

- 🌀 **Name of the study:** Use of technologies that assist in the diagnosis and treatment of children with disabilities (ASD, autism, rehabilitation) as part of the "Future Initiative"
- 🌀 **Year:** 2023
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- 🌀 **Research Authority:** 'Michlol' unit, Keren Shalem foundation

Executive Summary:

This study was carried out by 'Michlol'- the Assessment and Measurement Unit of the Shalem Fund

Background. The "Future Initiative" and Keren Shalem have teamed up with the aim of examining the manner and extent of use and consumption of assistive technologies by professionals, in the diagnosis and treatment of children with developmental disabilities (0-21). Also, there is an intention to establish a "forum of users of assistive technologies", therefore it is important to get preliminary information about the current situation on the ground in this matter. The purpose of the survey. The main purpose of the current survey is to collect information regarding the means of assistive technology that are actually used in Israel, in the diagnosis and treatment of children with developmental disabilities, as well as to estimate the extent of use and availability of these technologies. The secondary purpose of the survey is to collect details of people belonging to the target audience, who will be interested in joining a dedicated forum that will be opened for the development of the topic.

Methodology. The research was carried out by sending a structured questionnaire that includes both closed and open questions. The open questions were mainly concerned with presenting the variety of tools the respondents use to diagnose and treat children with disabilities, according to the different levels of technology, as well as the tools they would be interested in using, if they were available to them. As part of the analysis of the findings, a comprehensive mapping of all the proposed tools was done, while trying to divide them into meaningful categories.

The target population of the survey is the health professionals, working under the Ministry of Welfare and Social Security and the Ministry of Health (Child Development Institutes, etc.), in settings that provide services for babies, toddlers and children with disabilities (PWD, autism, rehabilitation) from birth to 21.

A total of 136 people responded to the survey. 56% of the participants work in medical settings (rehabilitation hospital, child development institute and private clinic), while 42% work in educational settings (special education school, special education kindergarten and rehabilitation day care). Also, most of the sample are speech therapists (about 35%), occupational therapists (about 23%) or physical therapists (about 17%).

Findings. The research findings, which dealt with detailing the means used in the diagnosis and treatment of children, are divided into the three categories of technology levels. At the level of non-technological means, the respondents indicated various aids of which 28% are used for mobility, 15% for communication, 15% for the development of gross motor skills, 14% for the development of fine motor skills, 10% for games/toys, 7% for sitting/lying down, 4% for tests and assessments by the therapist, 4% for eating/drinking and 3% help to create therapeutic environments. At the level of means at a low level of technology, the respondents indicated the use of various aids, including 25% means of communication, 22% means of computing and screens, 18% a variety of switches, 15% adaptations for computer accessories, 13% brand name markers/toys, 4% computerized work environments and learning means and - 4% aids for diagnosis and evaluation.

At the level of measures at a high level of technology, an analysis was performed per person and not per means, in order to check the frequency of therapists who use this type of technology. It was found that 44 of the 136 respondents to the survey (32%) indicated the use of high-tech aids, with 17 of them indicating that they use an iPad/tablet, but did not indicate that the software was installed on it, so it cannot be said that it is high-tech. In other words, it can be said that only 27 of the 136 respondents to the survey (12.5%) use aids at a high technological level such as virtual/augmented reality, a gaze focusing system, an iPad with subliminal software, and more.

Examining the extent to which the therapists use the types of aids with different levels of technology revealed that the higher the level of technology, the lower the degree of their use, and vice versa, the non-technological aids are used on a daily basis by about 50% of the therapists compared to about 16% who use High technology on a daily level.

Examining the considerations for matching aids to patients brought up a variety of considerations according to which the therapists act. At the center of the considerations are the characteristics of the child (56%), followed by: knowledge, research and collaboration (15%), the characteristics of the aids (11%), the goals of the treatment (9%), the characteristics The family (6%) and the potential of the aids for the advancement of the child (3%).

Additional findings showed that 63% of the participants indicated that assistive technology means are always or often available to them, compared to 37% who indicated that these means are not available at all or are rarely available. When the participants were asked about their

future desire to use aids that are not currently in their possession, 58% stated yes, and when asked if they would like to join an assistive technology user forum, 60% of them answered yes.

Conclusions and recommendations. The findings of the survey reflect the idea behind it - there is a reluctance to use innovative technologies by therapists in the field of child development (both due to the findings and due to a very low response to the survey). The findings indicate that there is a need for a deliberate effort to impart familiarity with modern technological means, training, imparting knowledge on two levels - a. The young therapist population - in training courses at the academy, since practitioners in the field have almost no courses dealing with innovative technological accessories. It is suggested to think about ways to introduce such contents in the curricula.

It was suggested that Keren Shalem issue a call to the health professions at the academy for courses that deal with modern technologies in the care of children with disabilities. B. The older caregiver population - action must be taken against the organizations/institutions that employ them, for example, the use of advanced technological accessories can be actively introduced through the child development institutes in collaboration with the health insurance funds.

It was agreed that we should act on a strategic level with the government bodies - the ministries of education, health welfare, professional associations of the health professions, and more - in order to raise the discourse on this issue, to promote it, and to bring about increased training and use that could provide benevolent and advanced torturers for children with disabilities.

Keywords

Developmental disability, Diagnosis and treatment, Children, Assistive technology, the Future Initiative

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