

Technology to Improve Home Affordance of Premature Infants; A Letter to the Editor

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A Letter to the Editor

Dear editor;

This is a letter to congratulate the authors on an excellent contribution to the science of development as it concerns motor development of premature infants in their article about the affordance of the home environment [1]. The research deals with the severe significance of the post-discharge setting of the premature infants who represent a highly vulnerable population. As the researchers used the Affordance in the Home Environment for Motor Development-Infant Scale (AHMED-IS) to compare home affordances between premature and mature babies, they have properly addressed the gap in the literature, which they appropriately state by mentioning that, no study has been identified that compared home environment of premature and mature babies after discharge.

The strongest aspect of the study is that the researchers took a particular and practical conclusion: the families of premature newborns offer significantly less of the fine motor toys ($p=0.03$) than their full-term counterparts. This observation is further enhanced by the fact that the study also concomitantly found that no other domain i.e., variety of stimuli ($p=0.70$), physical environment ($p=0.72$), gross motor toys ($p=0.10$) or the overall home environment score ($p=0.19$)

exhibited any statistically significant difference between the two groups. This background study gives us a clear point on which the intervention should aim and is a critical stepping block to how we can better cater to such families, especially with the effective use of modern technology.

The actual worth of clinical research becomes achieved when the results of such research are incorporated into scalable and affordable support systems to the parents and caregivers. The authors of the study cleverly mention the possibility that the lack of the awareness of the families could be one of the factors that cause a lower-than-satisfactory home environment. This raises a very important education and support gap. Since premature babies need an enhanced home environment and parental training is of paramount importance, the modern information technology may provide a very effective and strong tool to fill this gap. In order to translate the results of the study into a possible support, we are to consider the following interventions supported with technologies aimed at empowering parents:

Individualized Parent Education through Mobile Applications: Mobile applications have the potential of providing customized parent education to parents of preterm babies on a week-by-week basis [2]. These platforms might provide evidence-based recommendations regarding particular, low-cost

activities and even self-made toys that support the development of fine motor skills directly to mitigate the main shortage described in the study [3].

Telehealth and Virtual Coaching: Families can be linked to occupational therapists and child development professionals by taking advantage of the telehealth opportunity and be connected with them in spite of geographical considerations [4,5]. This method offers professional, individualized instruction on how to enhance the home setting and is a scalable model of training such as the H-HOPE referred to in the article [6].

Online Resource Hubs and Communities: The value of an evidence-based online resource hubs and communities is a treasure trove of developmental play video demonstrations, peer-support forums with expert moderators. These communities may aid in the establishment of parental confidence and the fight against the fear of the families that the study is proposing may restrict the sensory-motor experiences of a child. [Refer to pertinent source on online parent support networks.

In addition to direct intervention, technology may also help solve the methodological weaknesses of traditional research. As the existing research was based on a useful assessment that involves cross-sectional, questionnaire-based assessment (AHEMD-IS), the future direction of a study of this field could be refined by using sensor-powered toys or developmental diaries using a mobile device. Such a methodology would be able to obtain objective longitudinal data on infant-toy contact, length of play, and environmental stimuli, and create a much more vivid and vibrant image of the home environment than a one-point questionnaire and yield more information on developmental trends over time.

The research team in the article "Infants Motor Development of 3-18 Month Premature Infants in Comparison with Their Normally Developing Peers based on Home Environment Affordance" has given an important part of the puzzle in learning the issues that premature infants face once out of the NICU (neonatal intensive care unit). Our task is to construct the therapeutic system; the critical diagnostic data will be found in their work. Through

exaggerating the research results by applying specific digital health solutions, we will be able to empower parents with the skills and self-efficacy required to establish the enhanced home environments that their children need to succeed. This requires more cooperation among clinical researchers, developmental specialists, and health technologists to develop all-encompassing systems of care, which would support premature infants and their families smoothly, all the way, whether it is the intensive care unit or a safe and nurturing home setting.

Sincerely.

Acknowledgment

None.

Ethical consideration

Ethical considerations in terms of honesty and integrity in texts and sources have been observed.

Conflict of interest

None.

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