

Methods: Psychiatric patients (n=38) presented to the emergency room went through traditional in-person and videoconference TP interviews in varying order. Both FTF and TP interviewers that examined the patients as well as a third psychiatrist, acting as an observer for both modalities, determined the diagnosis, disposition recommendation and indication for involuntary admission.

Results: Rater decisions had a high matching on disposition and indication for involuntary admission (Cohen's Kappa (CK) of 0.84/0.81, 0.95/0.87 and 0.89/0.94 for FTF-TP, Observer-FTF and Observer-TP, respectively). Although identical diagnosis matching between the raters was relatively low, the partial diagnosis matching was high (CK of 0.52/0.81, 0.52/0.85 and 0.56/0.85 for FTF-TP, Observer-FTF and Observer-TP, respectively). Telepsychiatry assessments had comparable acceptability in items such as psychiatrists' certainty and interviewers' and patients' satisfaction.

Conclusions: TP and FTF psychiatric assessments in the emergency room settings have similar validity and acceptability. Implementation of TP in emergency room settings might improve the mental health services' quality and access especially for remote populations. TP is especially important during the COVID-19 pandemic to enable treatment for epidemiologically isolated patients and to protect the medical personnel.

Keyword: telepsychiatry

EPP0586

New technologies as tools to prevent suicide in adolescence: A literature overview

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Introduction: Suicide in adolescents represents a major public health concern. To date, a growing number of suicide preventive strategies based on the use of new technologies are emerging.

Objectives: The purpose of the present paper is to provide an overview of the present literature on the use of new technologies in adolescent suicide prevention.

Methods: A systematic electronic search was run using the following keywords: Technology OR Technologies OR APP OR Application OR mobile application) AND (Adolescent OR youth OR puberty) AND (Suicid* OR Self-harm OR self-destruction).

Results: We found 12 studies on the use of telemedicine, 7 on mobile applications, and 3 on language detection. Heterogeneity regarding the study design was found: 3 Randomized Controlled Trial (RCT), 13 are Open-label single group trials, 2 Randomized studies, and 1 Cross-sectional study. Telemedicine was the most adopted tool, especially web-based approaches. Mobile applications mostly focused on screening of depressive symptoms and suicidal ideation, and for clinical monitoring through the use of text messages.

Conclusions: Despite telepsychiatry and mobile applications can provide a fast and safe tool, only a few studies demonstrated efficacy in preventing suicide among adolescents through the use of these interventions. Some studies suggested sophisticated algorithms able to recognize people at risk for suicide from language detection on social media posts. To date, only a few data support the use of such interventions in clinical practice and preventive strategies. Further studies are needed to test their efficacy in suicide prevention among adolescents and young adults.

Keywords: Suicide; adolescence; Technology; e-mental health

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Computer-based detection of depression and dementia in spontaneous speech

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Introduction: There is a significant relation between old-age depression and subsequent dementia in patients aged 50. This supports the hypothesis of old-age depression being a predictor, and possibly a causal factor, of subsequent dementia. The number of people aged 60 years and over has tripled since 1950, reaching 16% in 2050, leading to new medical challenges. Depression is the most common mental disorder in older adults, affecting 7% of the older population. Dementia is the second most common with about 5% prevalence worldwide, but it is the first leading cause of disease burden.

Objectives: Early detection and treatment is essential in promoting remission, preventing relapse, and reducing emotional burden. Speech is a well established early indicator of cognitive deficits. Speech processing methods offer great potential to fully automatically screen for prototypic indicators of both dementia and depressive disorders.

Methods: We present two different methods to detect pathological speech with artificial neural networks. We use both deep architectures, as well as more traditional machine learning approaches.

Results: The models developed using a two-stage deep architecture achieved 59% classification accuracy on the test set from DementiaBank. Our CNN system achieved the best classification accuracy of 63.6% for dementia, but reaching 70% for depressive disorders on the test set from Distress Analysis Interview Corpus.

Conclusions: These methods offer a promising classification accuracy ranging from 63% to 70%, applicable in an innovative speech-based screening system.

Keywords: machine learning; mental health monitoring; speech technology; prosodic analysis

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Digitalization of education and mental health

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