

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Abstract

Despite worldwide concern on anxiety, preventive measures in public health industries remained scarce. Previous studies found that therapeutic adherence is vital for the treatment efficacy of anxiety sufferers; polyvagal theory may address adherence issues by considering biopsychosocial perspectives. As such, this research intends to generate polyvagal-focused therapeutic guidance in line with anxiety sufferers. This study examines the effectiveness of the Creative Brain Health Intervention (CBHI), which includes expressive art therapy and neurofeedback assessments, as well as clinical hypnosis for anxiety sufferers. The study utilizes a qualitative method with a grounded theory approach to explore helpful and unhelpful factors of CBHI. The study samples were found to have minimal scores at a mild level (on anxiety or stress subscales) of eight (for the anxiety subscale) and 15 (for the stress counterpart) under DASS-21 following a screening procedure. Particularly, the samples were analyzed after CBHI through in-depth interviews for data collection. A total of 45 participants were recruited to generate the outcomes of this study, and the results show that mental healthcare can be enhanced by addressing adherence, stigma, and support through a public system and education, backed by six domains for anxiety treatment and innovative therapeutic approaches. The study recommends early intervention and prevention phases in future research to address stigmas and prevent mental disorder. Resultantly, therapeutic adherence could be enhanced with a polyvagal-focused framework CBHI established for this study. Consequently, the study suggests insights for developing therapeutic guidance to enhance adherence and prevent full-fledged anxiety complexities.

Keywords: Therapeutic Adherence, Clinical hypnosis, Anxiety Sufferers, Malaysia

Introduction

Individuals in developed and industrialized cultures are currently undergoing anxiety-oriented complexities at an alarming rate. Anxiety is a complex mental health concern that is characterized by persistent feelings of apprehension, worry, and unease, often accompanied by physical symptoms like palpitations, sweating, and shortness of breath (1). Furthermore, anxiety may involve perpetual impulsiveness and despair against an integrated lifestyle (2). In this vein, anxiousness is a primarily social and mental health issue. The study focuses on establishing a polyvagal-focused therapeutic guidance related evaluation instrument due to several gaps in the current mental health care system. Firstly, there is a global mental health concern

that needs attention, and the World Health Organisation (WHO) highlights the need to increase awareness among the general public for mental health care, especially therapeutic adherence, as it relates to productivity (3). Non-adherence may lead to higher hospitalization and resource utilization rates (4, 5). Secondly, in Malaysia, anxiety sufferers outnumber depression sufferers, and there is a lack of mental healthcare specialists (6, 7). Thirdly, most therapists rely on verbal-focused psychological therapies such as Cognitive Behavioural Therapy (CBT), which may overlook non-verbal communication (8, 9). Lastly, recent research highlights the importance of right-brain-focused interventions, which involve unconscious affective and relational roles (10). To address these gaps, the study explores non-verbal psychological therapies

such as neurofeedback assessment, expressive art therapy assessment, and clinical hypnosis, from a polyvagal theory viewpoint. Polyvagal theory suggests that our autonomic nervous system plays a crucial role in regulating our emotions and responses to stress (11). The goal of this study was to investigate how anxiety sufferers' view and experience clinical hypnosis adherence during the Creative Brain Health Intervention (CBHI) and to identify the processes and factors that contribute to helpful or unhelpful outcomes. The study examined how expressive art therapy and neurofeedback assessment impact anxiety sufferers' adherence to clinical hypnosis, and identified the moderating factors that influence their views on hypnosis. Processes were defined as a series of events under investigation, while moderating factors were identified as the influencing agents of perspectives.

Global Mental Health Concern and the Need for Public Mental Health Care

The World Health Organization emphasizes the importance of mental health awareness and therapeutic compliance among young adults, to benefit communities and increase productivity (3). Mental health and mental illness are not the same thing, and positive mental health reflects practical problem-solving capacities (12-15). Public mental health care is essential due to the high prevalence of mental disorders and their impact on physical health and basic rights. A comprehensive approach, that includes non-health sectors and effective public mental health care strategies, is needed to address these concerns (15). The centralizing model for public mental health includes the public health methods, biopsychosocial framework, and life course perspective (16)

Malaysian Mental Health Concern for Anxiety Sufferers

According to the Malaysia National Health and Morbidity Survey 2017, mental illness could have become the second-biggest health concern in Malaysia by 2020. Every three in 10 adults aged above 16 years required mental healthcare, and 4.2 million people acutely suffered from psychological issues that required resolution (7). However, mental health is still not covered by most Malaysian health insurance policies (17), and there is a need for enhanced coping mechanisms, social aids, and social stigma management in mental health research (18). Psychiatric referral patterns have been studied, but not much research has been done on exploring the referral to psychological services in Malaysia (19). Non-verbal psychological therapies such as clinical hypnotherapy, expressive art therapy, and neurofeedback are self-regulated under various associations in Malaysia. Clinical psychologists and counsellors are the primary providers of verbal-oriented psychological therapies in Malaysia (20, 21).

Neurofeedback, expressive art therapy, and clinical hypnosis are considered non-verbal psychological therapies due to their emphasis on right-brain communication, which involves non-verbal expressions, body language,

and senses. The traditional Cognitive Behavioural Therapy (CBT) therapy, which involves verbal communication, lacks emphasis on non-verbal communication and the right hemisphere of the brain. As a result, non-verbal psychological therapies such as neurofeedback, expressive art therapy, and clinical hypnosis have been recommended as alternatives to traditional therapy. Neurofeedback and expressive art therapy have been shown to help improve communication patterns, deal with alliance ruptures, and improve collaborative behavior, leading to better adherence to treatment. Clinical hypnosis, in particular, is recommended as it requires lesser commitment from the participant and can potentially address the drawbacks of time-consuming and commitment concerns associated with CBT (9-10, 22-26). Summarily, diverse empirically proven verbal and non-verbal mental healthcare strategies were evident, such as verbal-oriented psychological therapies (cognitive behavioural therapy and counselling) and non-verbal psychological therapies (expressive art therapy, clinical hypnosis, and neurofeedback). Given that the aforementioned therapies require highly qualified mental health professionals, the local mental health system needs to be expanded.

The necessity for non-verbal psychological therapies for anxiety sufferers

David et al. (26), argued that Cognitive Behavioural Therapy (CBT) has become the gold standard of psychotherapy because it has been extensively studied and empirically validated. CBT is a structured and goal-oriented therapy that focuses on addressing the negative thoughts and behaviours associated with mental health disorders. CBT is effective in treating various mental health disorders, including anxiety. However, its success in treating anxiety remains ambiguous (25), and it heavily relies on the left hemisphere of the brain (9), which neglects non-verbal communication, imagination, and the perspective of the right hemisphere of the brain. Incorporating right brain processes into anxiety treatment may lead to more effective psychological therapy.

This research suggests that non-verbal psychological therapies, such as neurofeedback and expressive art therapy, could be effective in addressing left-brain conscious cognition and improving therapeutic presence through right-brain communication. The study also recommends clinical hypnosis, specifically self-hypnosis, as a potentially effective treatment due to its shorter treatment period and lower commitment level (23). The use of clinical hypnosis may address the drawbacks of cognitive-behavioral therapy (CBT) in terms of time-consuming and commitment concerns by fostering helpful moderating factors for therapeutic adherence. Additionally, the study emphasizes the importance of developing a positive therapeutic alliance early on in the therapeutic process to achieve a desired therapeutic outcome.

The Kinetic-House-Tree-Person (KHTP) drawing is a form of expressive art therapy assessment that offers symbolic images to the unconscious mind, providing non-verbal

insights and psychosocial support. The KHTP method investigates the interaction between the house, person, and tree to facilitate recovery processes, particularly for individuals with linguistic and verbalisation difficulties. Expressive art therapy assessment may be useful in exploring the biopsychosocial aspects of compassion in influencing therapeutic adherence through mechanisms such as validation, guidance, and physiological regulation (27-32).

Neurofeedback assessment is a non-invasive, secure, and painless protocol that interprets brainwave patterns to gain insights into how they relate to mental health conditions. The approach can be useful in identifying the autonomic limitations and Behavioural Inhibition System (BIS) activation in the brain, as well as novel EEG brain wave activities in individuals who experience anxiety based on imagery (33). Additionally, neurofeedback assessment can help healthcare professionals gain a deeper understanding of the autonomic nervous system, which can be beneficial in the development of better treatment plans for anxiety sufferers. Neurofeedback assessment uses quantitative electroencephalography (QEEG) technology to identify brainwave patterns and provide a better understanding of the neurophysiological factors that contribute to anxiety (34). The approach allows individuals to recognize their biological brainwave occurrences, such as hyper or hypo-arousal, through the polyvagal theory strategy. The use of neurofeedback assessment can provide additional aid for healthcare professionals in identifying the specific symptoms involving hyperactivity, anxiety, and learning disorders (34, 35). Although neurofeedback assessment is not a commonly regulated mental health process or diagnostic instrument in the market, the approach offers a sense of embodiment for participants (36). The approach provides a sound comprehension between physical and psychological states by penetrating physical experiences that can induce psychological implications. To overcome the intricacies and challenges of mental health disorder diagnosis, novel neurotechnology implementations are necessary for mental health issue assessments (37). Neurofeedback assessment combined with expressive art therapy can offer a holistic approach to clinical hypnosis for anxiety-related disorders by accessing the unconscious mind. This approach provides insight into brainwave patterns and autonomic states and facilitates symbolic expression of the unconscious mind. It can lead to a deeper understanding of the individual's symptoms and contribute to effective treatment. Research has shown that neurofeedback can be an effective tool for treating symptoms such as anxiety and learning disorders by targeting specific brainwave patterns (34-37). On the other hand, expressive art therapy assessment allows individuals to express their unconscious thoughts and feelings through artistic means. By combining these two approaches, clinicians can access both the conscious and unconscious aspects of the individual's psychological condition, leading to a more comprehensive understanding of the individual's symptoms. The integration of neurofeedback assessment and expressive art therapy assessment

can also enhance the effectiveness of clinical hypnosis. Clinical hypnosis involves accessing the unconscious mind to facilitate therapeutic change (35). By using neurofeedback assessment and expressive art therapy assessment, clinicians can gain a deeper understanding of the individual's unconscious processes, allowing for more targeted and effective hypnosis sessions. In conclusion, the integration of neurofeedback assessment and expressive art therapy assessment can provide a more holistic approach to clinical hypnosis by targeting both conscious and unconscious aspects of psychological conditions. This approach can lead to a more comprehensive understanding of the individual's symptoms and enhance the adherence towards clinical hypnosis.

Significance of the study

The Malaysia Mental Healthcare Performance Technical Report 2016 is a study conducted in Kuala Lumpur, Malaysia. It aimed to examine the rise of anxiety among urban populations suffering from subclinical mental health concerns (6). In line with the study done by Ibrahim et al. (38), the study recommended psychoeducation-oriented preventive strategies to improve mental health treatment adherence and individuals' overall psychological well-being. Early detection and treatment were provided at primary healthcare levels through community-oriented local mental health centres. Non-verbal psychological therapies could potentially provide an alternative strategy to enhance local healthcare service policy access. The prevalence of depression in Malaysians aged 18 years and above was found to be 2.3%, according to the National Health Morbidity Survey (NHMS), 2019 (6, 7). The prevalence of anxiety is not mentioned in the NHMS 2019, but it has recommended that various public health sectors be involved in implementing various strategies for public mental health care (15). The study argues that randomized controlled trials (RCTs) are limited in exploring the practical, political, financial, and ethical factors in understanding the ways to improve preventive intervention in public mental health (15). Instead, qualitative studies, such as constructivist grounded theory, can provide better knowledge in understanding the adherence phenomenon in a life course approach aspect. The study examines the processes and moderating factors that support anxiety sufferers' experiences and viewpoints in clinical hypnosis adherence using the Creative Brain Health Intervention (CBHI). The research aims to discover helpful and unhelpful processes and factors that impact the adherence of anxiety sufferers' towards clinical hypnosis using expressive art therapy and neurofeedback assessment. The study offers evidence-based knowledge for anxiety management and examines the therapeutic adherence phenomena for policymakers to improve mental healthcare adherence.

Materials and Methods

As this research aimed to examine the therapeutic adherence phenomenon following respondents' perspectives, a qualitative technique would prove

appropriate in comprehending how a specific group of people established common behavioural trends over a particular period. In this vein, the method facilitated scholars to explore respondents' behaviours through activity observations (39).

The constructivist grounded theory approach was employed in this study following the philosophical standpoint (advocacy or participatory) and study tradition (constructivism). Researchers under advocacy or participatory stances could efficiently adopt qualitative strategies (constructivist grounded theory) as the standpoint was not merely confined to constructivism (attempting to comprehend people's lives, work, and experiences regarding specific aspects) but well-connected to political agendas and politics through action agendas for changes within immediate environments (39).

Participants

A total of 45 respondents were selected for this research (20 males and 25 females), 44.4% of the respondents were males while the remaining 55.6% were females. The respondents (all above 18 years old) were selected with the snowball sampling method. Although the study samples ranged between 20 and 58 years old, specifically, six respondents were 28 years old (13.3%) while eight participants were 31 years old (17.8%). To identify suitable participants for research purposes, an exponential discriminative snowball sampling pattern was employed. This pattern involves selecting only one new subject from the multiple referrals given by each participant, based on the study's inclusion and exclusion criteria. Inclusion criteria were: being above 18 years old, living in Kuala Lumpur or Selangor, and scoring at least a mild level of anxiety or stress on the DASS-21. Exclusion criteria included being under 18 years old and living outside of Kuala Lumpur or Selangor. The DASS-21 stress subscale facilitated anxiety symptom detection but not clinical diagnosis, while the DASS-21 anxiety subscale analyzed autonomic arousal, circumstantial anxiety, and abstract feelings of anxiousness. In step one, the first participant's referrals were evaluated using the DASS-21 questionnaire, and only one candidate meeting the research objective was selected. In step two, the selected candidate provided referrals, and multiple candidates were evaluated using the same questionnaire to identify a suitable participant that aligned with the research objective. This process was repeated until data saturation was reached, and the desired sample size was achieved. The exponential discriminative snowball sampling pattern allowed for targeted recruitment of suitable participants while maintaining control over the selection process. By focusing on the study's objectives and inclusion criteria, this method ensured that only the most relevant candidates were selected, thereby increasing the chances of obtaining meaningful and valid results.

Measurement instruments

The CBHI denoted an intervention protocol established for this research following the expressive art therapy and

neurofeedback assessment method and clinical hypnosis as a recommended treatment for anxiety sufferers. The researcher developed a neurofeedback assessment method based on Dr. Kenneth Kang's work and the polyvagal theory. The assessment includes a screening to identify brainwave arousal patterns before recommending interventions, and expert reviews were obtained from neurofeedback and expressive art therapy professionals. The modified expressive art therapy assessment method used Buck's HTP and KHTP tests, along with a polyvagal exercise developed by Dr. Stephen Porges (40, 41). The final version of the assessment was developed following detailed discussions and ethical clearance before the study on human subjects commenced.

Essentially, CBHI aimed to examine how the intervention affected respondent (anxiety sufferers) adherence. In expressive art therapy and neurofeedback assessment, neurofeedback assessment methods utilise the Spectrum Learning two-channel Brain Trainer neurofeedback machine, which is a form qEEG technology-oriented training device rather than medical equipment (42, 43). The device is secure, pain-free, and non-invasive without any side effects and it comes with 2 EEG channels recorded at a sampling rate of 256 Hz (43). Using the device enabled the researcher to record respondents' executive brain-associated location brainwaves (According to Chen et al. (44), the right and left Dorsolateral Prefrontal Cortex displayed on the International 10-20 System as F3 and F4) while Rohail (45) has highlighted expressive art therapy assessment (KTHP) methods encouraged respondents to express internal thoughts and psychosocial life elements KHTP was proposed as a preventive assessment instrument to determine possible subclinical-level symptoms to deter the development of full-fledged mental health complexities (46). Participants in the study were asked to draw a house, tree, and person within five minutes and then explain their artwork using the storytelling technique. The polyvagal exercise was also incorporated into the procedure, where participants were asked to complete and visualize the state of the person in the drawing with two sentences, such as "I am..." and "The world is...". The exercise provided insights into the participants' autonomic state, allowing professionals to recognize brain states and strive to enhance them. The polyvagal exercise was practiced during the expressive art therapy assessment to unveil self-perceptions related to individuals' internal and external experiences.

Utilisation of the neurofeedback assessment method for executive brain-screening possibly identified distinct brainwave types to be associated with the respective autonomic state. The brainwave reading outcomes were classified into four primary patterns: Delta, Theta, Alpha, or Hi-beta Dominant. In this vein, users could personally comprehend stress arousal patterns (according to Dana (40), as either hyper- or hypo-arousal) and executive functioning-related symptoms through the neurofeedback assessment method. For example, the art therapy assessment (KHTP) method enabled respondents to disclose and comprehend

how psychosocial life components influenced individual mental health states, hence resulting in psychosocial stress through drawing and storytelling processes. Both neurofeedback and art therapy assessment methods could demonstrate the unconscious processes of mental health states because they utilise non-verbal communication and creative processes to express emotions and thoughts that are difficult to articulate verbally. Art therapy, also called creative arts therapy, uses artistic expression and the creative process to allow individuals to express and comprehend emotions, while also offering insights into self-confidence, weaknesses, and other psychological barriers. Expressive art therapy assessment also proved helpful in omitting stigma, such as mental health disorder-labelling. Neurofeedback technology is another method that allows individuals to gain more control over their physiological responses and access a deeper sense of self-awareness. Both methods have been found helpful in improving self-esteem, emotional crisis management, coping skills, better communication with professionals, quality of life, and overall well-being in terms of psychological, physical, and social aspects (31, 46-51). Notably, respondents did not employ the questionnaire technique to disclose mental health conditions but utilised drawings and brainwaves to convey unconscious mind processes. Participants were encouraged to consider using clinical hypnosis to improve their anxiety-related conditions once they have gained a better understanding of their unconscious processes. The focus of this study is not on providing clinical hypnosis treatment, but rather on investigating the attitudes and opinions of participants regarding the use of clinical hypnosis as a potential treatment option.

Qualitative Interview Method

This research paper employed the constructivist grounded theory approach to investigate the effectiveness of the Creative Brain Health Intervention (CBHI) in addressing anxiety. The constructivist grounded theory approach was chosen because it allowed for the integration of researchers' beliefs and interpretations regarding participants' experiences as a vital component of the final theoretical establishment. Researchers were completely integrated with theoretical development and interpretation processes through consistent personal reflexivity. Apart from gathering data and offering coding techniques, researchers could empathize with personal experiences, meanings, and complexities via personal reflexivity (48-51, 53). This approach offered means of establishing creative academic concept-clinical implementation connections with a novel theoretical development, as well as offering a data-grounded therapeutic guideline to address current and essential social concerns for action agendas towards policy-based changes.

The research used semi-structured in-depth interviews to gather data on the effect of expressive art therapy and neurofeedback assessment methods on clinical hypnosis adherence. This approach allowed researchers to gather individual narratives and explore the strategies and settings

of specific phenomena (50-51). A person-centered method was used during the interviews to provide a psychologically secure environment and encourage positive rapport development, following the theoretical study framework of polyvagal theory (51). Non-verbal interactions such as tone of voice and body language were also documented and highlighted in the transcript. This approach was advantageous in gathering respondent data and allowed individuals to elaborate on their observations and interpretations of the therapy methods.

Open-ended questions were posed during the interview following the study aims: a) (Q1) "How did you feel during the expressive art therapy and neurofeedback assessment method? Do you feel like experiencing clinical hypnosis? Why?" and b) (Q2) "If you don't feel like experiencing clinical hypnosis, why?" Questions for the third and fourth study aims were: (Q3) "After experiencing the expressive art therapy and neurofeedback assessment method, are you convinced that clinical hypnosis is helpful for you? Which part did you like the most?" (Q4) "If you were not convinced through clinical hypnosis participation, which part did you dislike most?" and (Q5) "From 0-10, how do you think that clinical hypnosis could help in reducing anxiety? Notably, 0 suggests not helpful at all; 5 is moderately helpful, and 10 is most helpful". Questions for the fifth and sixth study aims were: (Q6) "Based on your experience with expressive art therapy and neurofeedback assessment methods, what kind of positive outcomes do you expect after the clinical hypnosis?" and, (Q7) "What is the possible undesired outcome you can think of after clinical hypnosis?" The questions were posed to attain respondents' perspective of expressive art therapy and neurofeedback assessment methods. The questions were sequentially posed from Q1, Q2, Q3, Q4, Q5, Q6, and Q7.

The present study employed grounded theory as the qualitative technique of inquiry to produce classifications following the study data. The grounded theory strategies (open, axial, and selective coding) were employed for data assessment to produce a novel theoretical development (52). The study data were assessed throughout the research while simultaneously gathering the data. Data assessment under grounded theories involved multiple data interactions and processes, where constant comparisons were widely utilized towards grounded theory generation for researchers to gauge the depth, thickness, richness, and versatility of the grounded theory for further development. The stopping criterion was assessed following every interview based on the 24 initial sample analysis until three consecutive interviews reflected no novel shared theme emergence in line with the data saturation recommendations by Hennink et al. (53). This study attained saturation following 48 interview sessions with no novel shared themes emerging in the interview data attained from respondents number 46, 47, and 48. Consequently, the researcher incorporated the stopping criterion as the outcome already attained data saturation. Specifically, the stopping criterion was selected following the "10+3" data saturation formula developed

by Francis and colleagues (54). Although this study utilized the principle of remaining open and versatile in qualitative research performance, several parameters were regarded as identifying the sample size effect: firstly, the parameter denoted the exploration scope, including the research nature, study phenomenon intricacies, and data gathering techniques. Secondly, the qualitative researcher expertise denoted another parameter that impacted data saturation. This aspect proved essential as the aforementioned researchers implied the data gathering tool. Hence, the present study researcher sought two auditors with coding method experiences and a supervisor (qualitative study expert) for data saturation attainment. As there were several constraints, including, insufficient budget, limited study period, and respondent unavailability, the researchers decided to select fewer respondents with lesser interviews for data saturation.

Procedure

The research received ethical approval (International IRB EX 15/04/2020/V2) and data gathering permission from a healthcare center in Kuala Lumpur. Written informed consent was obtained from all participants, who were interviewed in a private consultation room to ensure confidentiality. The researchers recognized the participants' rights to their own perspectives and decision-making.

Results

A brief review of the findings encompassing the study questions is presented in the following section. All the information obtained from the study data was used to address the six research questions for the six focused research domains.

Domain 1: The helpful processes of expressive art therapy and neurofeedback assessment in improving adherence

Research question 1: What are the helpful processes of expressive art therapy and neurofeedback assessment in elevating anxiety sufferers' clinical hypnosis adherence?

Regarding helpful expressive art therapy and neurofeedback assessment processes in improving adherence, the research identified two major categories: developing therapeutic context and attaining insight into expressive art therapy and neurofeedback assessment processes. The following categories were also reflected: inducing positive emotions and experiences during the process, creating a therapeutic setting, supporting therapeutic rapport, fostering strong will to seek change, and attaining useful knowledge to regard change-oriented needs.

For example, 11 respondents demonstrated that the use of neurofeedback assessment induced positive emotions during the process and enabled awareness of biological states (brainwaves) to better comprehend novel brain functions. Some of the respondents' feedback is as follows:

P 002: "I feel a bit happy...what I like the most is when he explained the neurofeedback mechanism (brain function)."

P 011: "Good. I find it like even it is just for a short while, I get to know my brain I guess."

P 015: "I felt quite confident and happy to go through with the follow-up therapy, because it really makes a lot of sense as why my brain is such and how I feel."

Domain 2: The unhelpful processes of expressive art therapy and neurofeedback assessment in improving adherence

Research question 2: What are the unhelpful processes of expressive art therapy and neurofeedback assessment in enhancing anxiety sufferers' clinical hypnosis adherence?

This research identified two distinct major categories: negative effects of the therapeutic context in expressive art therapy and neurofeedback assessment processes. The findings subsequently indicated three categories: stimulating negative emotions and experience during the process, negatively impact therapeutic rapport, and contributing to a sense of disappointment.

For example, the respondents implied that specific expressive art therapy and neurofeedback assessment processes considerably triggered negative emotions. Three themes were identified as follows: a) feeling emotionally uncomfortable, b) financial issues, and c) feeling physically uncomfortable. For example, nine respondents stated that expressive art therapy and neurofeedback assessment processes induced emotional discomfort. The following quotes reflected the aforementioned statement:

P 001: "I feel quite nervous."

P 021: "I feel it is quite horror for me."

P 046: "I feel strange."

Domain 3: The helpful outcomes of expressive art therapy and neurofeedback assessment in improving adherence

Research question 3: What are the helpful outcomes of expressive art therapy and neurofeedback assessment in increasing anxiety sufferers' clinical hypnosis adherence?

Resultantly, expressive art therapy and neurofeedback assessment could develop helpful outcomes in improving adherence by enhancing motivation. The outcomes subsequently revealed five categories: managing the pre-

contemplation stage, engaging with the contemplation stage, commencing the preparation stage, rising to the action stage, and attaining to the maintenance stage.

For example, respondents' feedback indicated that one of the helpful expressive art therapy and neurofeedback assessment outcomes concerned helping to transit the pre-contemplation stage to the contemplation stage. Two themes were determined: a) fostering realisation of issues, and, b) pinpoint specific issues following the expressive art therapy and neurofeedback assessment. Six respondents explained that expressive art therapy and neurofeedback assessment outcomes supported issue realisation. The following quotes reflected the aforementioned statement:

P 015: "My unconscious is quite chaotic right now, my thought pattern and everything."

P 016: "Found the cause of the symptoms that I am experiencing now."

P 044: "I realised that my issues can be considered as quite severe."

Domain 4: The unhelpful outcomes of expressive art therapy and neurofeedback assessment in improving adherence

Research question 4: What are the unhelpful outcomes of expressive art therapy and neurofeedback assessment in improving anxiety sufferers' clinical hypnosis adherence?

Resultantly, expressive art therapy and neurofeedback assessment could develop unhelpful outcomes in improving adherence by lowering motivation. The findings further denoted one category: negatively affecting the stage of change transition.

For example, lowering observed urgency or intervention needs denoted unhelpful expressive art therapy and neurofeedback assessment outcomes in minimising respondents' urgency or necessity for intervention commitment. The subsequent outcome led the respondents to believe that urgent intervention engagement was unnecessary. The subcategory encompassed four themes: a) only willing to come in severe conditions, b) disregarding observed positive treatment outcomes, c) intervention engagement refusal if solely for higher performance, and, d) no insights into treatment requirements.

Three respondents mentioned having no intention of initiating the intervention as engagement was only sought in severe states. The following quotes exemplified the theme:

P 001: "I am more willing to come when I realised my stress level is overloaded."

P 035: "My condition is not that serious to need intervention."

Domain 5: The helpful moderating factors of expressive art therapy assessment and neurofeedback assessment in influencing the perception towards clinical hypnosis

Research question 5: What are the helpful moderating factors of expressive art therapy and neurofeedback assessment in influencing anxiety sufferers' clinical hypnosis-oriented perspectives?

This research identified two major categories: fostering a healthy belief towards clinical hypnosis and positive satisfactory feedback. The findings further denoted three categories: credibility, hopefulness due to locus of control, and perception of feedback.

For example: Seven respondents recognised the therapist's work, thus encouraging positive emotion towards clinical hypnosis for more convenience in intervention commitment. Some of the respondents' feedback is presented as follows:

P 021: "My friend has a similar condition as mine and she referred me here."

P 045: "Because my friend experienced (clinical hypnosis) before, so I came here."

P 047: "The reason I came is because I know here is an expert training my concern (autonomic nervous dysfunction symptoms)"

Domain 6: The unhelpful moderating factors of expressive art therapy and neurofeedback assessment in influencing clinical hypnosis-oriented perspectives

Research question 6: What are the unhelpful moderating factors of expressive art therapy and neurofeedback assessment factors in influencing anxiety sufferers' clinical hypnosis-oriented perspectives?

Unhelpful expressive art therapy and neurofeedback assessment factors in influencing clinical hypnosis-oriented perspectives denoted inducing negative impressions and beliefs. The following categories were also outlined: poor understanding and credibility and confusion about a potential clinical hypnosis session.

For example: three respondents admitted to experiencing clinical hypnosis-oriented fear. The following quote exemplified the theme:

P 021: "I am afraid I will sleep until I die during the session."

P 010: "I did feel afraid before I came to your center."

Five main domains were identified in the final result: a) the helpful and unhelpful processes and outcomes in improving

adherence and, b) the helpful and unhelpful moderating factors of expressive art therapy and neurofeedback assessment in clinical hypnosis-oriented perspectives. Summarily, nine major categories and 19 categories were determined and derived from respondents' comments and feedback in the interview with the grounded theory method. The six domains are presented in the following sections. The conceptual framework of this study, which is

the Polyvagal Focused Therapeutic Guideline to Improve Anxiety Sufferers' Adherence, is generated by the outcome of the grounded theory.

Discussion

Polyvagal focused therapeutic guideline to improve anxiety sufferers' adherence

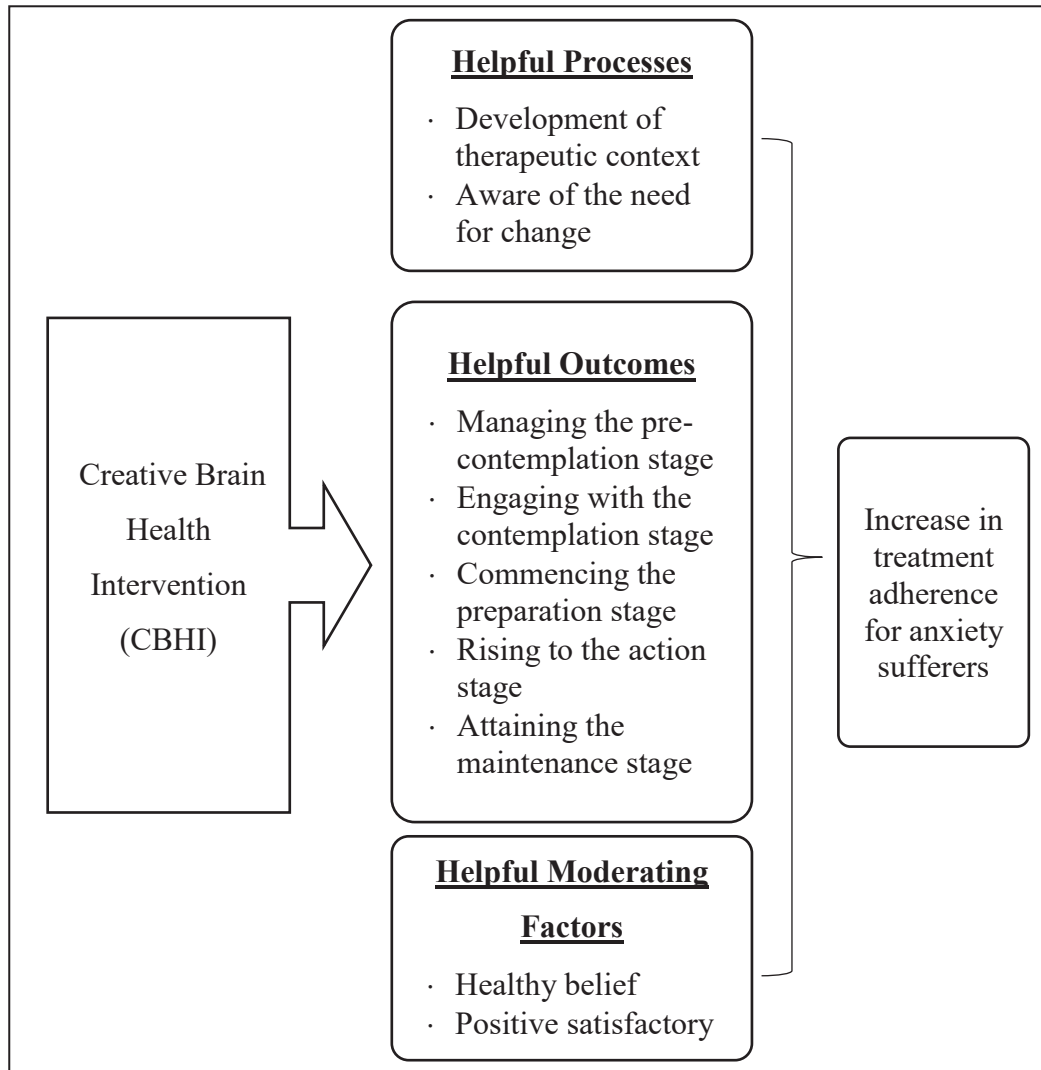


Figure 1: Therapeutic Guideline Framework

The results of this study show that six domains were examined to investigate the helpful and unhelpful processes, outcomes, and moderating factors of expressive art therapy and neurofeedback assessment in improving adherence for individuals with anxiety. The study found that polyvagal theory significantly impacts mental health and well-being, particularly in biological and psychosocial factors. Based on grounded theory, a qualitative research methodology that analyses data to provide an explanation for adherence issues, a new model of adherence has been developed called the Polyvagal Focused Therapeutic Guideline. This model suggests that creating a therapeutic

context and gaining insights from expressive art therapy and neurofeedback assessment are the most helpful processes for individuals with anxiety. It also highlights the importance of motivation enhancement through various stages, such as managing the pre-contemplation stage, engaging with the contemplation stage, starting the preparation stage, moving to the action stage, and achieving the maintenance stage. Additionally, the model provides useful information for mental healthcare providers and other relevant parties on practical ways to improve adherence and manage stigma. The model also identifies the helpful and unhelpful outcomes of expressive

art therapy and neurofeedback assessment and provides insights on the disadvantages of prognostic pessimism and biological attribution. In summary, the Polyvagal Focused Therapeutic Guideline model can contribute valuable knowledge to non-verbal focused psychological therapy studies and provide therapeutic guidelines to enhance mental healthcare providers' awareness for improved practices that promote adherence.

The study findings are consistent with existing research and theories in the field of mental health and psychological therapy. In line with the perspectives of Alladin (9) and Schore (10), the study highlights the limitations of left-brain-focused therapies and suggests a more integrated and holistic approach to mental healthcare that encompasses both conscious and unconscious processes, mind and body, and the central and autonomic nervous system. The study demonstrates the vital role of therapeutic rapport in supporting change and provides novel insights into how the polyvagal theory model of the therapeutic guideline can address non-adherence and overcome adherence barriers. Respondents' perspectives on how much the Creative Brain Health Intervention (CBHI) could reduce anxiety levels were revealed through a rating scale from 0 to 10. Out of 45 respondents, 12 rated CBHI as moderately helpful (5). The minimum rating was 3, and the maximum was 10, with a median rating of 6.78, indicating that the Expressive Art Therapy and Neurofeedback Assessment may have a positive impact on clinical hypnosis adherence for anxiety reduction. The study also demonstrates the importance of utilising personal effort to learn self-hypnosis as a skill, leading to empowerment in anxiety sufferers. The findings offer valuable insights into the potential benefits of a more integrated and holistic approach to psychological therapy and contribute to a sound comprehension of experiential and behavioural processes that support transformation. Overall, the study's results align with existing research and theory and offer some new discovery results that could be beneficial for developing customised plans to establish more helpful outcomes in adherence.

Strengths and limitations

The public is confused about mental healthcare, and those with subclinical-level mental health issues struggle to find appropriate support. The study suggests that anxiety sufferers in subclinical-level states are motivated to seek mental healthcare adherence with the right therapeutic guidelines. However, the study has limitations, such as the lack of psychological testing and no participation of senior citizens above 60 years old. The recommended treatment only focuses on clinical hypnosis, and the reliability and validity of CBHI are also a concern. As the clinical hypnosis, neurofeedback and expressive art therapy have not yet established academic standing in Malaysia, the educational training of researchers was another concern. To address this issue, the researcher engaged international trained experts in respective fields to help validate the CBHI protocols. The study proposed implementing CBHI in public health, but it was limited to a clinical setting, and the examination of participants' past intervention experience

was insufficient. The study focused only on subclinical anxiety, neglecting other mental health concerns such as major depression disorder.

Implications

In summary, the polyvagal model of therapeutic guideline in anxiety sufferers' adherence potentially served as an effective model to further improve the early intervention phase in local public mental health settings. Emphasis on intervention enhancement, assessment instruments, and high awareness of primary and secondary preventive phases could support public mental health systems, minimize the need for hospitalisation, and address the lack of local psychiatrists and clinical psychologists. On the contrary, CBT approach implementations to the general public would prove intricate, with the limited population of skilled local CBT practitioners (55). Hence, clinical hypnosis (as a primary and secondary preventive phase-focused treatment) potentially offers substantial contributions to prevent mental health disorders with self-hypnosis as a self-help instrument to manage subclinical-level mental health states.

Recommendations

The article suggests areas for future research to address limitations in the current study, including the use of quantitative research instruments to complement qualitative studies and engaging qualified auditors to validate the neurofeedback machine's reliability. Target populations such as elderly retirees could provide additional perspectives, and official local telepsychology guidelines could be developed. Other therapeutic approaches and guidelines could be explored to better understand adherence phenomena, and brain-based studies could measure activation patterns during interpersonal communication. Treatment plans could include homework and coping skills, and researchers could manage hypnosis-related myths. Improving research in these areas could significantly contribute to better mental healthcare outcomes.

Conclusion

The confusion around mental health, mental disorder, and public mental health has left the public uncertain about mental healthcare. While current mental health support mainly covers mental disorders, individuals with subclinical-level mental health issues are left with the choice of waiting until their condition worsens or seeking help in a healthcare system not designed for their needs. This study suggests that individuals with subclinical-level anxiety would benefit from adhering to a polyvagal focused therapeutic guideline for mental healthcare. Public sectors can play a significant role in preventing mental disorders through stigma-free intervention programs. However, without early intervention and prevention-focused research, opportunities for public mental health sectors to address stigmas and prevent mental disorders will remain scarce.

Acknowledgement

Special thanks to my supervisor and mentor who guided me throughout the process and empowering me to be the best version of myself. Thanks to my parents, my loved one, my friends, my colleagues, my participants and examiners who keep supporting throughout the research period of this study.

Financial support

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Competing interests

The authors declare that they have no competing interests.

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