DIGITAL TECHNOLOGIES FOR ART THERAPY PRACTICES USED IN HEALTHCARE

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Highlights:

- Digital technologies in healthcare
- Art therapy in healthcare
Broadly defined, digital health refers to the use of digital information, data, and communication technologies to collect, share, and analyze health information with the aim of improving patient health and health care delivery.
Telemedicine

The use of technologies to remotely diagnose, monitor, and treat patients.

Projected number of telehealth patients worldwide from 2013 to 2018 (in millions)

Source: IHS © Statista 2018  
Additional Information: Worldwide, IHS
Art therapy and digital technologies

Psychology and digital technologies

• Digital technologies are used also in psychology and in psychotherapeutic practice

• Art therapists utilize digital media for personal and professional use

• Therapeutic digital media may include:
  • various creative ‘apps’ for art making;
  • video
  • animation
  • digital drawing
  • augmented reality

• Developing a digital equivalent of dialog with the art therapist
Art therapy and digital technologies

Aim of the study

• Development of a chatbot that is capable of identifying emotional imbalance

• Selecting a suitable program of art therapy for recovering of emotional balance
Art therapy and digital technologies

Chatbots (software that interacts with users using natural language)

- A chatbot provides a new way for interaction with customers/patients
- Customers can ask questions and get information by interacting with a computer program designed to simulate conversation
- The process is based on machine learning to generate natural language as response
Types of Chatbots

- Command-based
- Powered by Artificial Intelligence
Types of Chatbots

Command-based

Possible applications:

• Solutions of problems with predefined logic

• Application for different tests
Art therapy and digital technologies

Types of Chatbots

Powered by Artificial Intelligence

User input → UNDERSTANDING → DIALOGUE MANAGEMENT

Answer ← RESPONSE GENERATION ← ADDITIONAL SERVICES

- NATURAL LANGUAGE UNDERSTANDING
- UNDERSTANDING
- DIALOGUE MANAGEMENT
- RESPONSE GENERATION
- NATURAL LANGUAGE GENERATION
- REINFORCEMENT LEARNING
Types of Chatbots

Powered by Artificial Intelligence

User input

Answer

Natural Language Understanding

Understanding

Response Generation

Natural Language Generation
Chatbot used in art therapy

Command-based
Logic of the Chatbot used in art therapy

20 questions adapted from the standardized Toronto Alexithymia Scale (TAS). The TAS is one of the most commonly used measures of alexithymia, associated with difficulty in identifying and describing emotions.
Art therapy and digital technologies

What is art therapy

• Art therapy can be defined as a natural and spontaneous expression, which helps to develop both inter- and intrapersonal communication.

• Art therapy is a form of expressive therapy that uses the creative process of making art to improve a person’s physical, mental, and emotional well-being.

• Art therapy could be used to resolve a variety of emotional problems.

• Encourages people to express and understand emotions through artistic expression and through the creative process.
**Art therapy process**

- “Art washes away from the soul the dust of everyday life.” – Pablo Picasso
- Helps to learn something from our unconscious
- Gives strength to cope with changes
- Gives a creative ways to solve problems
- Helps to be more emphatic to others and to yourself
- “In most art therapy sessions, the focus is on your inner experience—your feelings, perceptions, and imagination. The emphasis is generally first on developing and expressing images that come from inside the person, rather than those he or she sees in the outside world”
How can art therapy be used in healthcare

- The purpose of art therapy is essentially one of healing.
- Art therapy can promote health, for it can reduce anxiety, reduce pain, give energy and motivation, decrease the duration of treatment.
- Getting involved in the arts provides both social and creative outlets for people who are ill.
- Helping people in their recovery through creativity and increasing social engagement.
CONCLUSIONS

- Digital technologies could be used successfully in healthcare
- Art therapy could be actively supported by digital technologies
Thank you for your attention!

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