

**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

## EPP0588

### 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

## EPP0589

### Digitalization of education and mental health

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**Introduction:** Various social problems, financial difficulties and academic factors contribute to the fact that more and more students around the world experience mental health problems (Chen et al., 2013; Gotlib et al., 2019). On the other hand, all the sides of students' lives – from education to family relationships – are mediated by information communication technologies, that may have broad and ambiguous influence on students mental health. What is undoubtedly that youth mental health can no longer be considered without touching on the digitalization, including in education.

**Objectives:** The current study aims to point up positive and negative examples of intersection of education digitalization and mental health of modern youth.

**Methods:** Theoretical analysis of research publications and conceptualization of practical applications in education mediated by digital technologies.

**Results:** A striking example of the negative impact of total digitalization of education was the sharp deterioration in mental health in the context of the transition to fully distant learning in conditions of the spread of coronavirus infection. Positive education as teaching form for both traditional skills and positive functioning and happiness provides a broad opportunities to combine the concepts of positive psychology with cutting-edge high-tech education approaches.

**Conclusions:** Digitalization of modern education can be accompanied by both mental health risks and new opportunities. Mental health support can be based on finding information about good functioning, learning and participating in community activities that are provided through websites and mobile applications. The reported study was funded by the Russian Foundation for Basic Research, project number 18-29-22049.

**Keywords:** mental health; Education; digitalization

## EPP0590

### The use of virtual reality in the treatment of autism

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**Introduction:** The characteristics of the Autistic Spectrum Disorder involve deficits in social communication and repetitive patterns of behavior and that there is a growing interest in the use of new technologies for neurorehabilitation.

**Objectives:** This research aimed to verify the possibility of using Virtual reality for the treatment of Autism.

**Methods:** Scientific publications were selected from the PUBMED, ScieLO, LILACS and Google Scholar databases, written in Portuguese and English, with free access, between 2014 and 2019.

**Results:** A total of 19 publications were identified. Concerning their design, 26,3% of them were experimental, 21,1% qualitative, 21,1% one-group pretest-posttest, 15,8% quasi-experimental, 10,5% descriptive and 5,2% of them were exploratory research studies. The studies focus on anxiety and phobias reduction, as well as teaching strategies to deal with stressful events. Eleven of the studies focused on the enhancement of independence and self-confidence of the subjects. In five of the studies the virtual reality was used with other technologies. In two of them the EEG was used along with virtual reality for detecting the cerebral region in activity during action.

**Conclusions:** Virtual reality was defended in most of the studies because it can provide a safe environment and offering high control of variables. Although the results indicate the use of virtual reality for the reduction of anxiety and the promotion of self-confidence and independence which aims the social deficits in autism, more research is needed to investigate the use or impact of VR on repetitive behavior.

**Keywords:** virtual reality; Treatment; autism

## EPP0594

### Professional burnout syndrome: Alexithymia, empathy and communication mechanisms

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**Introduction:** Professional burnout syndrome (PBS) is currently considered from the perspective of value-oriented sense – of underlying psychological factors contributing to PBS development promotes the relevance of this study.

**Objectives:** The study population included 81 medical professionals from out-patient polyclinic healthcare institution, among which 47(58%) healthcare professionals showed symptoms of burnout (mean age – 38,5±11,4 years old).

**Methods:** 'Attitude to Work and Professional Burnout' by V.A. Vinokur, 'Coping Strategies' by S. Folkman and R. Lazarus P., Spielberg's Questionnaire; TAS-26; Emotional Response Scale by A. Megrabyan and N. Epstein.

**Results:** The correlation analysis revealed certain interdependencies between the professional burnout symptoms and personal qualities of subjects. Thus, the higher burnout level correlated with increased emotional burnout ( $r=0,871$ ;  $p=0,016$ ), reduced professional satisfaction ( $r=0,624$ ;  $p=0,031$ ), poorer health and adaptation ( $r=0,872$ ;  $p=0,023$ ), increased state anxiety ( $r=0,551$ ;  $p=0,000$ ), increased alexithymia scores ( $r=0,823$ ;  $p=0,017$ ); reduced empathy scores as emotional response to others' emotional experience ( $r=0,466$ ;  $p=0,000$ ) and reduced willingness to involve into other people's issues ( $r=0,564$ ;  $p=0,032$ ). No statistically significant correlations between TAS total alexithymia score and empathy score were demonstrated.

**Conclusions:** The healthcare professionals employed at the out-patient polyclinic units belong to the at-risk population group of professional burnout syndrome development. The individuals with higher burnout levels show typical specific correlations of empathy forms: in particular, decreased ability to differentiate one's feelings from feelings of others, increased emotional sensitivity and reduced willingness to involve into other people's issues are usually observed.

**Keywords:** burnout; adaptation; empathy; alexithymia