O0040

Artificial Intelligence in Psychiatry: A Comprehensive Literature Review

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Introduction: The incorporation of artificial intelligence (AI) in healthcare, especially in mental health services, offers potential advancements in efficiency and personalization. As AI technologies like machine learning and natural language processing (NLP) continue to evolve, it's vital to evaluate their applications in psychiatry comprehensively.

Objectives: This review aims to summarize and characterize studies that used AI, particularly machine learning and NLP, in mental health. Additionally, it endeavors to understand how these technologies may enhance diagnostic tools, symptom monitoring, and delivery of personalized treatment in psychiatry.

Methods: Adhering to PRISMA guidelines, a systematic search was executed across multiple medical databases, including PubMed, Scopus, ScienceDirect, and PsycINFO. Keywords encompassed machine learning, data mining, psychiatry, and mental health. Exclusion criteria included non-English papers, anonymization process descriptions, case studies, conference papers, and other reviews. Data from various segments in the provided information were synthesized to capture the broader picture of AI's application in psychiatry.

Results: From the 327 articles initially identified, 58 were chosen for detailed review. Studies predominantly revolved around three main populations: patients in medical databases, emergency room visitors, and social media users. The primary applications of AI entailed symptom extraction, illness severity classification, therapy effectiveness comparison, and psychopathological insights derivation. Data sources mainly included medical records and social media, with Python emerging as the preferred platform for most studies.

Conclusions: While AI shows immense promise in revolutionizing mental health care, its current applications largely confirm existing clinical hypotheses. Ethical concerns, such as patient privacy and data biases, remain paramount. Future work should delve deeper into these challenges while further exploring AI's potential in clinical psychiatry practice.

Disclosure of Interest: None Declared

O0041

Text4Hope: An e-Mental Health Tool for Mitigating Psychological Symptoms among Young Adults

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Introduction: Chronic stress, anxiety, and depression can interfere with young adults' everyday function, academic achievement, and interpersonal relationships. Interventions aimed at preventing the deterioration or possibly onset of these mental disorders among young people are timely.

Objectives: To assess the impact of a supportive text messaging program (Text4Hope) on the psychological well-being of young adults.

Methods: This study adopted both longitudinal and naturalistic controlled trial designs. Longitudinal study: compared baseline and 6th week outcomes in the same group of young adult subscribers. Naturalistic controlled study: compared clinical parameters in two groups of Text4Hope young adult subscribers: (i) intervention group (IG), subscribers who received once-daily supportive text messages for 6-weeks and completed 6th-week evaluation between 26 April and 12 July 2020, and (ii) control group (CG), subscribers who joined Text4Hope the same time frame, completed a baseline survey and were yet to receive text messages. The prevalence and severity of moderate-high stress, anxiety, and depression was measured using standardized scales. Inferential statistics, including the t-test, McNemar test, chi-square, and binary logistic regression analyses, were used to evaluate the differences in the prevalence and severity of the psychological symptoms.

Results: Longitudinal study: subscribers who completed both the baseline and 6th-week surveys, had significant reduction in the prevalence of moderate-high stress (8%) and likely GAD (20%) from baseline to six weeks. The largest reduction in mean scores was for the GAD-7 scale (18.4%). Naturalistic study: significantly lower prevalence for likely Moderate Depressive Disorder (25.2%) and suicidal thoughts/thoughts of self-harm (48.4%), with a small effect size in the IG compared to CG.

Image:
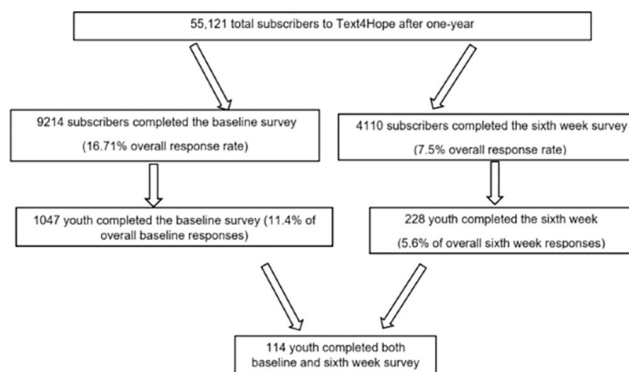
Conclusions: The Text4Hope program has been demonstrated as an effective e-mental health tool for mental health support for young adult subscribers. This is particularly encouraging, as young adults have already adapted to SMS text messaging and texting. Therefore, this mode of intervention can be used to supplement existing treatments for psychological problems impacting young adults. In addition, the cost effectiveness and easy scalability of supportive text message interventions mean that policymakers and governments can quickly implement similar programs as part of national youth suicide prevention strategies.

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