

Mini-Review Virtual Autism in scientific literature and the difference from Classical Autism

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Abstract

This Mini-Review aims to look for the scientific basis of the newly observed phenomenon of autistic symptoms in IESE (Intensive Early Screen Exposure) children and the origin of the name Virtual Autism and the other effects of screen exposure on children. The overlap between classical Autism and virtual autism and the practical difficulty in implanting the off-screen test may be the cause of the rapid rise in Autism cases around the world these observations need solid community decision to support parents to live socially active lives with their children rather than leaving them to learn from the screens as the developing brain learns from the social interactions much more than learning from the screens. It is well known today that classical autism has mainly a genic origin and it's a lifelong disability which is essentially different from what is seen in virtual autism cases which is reversible and if treated early the children will have a normal life and can go to ordinary schools without the need for special education. There are evolving evidence-based recommendations which is based on these research papers and people need to take action to save as many misdiagnosed autistic children as possible before their autistic symptoms become irreversible as their brains grow.

Keywords: Virtual Autism, ASD, Screen-time, Intensive Early Screen Exposure IESE.

التوحد الافتراضي في البحوث العلمية و اختلافه عن التوحد الكلاسيكي

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الخلاصة

التوحد الافتراضي هو مجموعة من الاعراض المشابهة جدا للتوحد (الكلاسيكي) و التي شاهدها العديد من الأطباء النفسيين في السنوات الماضية في العديد من الاطفال دون سن الـ 6 سنوات في العديد من الدول حيث انهم لاحظوا ان العديد من الاطفال الذين يتعرضون للشاشات الالكترونية و لساعات طويلة (اكثر من 4 ساعات باليوم) و منذ اعمار مبكرة (منذ السنة الأولى من العمر) و التي على العكس من التوحد الكلاسيكي مرت بتحسّن ملحوظ جدا بعد عدة شهور (اكثر من 3 اشهر) بعدما وافق ذويهم على ايقاف مشاهدة الشاشات الالكترونية و استبدالها بألعاب حركية يومية بدون اي اعراض جانبية تذكر و هذه المشاهدات بأختلافها الجوهرية تشكل مرضا جديدا لم يتسنى للعلماء التعرف على جميع جوانبه و حتى ان اغلب المصادر الطبية

لم تدرجه كمرض مختلف بعد من هؤلاء العلماء د.آني ليز من فرنسا و د. مارس زامفير من رومانيا وغيرهم الكثير من تونس وتايلند و اليابان و امريكا. حيث بعد اسبوعين من مرحلة الاعراض الانسحابية من نوبات التهيج و الغضب و الصراخ بدأت اوائل علامات التحسن السريرية من وجود تغير في تعابير الوجه حيث بدأ الاطفال الذين يعانون من وجه جامد بأبداء بعض التعابير و الأهتمام بالاهل مع بقاء بعض التاخر بالنطق و فرط الحركة التي تتأخر لعدة اشهر و مع الاستمرار بالعلاجات الكلاسيكية المتبعة لعلاج التوحد مثل العلاج النفسي و العلاج اللغوي و غيرها لم يعد اغلبهم يعانون من اعراض التوحد وتمكنوا من الانخراط في المدارس الاعتيادية و هذ يختلف عن التوحد الكلاسيكي الذي لا تذهب اعراضه بهذه الاجرائات و تستمر وتقاوم مختلف انواع العلاج الى الكبر و يحتاجون الى برامج تربوية وتعليمية في مدارس خاصة . يتم الآن مناقشة ادراج التعرض الكثيف للشاشات الالكترونية كأحد العوامل المهيجة للتوحد لدى بعض الحالات التي لديها استعداد وراثي للأصابة و الذين كان من الممكن ان تتروسخ اعراض التوحد لديهم بلا عودة عند تجاوزهم عمر ال6 سنوات بدون اجراء هذا الاختبار عليهم.

الكلمات المفتاحية : التوحد الافتراضي ، طيف امراض التوحد ، اوقات تعرض الاطفال للشاشات الالكترونية ، التعرض المبكر والمكثف للشاشات الالكترونية في الاطفال .

1. Introduction

The term « virtual autism » was first used by Psychologist Marius Zamfir, in Bucharest Romania, who had evaluated and treated autistic children in Bucharest for more than ten years. In his longitudinal study from 2012 to 2017 in 2 specialized rehabilitation centers where he noticed that some children had a dramatic improvement in terms of development efficiencies DQ recorded by complex psychological evaluation with the recovery program at a very different pace of recovery from other autistic patients and these improvements were early. Those children who recovered quickly had some points in common. They had a minimum average consumption of 4-5 hours /day virtual environment, between 0-3 years old.

Some of these children were integrated into the mainstream education system without the need for special expert help. The only difficulty they had was in understanding abstract thinks, hints, sarcasm, and sign language used by people during communication. Children, in front of the virtual environment, are not a part of the human experiences of everyday language like thinking and stimulation by dialogue which parents, grandparents or family, or the human environment generally provide. In contrast, auditory and visual stimuli perceived in front of screens are quite aggressive for brains in full development, move so quickly, so they overpass children's capacity to control them. Invariably, the effect of all types of screens is the significant inhibition of some mental processes or the poor development of neuronal areas. As a result, Children get used to the virtual environment and they do not want to understand what is happening in the world around them and they are content only with sensations. These screens inhibit the children from learning by touching and physical

manipulation of materials which is one of the sources of knowledge and structuring neuronal pathways. This excessive consumption of virtual environment between 0-3 years old, genetic predisposition can produce even a neurocognitive structure typically for the children with ASD, affecting brain structures in the long term, by the influence of the epigenetic factors, caused by sensory-motor and socio-affective deprivation, leading to the high incidence of autism at the national level through this new form of autism called in this paper Virtual autism. [1]. These findings were observed by other psychologists in multiple countries who independently described a phenomenon not documented previously in young children who have been heavily exposed to screen media (more than 4 hours/day and more) from a very young age usually the first year of life. Those children had autistic-like behaviors and others were diagnosed with autism and the symptoms subsided in several months when the parents accepted to stop screen exposure and replace them with daily dynamic playful interactions. Of this Clinical psychologist, with expertise in diagnosis and treatment of ASD patients, Sabine Duflo independently saw the same evolution in some of her patients, as well as pediatrician Sylvie Osika. [2] Others like Heffler and colleagues presented 3 such cases at IMFAR 2017 congress [3].

In France, Dr. Anne-Lise Ducanda, who posted a video on Youtube in 2017 trying to alert on this emerging phenomenon [4], presented 8 such cases in April 2018 at the national congress of French General Practitioners. In most of these scenarios, these improvements would not have happened if these environmental and social changes if the screen deprivation was delayed to age of 4 to 6 years of age as if the neuropsychological development of these children have stopped at a certain stage and would not improve easily if not cached early. In most scenarios, the child would pass a period of withdrawal symptoms of irritability up to 2weeks after that the early signs of change will occur that is the development of facial expressions of previously blunted faces and the social interactions with the family members and this is very pleasant to the family but the language development will be delayed and need several months to improve [2].

The earlier the child is removed from screen exposure the faster the recovery that it may be several weeks in 1.5 years but the recovery time may be delayed to several months in 4 years of age [15].

2. Result and discussion

There are several potential explanations why increased TV exposure over time and adult TV programs could have deleterious effects on toddlers' behavioral scores.

1- Increased TV exposure can displace valuable time that should be between the caregiver and the child, which can then lead to ineffective monitoring and discipline for the child's behaviors

2- Adult TV programs that usually contain violent content are not appropriate for children, particularly infants and toddlers, since characters, features, and scenes in such programs can be poor models for young individuals. So, young children who are heavily exposed to these programs are being at high risk for aggression, oppositional defiant behaviors, emotionally reactive problems, and externalizing behaviors [5].

Brain and behavioral studies indicate a very complex set of interacting brain systems in the initial acquisition of language. Attention and social interaction will activate brain mechanisms that raise a sense of the relationship between the self and other and social understanding systems that connect the perception and action [11]. In China, a cohort study on 8900 kindergarten children 3 to 6 years of age showed a positive linear relationship between screen time ST and autistic-like symptoms by using Clancy Autism Behavior Scale CABS. [6] Other neurodevelopmental problems with screen time ST ADHD, learning disorders, Aggression, reduced prosocial behavior, attention problems, impaired language, and mood disorders, and displacing their sleeping time which itself poses many statistically proven social problems. [2,6,7,10]. With increasing, technology children are using the screens more and more and at younger age parents are encouraging their children to calm them and keep them entertained. Unfortunately, screen exposure has dangerous effects on the developing brain at the structural level and the neurochemical level, and at the level of unmasking some genetic traits of autism. The biochemical changes are decreased melatonin concentration [9] neurotransmitter deficiency like dopamine, acetylcholine, gamma-aminobutyric acid GABA and 5-hydrotryptane 5-HT. At the structural level Brain matter we found positive effects of TV viewing on rGMV of the frontopolar and medial prefrontal areas in cross-sectional and longitudinal analyses, positive effects of TV viewing on rGMV/rWMV of areas of the visual cortex in cross-sectional analyses, and positive effects of TV viewing on rGMV of the hypothalamus/septum and sensorimotor areas in longitudinal analyses. We also confirmed the negative effects of TV viewing on verbal intelligence quotient (IQ) in cross-sectional and longitudinal analyses. Although media exposure can improve language in children but learning [8,12,13].

Results showed that children who spent viewing ≤ 3 hours per day had language delay and short attention span only, while children who spent viewing ≥ 3 hours per day had language delay, short attention span, besides hyperactivity. While we found that more than a half of them (66.6%) had no parent-child interaction during the exposure, speech delayed and short attention had been reported in all cases, and hyperactivity was found in 66.6% of children [7].

We have recommendation he American Academy of Pediatrics recommends never to expose children below 18 months of age to screens but some video-chatting. At 18 to 24 months you can view some high-quality programming apps and use them with the child and not to leave them alone. And some specific hours for each age. No screen during meals and within 1 hour before bedtime [14].

For parents: Avoid the exposure of electronic devices with screens for children younger than 24 months and turn off the devices when not in use particularly in children's rooms. [1]

Between 2 to 3 years limit the daily use of screen time to one hour/day and only in the presence of adults to explain to the child what are they watching [1]

Between 3 to 6 years limit the screen time to a maximum of 1 hour a day with the selection of high-quality content. [1]

For specialists: Inform the parents about the risks of screen exposure below 3 years and advise them on the maximum screen time according to the age and encourage quality alternatives and recreational activities. [1]

For public institutions: holding health awareness campaigns on the risks of virtual environment (mobile, TV, laptop, computer) on children below 3y [1].

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