OICshift: A Mobile & VR Game With Integrated Multi-targeted Application for Detection of Aggression Behavior in Arab Children and Adolescents, Assessment of Game Intervention and Insights Into Parental Behavior

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Lacking adequate tools for early detection and treatment of Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) among Egyptian children and adolescents poses a crucial challenge. According to DSM-5-TR, 3.3% and 3.2% of people exhibit ODD and CD symptoms, respectively, often developing other comorbid disorders, highlighting the need for improved screening and intervention strategies. To examine this problem, a mobile application for symptoms and behavior detection (OICtect) was developed integrating 3 components. The first component is a 26-item Likert scale, the Conduct and Oppositional Defiant Disorders Scale (CODDS) enhancing screening accuracy among ages (5-16). Experiments to validate the CODDS (n=362), resulted in (overall accuracy=89.17%, AUROC=0.918/ODD, AUROC=0.954/CD). The mobile and VR based video game (OICshift) transitioned the participants' aggressive behavior and symptoms through digitally facilitated Social Skills Training (SST) utilizing interactive scenarios and gameplay. The game scores were assessed pre, post intervention and after 2 weeks follow up through the 23-items Disruptive Behavior Disorders Rating Scale (DBDRS) as the second OICtect component. The 42-items Alabama Parenting Questionnaire (APQ) is the third component of OICtect to assess parental behavior as a crucial factor impacting ODD and CD development across 5 independent subscales. OICshift evaluation in reducing symptoms for both children (age 5-12, n=32) and adolescents (age 13-16, n=32), resulted in high effect sizes ($p<0.05$, $eta^2>0.14$). All OICtect or OICshift components were adapted to suit Arabic culture and language. These findings and proposed tools provide a significant contribution to the early detection and intervention for ODD and CD development in Egyptian youth.

Awards Won: