Climate change

O0080

Climate change and mental health. Polish perspective.

M. Gawrych

Psychology Institute, The Maria Grzegorzewska Univeristy, Warsaw, Poland
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Introduction: World Health Organization estimates that climate changes are expected to cause an additional 250 000 deaths worldwide per year between 2030 and 2050 (1). We do not know, in what extense, population mental health will deteriorate due to climate change. Unfortunately, not all European countries, including Poland collect the evidence-based information about current and possible future risks for mental health.
(1)World Health Organization. Climate change and health; 2018. Available from who.int/news-room/ fact-sheets/detail/climate-change-and-health [cited 20 October 2020]
Objectives: The aims of present study are: (1) summarize the available literature through a current review and (2) make recommendations for future actions/ prevention strategy for Poland.
Methods: Medline database (through PubMed) and Polish authorities documents was searched for records published in 2010–2024. Mental health-related descriptors (i.e. „mental health" OR "mental disorders") and „climate change" and "Poland/ Polish" and "Europe" term were used in particular searches. The results of the screening were included in the final selection list. References of screened full-text articles and raports were manually searched for further literature. Additionally, European and worldwide publications and reports prepared by mental health and/ or climate change organizations were taken into account.
Results: Mental health risks of climate change can stem from climate-related natural disasters (e.g., extreme weather events), slower moving events (e.g., drought), or concern about the phenomenon of climate change itself. Primary mental health impact is related mostly to disasters itself and its consequences: environment of disruption, trauma and grief. Direct consequences include increased rates of high-risk behaviours. Secondary effects of climate change are due to various processes of environmental changes and ecological disruptions. They consist of damages to physical and social infrastructure, physical health effects, food and water shortages, conflict, and displacement. Long-term droughts affect food and water supplies and can subsequently affect the economic and mental wellbeing not only the land-based workers.
Conclusions: A focus on climate change impact on mental health can help enhance the understanding of factors that strengthening psychosocial resilience and adaptation. The future mental health challenges of climate change in Poland cover:

- developing scientific knowledge regarding adaptation process and resilience,
- focusing on high-risk groups (i.e. children, rural workers),
- strengthened community engagement,
- developing available locally strategies for mental health improving.

Disclosure of Interest: None Declared

Intellectual Disability

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Effectiveness of AI-driven Individualized Learning Approach for Children with Autism Spectrum Disorder (ASD)

H. Atturu[1]* and S. Naraganti[2]

[1]Dept of Psychiatry, CARE Hospitals and [2]Dept of Clinical Psychology, Rainbow Children's Hospital, Banjara Hills, Hyderabad, India
*Corresponding author.
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Introduction: Autism Spectrum Disorder (ASD) is a condition with varying degrees of social, emotional and behavioural disability. These children require focused and individualised learning plan to facilitate social integration. Robots have been used for this purpose but are not routinely available in several parts of the world. Effective, point of care (POC) digital therapies that can be used anywhere by anyone is the need of the day.
Objectives: To evaluate the effectiveness of Artificial Intelligence (AI) driven individualised learning plans delivered through POC digital platform (CognitiveBotics) for children with ASD.
Methods: After Ethical approval and parental consent, children diagnosed with ASD (Childhood Autism Rating Scale CARS 2) aged 2 years and above were screened for study inclusion and exclusion criteria and enrolled. AI driven individualised learning plan was administered through CognitiveBotics software that could be used on either computer or a tablet. Initially, interactive questions were administered to parents by the AI tool to understand child's functioning. Based on these, an individualised learning plan was assigned. Each task is delivered using either interactive videos, chatbot and/or animated/AI games. The child's progress is captured for attention (attempted questions, retries and timeouts) and retention (first time corrects and corrects) continuously. The initial interactive questions administered to parents were repeated to assess child's progress in real life. Paired 't' test using SPSS version 26 was used to compare initial and final data.
Results: Out of 85 registered children, 41 regularly used the AI tool. Mean age was 43.93 months (range 26 to 72 months). 37 (90.24%) were boys. The baseline mean scores (ranges), were CARS 33.48 (30-39.5); Social quotient 53.4 (27.25-80.32), Developmental quotient 71.35 (45.90-93.33) and IQ 62.34 (36.58-86.83). The base line mean score of parents assessed child function was 115.24 (range 58 to 215). A mean of 15.54 tasks were given (range 5 to 48). At the time of analysis with a mean follow up of 3 months (range 2 to 5 months) the children completed a mean of 10.10 tasks (range 0 to 42). There was significant improvement in child's learning captured by the AI software based on attention and retention parameters ($p = <0.00001$). This improvement was also reflected in parent assessed child function (mean 147.15, (59 to 231)) ($p = <0.00001$). The percentage of improvement in both software captured and parent assessed child function was directly related to the amount of time spent by the child on the software.
Conclusions: AI driven individualised learning approach is effective in teaching skills and promote social integration for children with ASD. Such technology can capture the child's progress on a day-to-day basis and deliver personalised training.

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