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VR NARRATIVES AS A TOOL FOR PSYCHOSOCIAL REINTEGRATION IN ONCOPSYCHOLOGY: A PILOT STUDY OF SYMBOLIC INTERNAL RECONSTRUCTION

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Abstract

The article discusses the potential of virtual reality (VR) narrative as a tool for psychological and social reconstruction and reintegration in oncology psychology. It presents a model of virtual narrative that is based on immersion, body-based experience, and narrative therapy. In this model, patients not only perceive but also actively create a story that affects their identity and emotional state.

The article examines the empirical evidence supporting the predicted effects of VR narratives. It identifies the key limitations of implementing this technology and outlines prospects for future research. The author argues that VR narrative could become an integral part of psychosocial support programs for cancer patients, combining the benefits of digital medicine with humanistic psychotherapy approaches.

Keywords: *oncopsychology, psychosocial reintegration, virtual reality, VR narrative, symbolic reconstruction, narrative therapy, anxiety, body awareness, post-traumatic growth*

Introduction

The relevance of this study stems from the increasing need for comprehensive psychosocial support for cancer patients undergoing significant personality transformation as a result of their diagnosis and treatment. According to current research, cancer not only causes physical suffering, but also deep psychological trauma, such as loss of bodily integrity, identity crisis, social isolation, and existential distress.

Scientific publications demonstrate that the use of VR technology in medical and clinical settings is highly effective in reducing anxiety, pain, and depression among cancer patients, as well as improving their overall psychosocial well-being. However, despite the widespread use of VR in oncology psychology as a form of distraction or short-term relief, its full potential as a tool for profound inner transformation and restoration

of psychological wholeness remains largely unexplored.

A particularly underestimated area in oncopsychology is the use of VR narratives. These are virtual narrative structures where the patient not only observes but also participates as an active subject, helping them to reconstruct their inner self and experience of illness through symbolic images.

From the standpoint of cancer psychology and the theory of post-traumatic growth, these narrative forms can help initiate symbolic processing of trauma and create new life meaning. They can also promote psychosocial reintegration after difficult experiences.

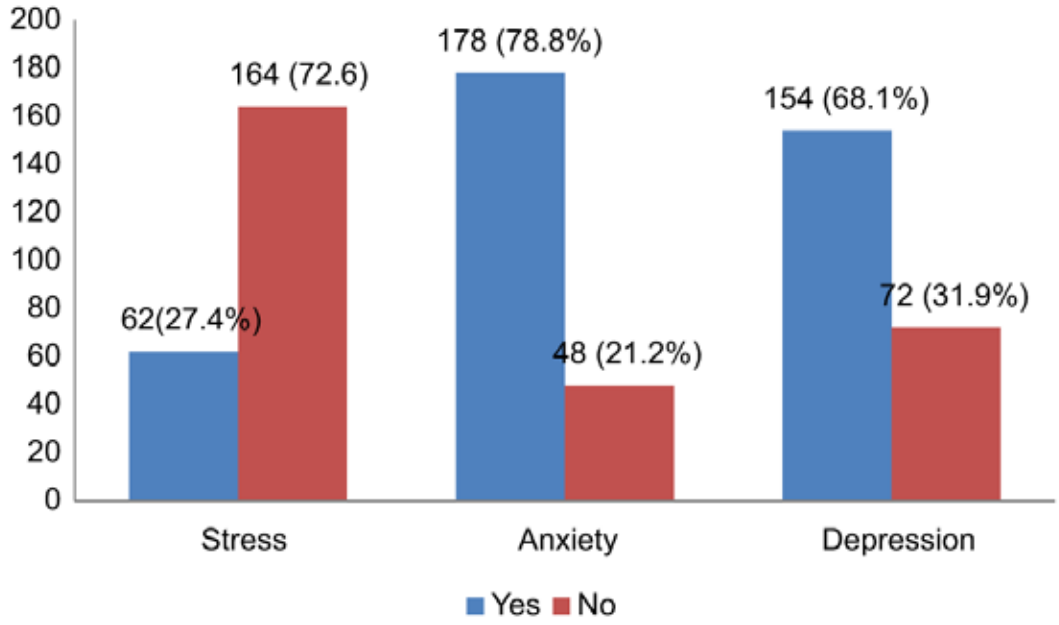
Despite the lack of research on this topic, there is potential for VR narratives to be used as a therapeutic tool. The purpose of this study is to explore the potential of these narratives for symbolic internal reconstruction and psychosocial reintegration in oncopsychological therapy.

Psychosocial reintegration in oncopsychology

The psychosocial reintegration of cancer patients has been recognized in modern literature as an essential stage that determines their resilience and ability to adapt after completing active treatment. Review studies have shown that many patients experience lingering psychological and social difficulties (anxiety, depression, fear of recurrence, and social isolation) even after entering remission.

Reintegration involves not only restoring physical and functional ability, but also addressing the psychological impact of the illness and returning to familiar roles in society as a fully functioning individual. Figure 1 illustrates the frequency of psychosocial disorders (stress, anxiety, and depression) among cancer patients.

Figure 1. *Distribution of stress, anxiety, and depression levels among cancer patients (Prevalence of anxiety and depression among cancer patients attending tertiary care hospital in Puducherry)*

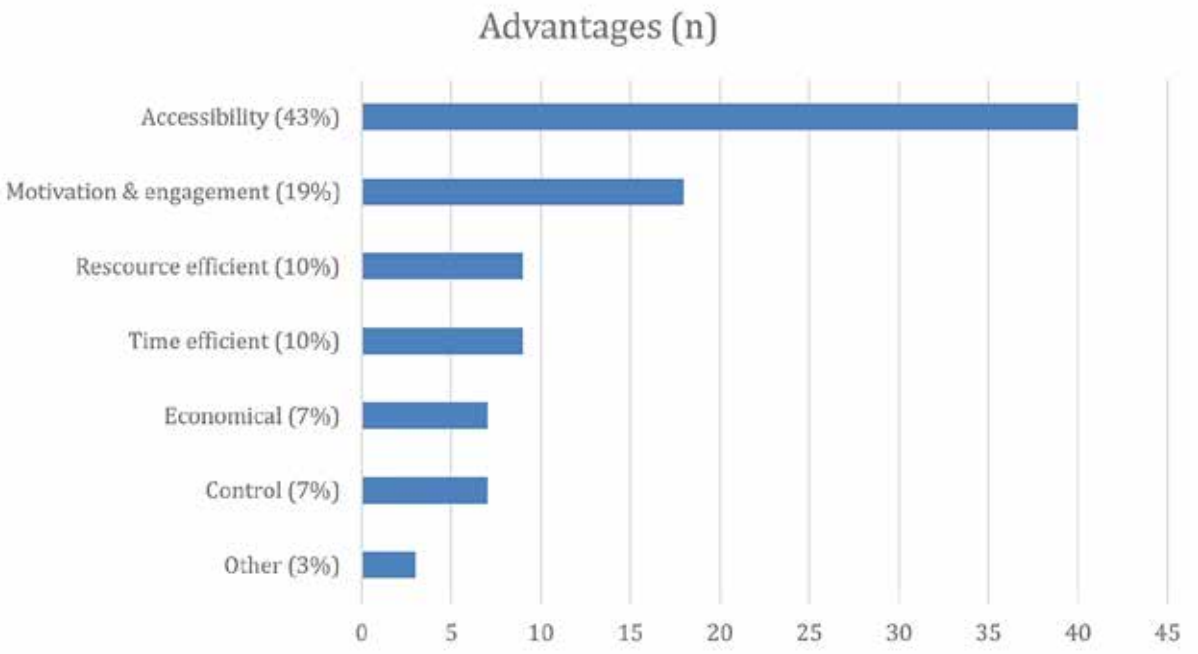


The possibilities of VR in psychology

Virtual reality is an environment that creates a sense of presence in a simulated space, allowing users to fully immerse themselves in an experience that is unrelated to their physical body. This involves sensory, cognitive, and emotional aspects that help create the feeling of being "I am here and now" within the virtual world (Virtual reality as a clinical tool in mental health research and practice – PMC).

Figure 2 shows the advantages of using virtual reality in psychotherapy practice, according to experts.

Figure 2. *Advantages of using VR in psychotherapeutic practice according to experts (Virtual Reality Exposure Therapy for Fear of Heights: Clinicians' Attitudes Become More Positive after Trying VRET)*



The VR narrative differs from traditional narrative in that the user is not only a passive observer of the story, but becomes an active participant – their avatar acts in the scene, and their decisions influence the plot's development, enhancing the sense of engagement and emotional connection. The Proteus effect, where user behavior is influenced by the characteristics of their avatar, shows how a virtual representation can transform the user's perception and even reduce pain sensitivity by allowing them to empathize with their virtual self through symbolic body shape (Proteus effect – Wikipedia).

Despite the obvious advantages and increasing body of evidence supporting the use of VR in psychotherapy, its widespread adoption in clinical practice is hindered by several significant limitations. Implementing VR approaches requires not only technical equipment and training but also a systematic approach to integrating it into existing models of psychological care. These obstacles are both organizational, financial, methodological, and ethical-psychological in nature, as summarized in Table 1.

Table 1. *Barriers to the introduction of VR technologies in psychotherapy and clinical practice*

Barrier category	Description
Financial constraints	The high cost of equipment, licenses for therapeutic VR programs, and technical support costs.
Technical difficulties	Hardware requirements, instability of the Internet, difficulties with integration into the IT system of the institution.
Lack of trained staff	There is a lack of specialists who can use VR as a clinical tool, and there are no advanced training courses.
Methodological uncertainty	Lack of uniform clinical protocols and standards for the use of VR in psychotherapy

Barrier category	Description
Resistance from patients	Skepticism, fear of the «unnatural» method, unaccustomed to the digital environment, cyber-pain.
Ethical and legal risks	Unclear mechanisms of legal responsibility, risks of personal data leakage, complexity of ethical expertise.
Limited availability	Lack of equipment in public clinics, especially in regions and institutions with low funding.

VR narrative as a tool of symbolic reconstruction in oncopsychology

The VR narrative prototype model should combine narrative therapy and the therapeutic potential of VR:

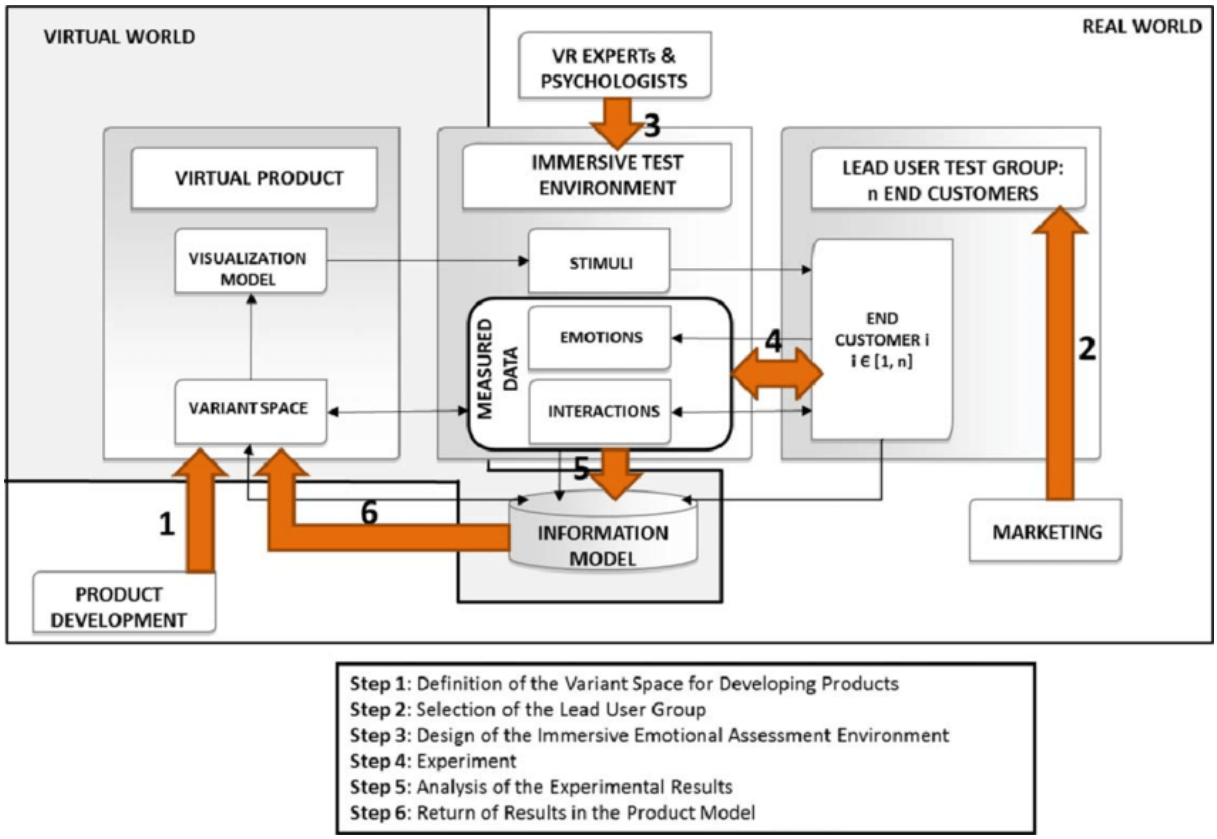
1) Narrative therapy, as a method, focuses on the processing of the autobiographical plot, the creation of new meanings and symbols.

2) VR allows you to embody these narrative structures: the user controls the avatar, interacts with the characters and makes decisions, which enhances the effect of forming a new personal narrative.

3) A scenario prototype may include a symbolic journey space, stages of symbolic trials, encounters with key images ("past", "current illness", "recovery"), choice of motivational path, and visualization of posttraumatic growth. Additionally, visual and plot elements can be incorporated into the script, helping to reinterpret personal experiences, as patients symbolically rework traumatic events and form a new, stable identity.

Figure 3 illustrates the key stages of this process: working with users and experts to develop a design, creating an emotional space for evaluation, gathering feedback, and finalizing the script. This corresponds to the stages of conceptual analysis and prototype development in oncopsychological VR storytelling.

Figure 3. *Methodological flow diagram (VR1 – VR2 – VR3) (Prevalence of anxiety and depression among cancer patients attending tertiary care hospital in Puducherry)*



The table 2 presents a forecast of the potential impact of VR narratives on key aspects of the psycho-emotional well-being of cancer patients, in the context of a symbolic reconstruction of their identity.

Table 2. *Predicted effects of the VR narrative on Self-perception and emotional state*

Target parameter	Predicted effect	Base / Data source
Anxiety	Decrease by ~4–6 points on the HADS A scale after a series of VR sessions	The assessment is based on the RCT study with motivation, where there was a decrease in HADS A by 1.6 points (16%) (Immersive Virtual Reality Therapy as a Support for Cardiac Rehabilitation:)
Depression	Reduction by ~3–5 points on the HADS-D scale due to involvement in the symbolic plot	Similar benchmarks – a 23% decrease in HADS-D (≈ 3–5 points) was observed in the same RCT (Immersive Virtual Reality Therapy as a Support for Cardiac Rehabilitation)
Body awareness	Increase by ~20–30% due to working with avatar and body projection	The intended value based on pilot VR interventions aimed at increasing body awareness (Virtual body and emotions:)
Self-identification	Strengthening the sense of integrity, restoring a positive self-image through narrative reconstruction	Theoretical basis: VR promotes the reconstruction of personal narrative and a sense of «agency» and authorship over one's story (Narrative self-recreation in virtual reality)
Readiness for reintegration	Increased motivation for social activity and continued therapy by ~40–60%	A hypothetical assessment based on improved psychological well-being and connectivity after VR programs (~ with an increase from 66 to 76 points, which corresponds to ≈ 15%) (Observational cohort study of a group-based VR program to improve mental health and wellbeing in people with life-threatening illnesses)

Despite the obvious therapeutic potential of VR narratives in oncology psychology, their development faces several limitations. Firstly, there are currently no standardized protocols for their clinical use in psychotherapy, making it difficult to determine their effectiveness. Secondly, most studies on this topic are pilot studies that do not include control groups or long-term follow-ups. Additionally, there is a lack of interdisciplinary teams that can bring together psychologists, oncologists, VR scenario developers, and narrative therapists to work together on this research.

To address these challenges, we need large-scale, randomized controlled trials in the future to measure the impact of VR interventions on subjective and objective outcomes. It will also be important to study the effectiveness of different types of VR narratives, such as linear, nonlinear, and those with open endings, as well as their cultural adaptability and personalization for individual patients.

VR narratives have the potential to become an integral part of comprehensive psychosocial treatment protocols for cancer patients. These treatments can be provided both in inpatient settings, such as during chemotherapy and radiation therapy, and in outpatient rehabilitation programs and during the recovery period after discharge from the hospital. The use of VR is possible

within multidisciplinary teams that include specialists in psychological support for cancer patients, clinical psychologists, and rehabilitation professionals.

Practically, this could be implemented through virtual reality sessions in a patient's psychologist's office or through mobile or portable virtual reality systems for home use. In palliative care centers, VR can also be used as part of the treatment process. With a personalized scenario, virtual reality can serve as a therapeutic tool that not only relieves emotional stress but also helps restore identity and return to an active social life.

This approach is in line with modern principles of patient-centered medicine and digital psychotherapy, focusing not only on the treatment of symptoms but also on supporting individuals through their journey with the illness.

Conclusion

The analysis revealed that VR narratives hold significant potential for psychological care of cancer patients as an innovative approach for symbolic personality reconstruction and psychosocial reintegration. Unlike conventional therapies, virtual environments allow patients to not only share their medical history but also relive it in a safe, controllable, and personalized manner. The use of immersive technology enhances engagement, expanding the possibilities of therapy through physical presence, emotional immersion, and story dynamics.

In the theoretical part, it was shown that VR narratives can influence key aspects of a patient's recovery from cancer, such as anxiety, depression, body image, self-identity, and motivation for social activities. The VR scenario model developed in this study is based on real scientific data and incorporates symbolic elements that reflect the experience of receiving a cancer diagnosis, undergoing treatment, and accessing new meaning in life.

However, there are several limitations to this approach, including the absence of standardized methodologies and methodological protocols, as well as a lack of large-scale empirical studies. These factors necessitate further multicenter research aimed at clinically validating the proposed approach and adapting VR narratives for different age, gender, and cultural groups. Additionally, it is necessary to integrate VR into official psychosocial protocols in order to ensure its effectiveness.

Therefore, VR narratives should be viewed not just as a supplementary tool, but also rather as a full-fledged therapeutic technique, that has the potential to become the foundation for novel approaches to the psychological rehabilitation of cancer patients. This would combine scientific research, digital innovation, and humanistic principles for providing personalized support during cancer treatment.

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