The Implications of AI-Based Systems in the Psychological Management of Post Chronic Stress Disorder

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Abstract

Key aspects of the literature review: Artificial intelligence is something that has found its application in all major fields including healthcare. However, when compared to others aspects of the medical field, the application of AI in mental health is quite less especially for something like PTSD. Hence, this paper aims to highlight the positive implications that AI-based systems can have on the management of mental health conditions like PTSD.

Research question: What are the implications of AI-based systems in the psychological management of post chronic stress disorder?

Objectives

- To identify the effectiveness of **A**I-based systems in the psychological management of post-chronic stress disorder.
- To understand the impact of AI-based systems on psychological management.
- To analyze the advantages of AI-based systems in the psychological management of post-chronic stress disorder.

Methods: Secondary data has been collected from a wide range of articles discussing the implications of the system for the management of PTSD. The study has been able to found that AI-based systems would be quite effective in the treatment of the conditions but there still exists a gap between technical possibilities and real-world applications of the same. Hence, there still remains scope for future research that can discuss the successful implementation of the technology.

Results and implications- AI-based systems help the therapies to improve the overall efficiency of the overall treatment and this helps patients to overcome the phase successfully and speedily. This eventually helps health care system to improve their overall functioning and robotics helps to boost the morale of the patients that are suffering from chronic stress management and trauma. Incorporation of AI-based systems improves the path of cognitive therapy and ensures speedy recovery of the patients. Despite of the advantages there are some issues faced by the reAlthcare system to implement AI-based systems sue to lack of knowledge, talents, cost and more over the ethical and safety measures.

Keywords: AI-Based Systems, Robotics, Cognitive Therapy, Psychological Management

1. Introduction

Artificial intelligence (AI) is totally based on brain cognition within the current development of psychological management. Subjective emotional and mental state changes of human beings are not maintained properly with help of psychological management (Cejudo *et al.* 2019). AI framework is combined with cognitive psychology to maintain Post-Chronic Stress Disorder. This cognitive psychology can easily provide research direction in the application of artificial intelligence. This particular psychology helps to promote the development of AI-Based systems in psychological management. Human advanced cognitive abilities are provided by these AI-based systems. For this reason, computers can easily recognise emotions, feelings, and empathy with humans and other artificial intelligence. Brain cognition research helps to produce psychological activities through computer software (Irazoki *et al.* 2020). AI helps an organisation to maintain psychological management of post-chronic stress disorder. One of the fundamental supporting theories of AI helps psychological development successfully in the global market. For this reason, AI plays an essential role to manage the emotions and feelings of a human being with help of different computer software.

Different types of AI memory are available in the market such as: limited memory, reactive, self-aware, and theory of mind AI. These factors are essential for psychological management to provide a predictable output based on input. Reactive machines are effectively essential for psychological management in the health sector. Limited memory AI helps to build experimental knowledge by observing psychological management (Hassani *et al.* 2020). Complex classification tasks can easily perform with help of limited memory AI. Observational and historical data are used by limited memory AI to manage psychological frameworks effectively. Theory of mind AI helps to understand the attitudes, feelings, and behaviours of a human being. Advanced mental processes of human cognition are maintained properly with help of this cognitive psychology in the health sector. Psychological management plays an essential role to maintain this particular psychology. Reasoning, degree of thinking, emotion, motivation, and deciding are included in this cognitive psychology.

The most important feature that helps to distinguish between man and machine is the human process of external input. Subjective emotional orientations are maintained with help of this particular psychology. Different types of subjective emotions are available such as: satisfaction, dissatisfaction, loves, and so on. Human cognitive psychology can generate different levels of emotional traits for the psychological management of Post-chronic stress disorder (Sepp *et al.* 2019).AI machines are beneficial for an organisation to understand subjective emotional changes effectively. Internal knowledge structure is enhanced with help of AI machines. Subjective emotional experiences, human attitudes, and human references are measured by the cognitive psychology framework for Post-chronic stress disorder.

2. Aim of the Article

The aim of the research is to importance and effectiveness of **A**I-based systems in the psychological management of post-chronic stress disorder.

The objective of the study is

- To identify the effectiveness of **A**I-based systems in the psychological management of post-chronic stress disorder.

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3. Material and Methods

Proper strategy and process are maintained with help of materials and methods part of project work. Different types of methods are available such as: research design, research philosophy, research approach, and data collection process. Research design helps to maintain a suitable work process for this study. Qualitative, quantitative, and mixed methods are included in this research design. A qualitative research design has been selected for this particular research paper. Deeper and more relevant insights related to a research paper are

gained with help of qualitative research design (L & Van Grootel, 2019). Non-numerical data has been collected for this particular study. Human experiences, feelings, attitudes, and behaviours can easily be known to everyone with help of this qualitative research design. This particular research design helps to collect unique and relevant insights related to this particular research paper. Research philosophy helps to provide a suitable way, by which a researcher can easily complete a research work within a given deadline. Research philosophy plays an essential role to achieve research aims successfully for this study.

Interpretivism research philosophy has been selected for this paper to gain different information and knowledge related to psychological management. The nature of research work is known to everyone with help of Interpretivism research philosophy. Subjective, multiple, and socially constructed assumptions are gained by this particular research philosophy (Alharahsheh & Pius, 2020). Interpretivism research philosophy helps to maintain the social and historical perspectives of a research work. A researcher performs a specific role in observing the social world effectively with help of this Interpretivism research philosophy. The research approach is beneficial for a researcher to maintain a logical and coherent way of this paper. An inductive research approach has been chosen for this particular research paper.

A relevant set of observations are gained by this inductive research approach. Patterns, observations, and theories are included in this inductive research philosophy. Specific observations and measurements are gained by a researcher with help of this particular research approach. This particular research approach is helpful for a researcher to detect themes and patterns successfully. The inductive research approach helps to analyse qualitative data in an organized manner to gain proper insights for this study (Xiong *et al.* 2021). Secondary data collection process has been chosen for this study to collect existing data related to research work.

4. Results

4.1 Importance of psychological management in case of post-chronic stress disorder

Psychological management is essential in the case of post-traumatic stress disorder as this helps patients to overcome that phase and bring back to a normal flow of life. As per Lewis *et al.* (2020), Psychological management is the cognitive therapy that is often used with the aim to help individuals suffering post chronic stress disorder along with exposure therapy. Psychological management is extremely essential in this 21st century as the mental pressures of individuals are increasing due the hectic lifestyle and other factors. Therefore, it is high time to talk about the necessity of psychological management in the case of chronic stress disorder. In addition, this also becomes essential for identifying the right treatment process in order to get rid of the phase and enjoy their life3 stress happily.

Post-chronic stress disorder or post-traumatic stress disorder impacts the morale of the individual and eventually led to more severe issues. That's why stress management becomes crucial and helps individuals adopt resilience. Prevention and management of stress eventually minimize the risk factors such as depression, high blood pressure, heart disease, and obesity. Therefore, it is evident that psychological management is essential as this not helps them to be psychologically strong but this helps the individual to prevent other physical illnesses. Post-traumatic stress disorder or post-chronic stress disorder treatment helps patients to regime a sense of control over their life. As mentioned by MAYO CLINIC, (2023)There are several types of psychotherapy that are implemented in order to treat children and adults and some of the types of psychotherapy include "cognitive therapy", "exposure therapy" and "eye movement desensitization and reprocessing". On a preset day, the treatment process is improving and the efficiency of the processes is improving by securing the success rate of the treatment along with the time phase has also been minimized with the help of technology implementation to a large extent.

4.2 Impact of AI-based Systems on the psychological management

Implementation of technology such as AI increases the efficiency of the overall process. It is evident that AI-based technologies help healthcare organizations to enhance the quality of the overall monitoring and treatment process to an extent. Technology has evolved greatly and this has impacted the overall treatment process of psychotherapy positively. AI and robotics help patients to get rid of the phase and manage their stress

successfully. The AI-based system is capable of monitoring the pattern of the patients and that reflects the sates of the mental condition of the patients. From the viewpoint of Laban, Ben-Zion & Cross, (2022) Social robots support in the clinical assessment of trauma survivors at the time of their healing and hospitalization time. It is evident that psychological therapist takes advantage of the development of AI-based systems and this in turn helps the individual enhance the efficiency of the practices and ensure the speedy recovery of the patients.

The utilization of advanced technology such as AI-based systems helps individuals to deal with anxiety and mild depression. AI technology provides valuable tools for therapy-aligning technology such as data mining and expert analysis. AI eventually expands the potential to diagnose the existing and potential issues, test, and confirm prediction and treatment. Artificial intelligence with human psychological cognition not only simulates the logical and rational thinking of the human brain and at the same time reproduces insightful thinking hearts and can identify the emotional interconnection of the machine and human being. As stated by Zhao *et al.* (2022) in the present day, the most current development of AI is dependent on brain cognition, but this alternative of biology does not have the capability to reproduce the subjective emotion and the mental state of the individual. Technology helps therapists to identify the patterns of the emotional state of the patient and that facilities a fact cure of the overall process.

4.3 Advantages of AI-based systems in the psychological management

AI has widely used technology in all sectors as this helps users to successfully analyze the state of mind of the patient by analyzing relevant data and monitoring behavioural patterns. The overall assistance provided by various modern tech gadgets mostly helps to enhance the entire treatment process for psychological patients all around the globe. The implementation of Artificial intelligence, robotics, and many other associated technologies enhance the communication and treatment process to solve psychological problems in recent days. As mentioned by Koutsouleris *et al.* (2022), a large number of people all around the globe have availed the support of various modern technological equipment especially AI and robotic machinery to improve the psychological health of the patients. The entire step taken towards providing effective counselling, interactions, guidance provided by AI Supports to improve in the treatment for psychological patients in the worldwide market. The basic need of a psychological patient is to avail necessary company and communication to share their thoughts and problems, AI provides the option to them to avail technological company to support their thinking process.

It provides key support to them to strengthen their mental health most effectively and helps to avail the most significant support from the treatment process. It has escalated the overall demand for implementing AI, robotics, and related technical support within the treatment process of psychological issues. As per Usak *et al.* (2020) considering the demand for technology and the development of technology health system executives need to focus on building effective technological infrastructure to enhance the performance of the health system. The implementation of artificial intelligence mostly helps health managers to enhance the overall medical infrastructure and enhance the diagnosis of the medical needs of psychological patients. The entire health check-up and monitoring operation of psychological patients mostly improve through the support of AI in the health system. It actually portrayed the superior advantage provided by AI to enhance the treatment of psychological patients in recent days.

4.4 Challenges related to implementing AI-based systems to ensure greater success in the case of post-chronic stress disorder.

It is evident that the development of artificial intelligence is at its peak and the demand for the technology is increasing to a large extent. In the present days, advanced technology such as AI, and robotics are used in every sector, and the healthcare system as a whole is not different from the scenario. As mentioned by Tutun *et al.* (2022), although it is true that the implementation of an AI-based system in the psychological management of post-chronic stress disorder is a new concept and at the beginning stage. One of the major issues is the cost which makes the overall implementation process difficult as every healthcare organization does not have the financial backup or the infrastructure. Hence this impacts the overall availability of social robots.

On the other hand, a lack of skills and the talent of the therapists impact the overall process to a large extent. Skills are extremely essential as the data is collected by the technology that needs to analyse in order to make the entire process impactful and effective in terms of proper diagnosis of the patients, and fast cure. On the other hand, quality is also an important issue of the implications of AI in healthcare. In the view point of Denecke *et al*. (2021) the lack of efficiency and reliability often impacts the overall effectiveness of the treatment on the other hand, privacy is also an issue for the overall process and this also impacts the effectiveness of the treatment and impacts the trust of the patients. Due to the fragmentation of medical data in all the software platforms gathering patient information becomes difficult to a large extent. Apart from that, healthcare organizations also face issues to integrate the AI-based system with the existing system due to complications.

Often organization faces difficulties in managing the database and that eventually impacts the workflow and impacts the quality of the treatment. Perception of the healthcare workers and the therapists also impacts the overall implementation process to a large extent. Due to a lack of knowledge and awareness related to the usability of AI in trauma care or chronic stress disorder treatment, the implementation process gets affected. One of the major concerns of the overall process is the safety and ethics and that also act as challenge in the overall implementation of AI-based applications. As mentioned by Lee, *et al*. (2021), It is evident that, post chronic stress disorder and the treatment are extremely delicate therefore, ethics and safety is extremely essential in this perspective. It is evident that psychological management of post chronic stress disorder is a delicate and critical aspect of mental healthcare. Therefore, integration of advanced technology is essential with all the safety measures and accuracy to ensure better treatment to the patients and speedy recovery.

5. Discussion

Psychological management helps a person to get relief from post-traumatic stress disorder (PTSD). AI-based systems help an individual to maintain a healthy lifestyle on a daily basis. Cognitive therapy plays an essential role to manage psychological management. This therapy helps to get relief from post-chronic stress disorder significantly within the health sector (Lewis et al. 2020). In recent days, everyone face mental stress due to work pressure. For this reason, psychological management is essential for every person to get relief from a hectic lifestyle. As a result, psychological management is needed for each and every person. To get relief from post-chronic stress disorder, AI-based systems in psychological management are needed for a person. Right treatment process is maintained by a person to enjoy a happy lifestyle on a daily basis. For this reason, post-chronic disorder mainly impacts the health and mental conditions of an individual on a daily basis. In case a person suffers from different mental and health issues, the necessity for psychological management is effectively high for this particular person. With proper psychological management, a person can easily maintain a healthy and safe lifestyle on a daily basis. Different types of risk factors are available such as: high blood pressure, depression, heart disease, and depression. These risk factors are reduced with help of AI-based psychological management. For this reason, modern therapies and treatments are enhanced with help of this particular AI-based framework.

In case modern technology and treatment are implemented properly for maintaining the health and mental conditions of a person, AI-based psychological management is helpful to reduce post-chronic stress disorder. Implementation of modern technology helps healthcare organisation to provide better treatments. Patients can easily get relief from post-chronic stress disorder with help of modern technology and machines of psychological management. AI-based systems help an organisation to monitor the overall treatment process effectively. For this reason, a patient can easily get relief from the post-chronic disorder with help of a better treatment process. Patients can get relief with help of AI-based and robotics systems within the health sector. Overall efficiency to provide better treatment for post-chronic stress disorder is enhanced with help of proper psychological management. Different types of therapies are used by a healthcare organisation to provide better treatments for patients. For this reason, these individuals get relief from post-chronic stress disorder.

6. Conclusion

AI-based psychological systems play an essential role to provide better treatment for post-chronic stress disorder. Cognitive therapy helps a person to get relief from this particular disease. Stressed patients may not be

able to maintain a happy lifestyle on a daily basis. Psychological treatments help a person to get relief from post-chronic stress disorder. In recent days, everyone faces mental and health stress in their working life. Psychological management is essential for each and every person to get relief from overstress. AI-based technology helps to provide better treatment processes for patients. Healthcare organisation always tries to use modern technology and machines in the workplace. For this reason, people get relief from post-chronic stress disorder effectively. In recent days, heart diseases, depressions, and stresses create a negative impact on the psychology of a person. Sometimes mental and health factors are not maintained properly with help of psychological management.

Different types of unknown diseases are available in the global market. For this reason, patients also suffer from these diseases very badly. However, healthcare organisation uses AI-based systems and technologies in the workplace, so a person can easily get relief from unknown diseases and maintains a happy and healthy lifestyle on a daily basis. AI-based technology helps an organisation to provide better treatments to patients. In recent days, different types of modern therapies are available to remove stress from people. Cognitive Behavioural Therapy and Dialectical behavioural therapy are essential for providing better treatments for post-chronic stress disorder. Experienced therapies must be engaged by the healthcare industry to provide better treatments. A person cannot be able to maintain a safe and healthy lifestyle on a daily basis due to mental stress disorder. Modern technology and machines are used by healthcare organisation in the global market to provide better treatments for post-chronic stress disorder.

7. Acknowledgment

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