

Review Article about Video games for Hospitalized Children

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Abstract: Video games are electronic games that involves human interaction with user interface to generate visual feedback on video device such as I pad, television and computer monitor. Video games are active distraction technique through which the child engage more attentional resources than passive tasks, which involve active problem solving, may be more likely to interfere with pain exacerbating maladaptive thought processes. Implementation of video games play intervention was also one of the resident innovation projects It can carried out with the purpose of reducing pain, fear and discomfort faced by children during hospitalization. Video games are multisensory toys involving audiovisual, kinesthetic, and tactile senses, requiring a child's active cognitive, motor, and visual skills. Video games are improved children's experience in hospital, it can represent an escape from reality and make the hospital a more pleasant and controllable place for children. They can be created help in a number of ways, distract child from a pain and provide a window for social interactions, most appropriate way to develop empathy and as a channel to understand the world from the viewpoint of children. **Conclusion:** this study concluded that Implementation of video games had significant effect in alleviation of post-operative pain level among studied preschool children on the posttest compared to the pretest. **Recommendation:** this study recommended that ongoing health education programs based on application of video games distraction technique for parents should be implemented to manage post-operative pain.

Keywords: Children, Distraction, Pain and Video Games Play.

Introduction

Video games (VG) are electronic games that involves human interaction

with user interface to generate visual feedback on video device such as I

pad, television and computer monitor (Tran, 2019). Video games as a therapeutic play is a technique used to reduce pain in hospitalized children, to evaluate the children's feelings and misunderstandings against the treatments and procedures to be applied and to help the child develop positive coping methods (Nurhayati, 2019). Mobile health is a recent area of health care that can be used for the empowerment of children and their parents in self-care (Anderson, Burford, & Emmerton, 2016). Smartphone multimedia apps or games can be used as active or passive distractors and can help to reduce pain in children in surgery situations (Statistic Finland, 2018).

Play it is an important part of childhood, very important element for meeting the needs of the hospitalized children. therefore, playing activity enables children to see things from a different perspective, think creatively, realize their emotions, learn moral, social rules, and develop their expression skills and vocabulary. With technological innovations rapidly developing, we have an increasing number of mobile apps and games that children can potentially use as pain distractors after operation (Nurhayati, 2019).

Play activity is important to maintain the physical and mental health of children. It is included objects and occur individually

or in a group. It is based on the intention of having fun and psychosocial development, provides new sensations, creates, and recreates everyday life situations and helps children discover the world. However, some situations can hinder play such as hospitalization (Rantala et al., 2020).

Video games are active distraction technique through which the child engages more attentional resources than passive tasks, which involve

active problem solving, may be more likely to interfere with pain exacerbating maladaptive thought processes. Implementation of video games play intervention was also one of the resident innovation projects It can carried out with the purpose of reducing pain, fear and discomfort faced by children during hospitalization. Video games are multisensory toys involving audiovisual, kinesthetic, and tactile senses, requiring a child's active cognitive, motor, and visual skills (Zeroth et al., 2019).

Distraction is a mental coping strategy that converts attention away from a painful stimulus by redirecting attention to an activity or actively involving the subject in a distracting task. It is new trend to psychologically sedating the pediatric patients. Distraction is non-pharmacologic intervention is considered as a useful approach to improve child experience of painful procedures, it is a safe, easy, inexpensive, effective practical psychological pain management strategy for short painful procedure and obviously effective in improving pain control during invasive procedures (Raeder et al., 2019).

Distraction is a common non-pharmacological technique used for pain management in children and can be used by both health professionals and parents. Distractors can be divided into active or passive. For children, active distractors include the use of video games, virtual reality, interactive toys, controlled breathing, guided imagery, and relaxation. Passive distractors include listening to music or watching television (Inan & Inal, 2019).

Video Games Distraction Therapy (VGDT):

Are novel distraction tasks, interactive distraction that requires active participation and full cognitive capacity, with a continuous exchange between the player and the game's software. They are use of video games to help stop negative cognitions, provide relief from pain, stress and thereby lead to feelings of relaxation (Wulf et al., 2019).

Active Video Games (AVG):

AVG refers to digital games in which players have to do some degrees of active play to advance within the game (Nordin et al., 2019).

Gamer: Is defined as a person who plays video, internet, or computer games (Abdallah, 2020).

Video Games Screen Time:

American Academy of Pediatrics recommends some specific suggestions for screen times include no screens for children under 18 months, only one hour of media a day for toddlers and preschool and no use of digital media (Matheve et al., 2020).

Media should be limited to one hour a day for children ages 2 to 5 and it should involve high quality programming that parents and children can engage together, the statement says. With the exception of video-chatting, digital media should be avoided altogether in children younger than 18 months old. Older children and teenagers should have consistent and reasonable limits placed on their media use and parents need to follow similar limits (Chen et al., 2021).

Therapeutic Uses of Video Games:

Therapeutic play is technique used to reduce trauma in hospitalized children and to evaluate the child's feelings, misunderstandings against the

treatments, procedures to be applied and help the child develop positive coping methods. Video game encourages the rebuilding of skills lost through surgery or illness and can be used to achieve treatment plans and goals (Olbrecht et al., 2020).

Video games are improved children's experience in hospital, it can represent an escape from reality and make the hospital a more pleasant and controllable place for children. They can be created help in a number of ways, distract child from a pain and provide a window for social interactions, most appropriate way to develop empathy and as a channel to understand the world from the viewpoint of children (Makeen, 2020). Video games are enabling the identification of real physical, psychological, and social demands of children, and help to build a care plan that is compatible with their individuality, videogames playing reduces the tension and makes the environment more enjoyable. It is also recognized as a necessary therapeutic measure in pediatric care. Also, video games are more likely to hold children's attention longer than familiar types of distraction. Moreover, allows children to forget, for an instant, the suffering caused by illness and hospitalization (Inan & Inal, 2019).

Types of Video Games:

Video games have many types, based on game play. These types are usually called genres, the main genres of video games are action-adventure, role-play, simulation, and strategy, these can be further divided into several categories, such as platforming, fighting, survival horror, and shooter (Statista, 2019).

Video Games Application Selection:

Careful selection and downloading of application allows the device to be modeled accordingly to meet each child's individual interests and cognitive ability children from the age of four years can interact fully with age-appropriate apps and those aged 2–3 years can interact with them but are not necessarily able to complete complicated or intricate touch control children aged younger than five years are unable to successfully engage with hand held computers (Green et al., 2018).

Mobile applications, commonly referred to as apps, are software developed for use on wireless mobile devices such as smartphones and tablets. Apps are designed with the limitations and features of mobile devices in mind. For example, a game could make use of a smartphones, or a drawing pad app could make use of a tablet's stylus. Gaming apps are the most popular category among Apple users, accounting for 25 percent of active applications. Tools, communication, video players and edit, travel and local are the leading android app categories worldwide (Clement, 2019).

Effects of Video Games Distraction on Post-operative Pain in Children:

Children focus their full attention on the game, child report the sensation of spatial presence within the game and this intense interaction provides an effective way of escaping negative cognitions of pain. Video game cause foster psychological detachment, it have a high effect on the focus of children on the game and create a high degree of immersion, and thus support feelings of relaxation and recovery from pain (Dahlquist et al., 2019).

Video games have a potential in modifying affective states of mind and perhaps have a positive effect on brain

activities, video games may be an effective tool in helping the healing painful procedures by reducing pain and any negative affect, video games distraction are interactive, goal-oriented, and requires executive skills, such as planning, anticipation, and ongoing active direction of attention to the game therefore have been used to help decrease pain and anxiety related to surgery in children (Havenga, 2019).

Advantage and Disadvantages of Video Games:

Video games can be used to enhance child's life, help improve test scores, teach life, and job skills, improve brain function, encourage physical exercise. Most popular video games and apps are addictive by design. Because video game addiction can negatively impact social and physical health, parents should be aware of the symptoms (Mohite, 2023).

Advantage of Video games, in education Studies have found that video games can improve learning. When video games have been used in the classroom, teachers see improved test scores. Games also allow students to learn and then apply what they have learned in a real-life situation (Smirni., et al 2021).

On life skills Many video games teach kids how to delegate, work as a team, and prioritize. Internet-enabled games that let kids play with their real-life friends often require collaboration and division of tasks to beat the level. Improved brain function, video games have been shown to help to improve children ability to reason and solve problems, help them to make decisions, process information more quickly, and multitask effectively. Games can also improve hand-eye coordination and boost auditory perception (Mayer, Parong, & Bainbridge, 2019).

disadvantage of video games, violence, children playing violent video games show decreased activity in areas of the brain dedicated to self-control and an increase in emotional arousal. Addiction, playing releases dopamine into our systems, which gives us a feeling of pleasure and tells our brain to “do it again. Children with poor impulse control or who have a hard time fitting in are most vulnerable to game addiction. This may be because video games offer an easy way to fill the void created when real-world relationships are hard to form. Social replacement, internet-connected games make it easy to “hang out” with friends after school without ever leaving home. But this type of virtual get-together is no replacement for actual face-to-face interaction (MenendezGarcía., et al 2022).

Parents Role during Playing Videogames:

Parents have important role alleviating post-operative pain and in` preparation of children to engaged in playing of video games. Parents prepare children to the procedures and feelings associated with the procedures are explained in an age-appropriate manner, coping statements, the child taught to repeat a set of positive thoughts (e.g., “I can do this” or “this will be over soon”) and parental training, the parents or family members are taught one of the above interventions to decrease stress, as decreasing the parent’s distress will often lead to a decrease in the child’s distress (Krajicek, 2017).

Nursing Role during Playing Videogames:

Nurse is primary advocates of family centered care who work in partnership with other members of the health care team to meet the unique emotional and

developmental needs of each child and family. In this play therapeutic play, the phases followed in each session were based on seven steps according to Oaklander, building a therapeutic relationship, contact making, building self-support in children, emotional expression, self-nurturing, addressing the inappropriate process and termination (Oaklander, 2018).

Nurse should be teaching nonpharmacological pain strategies as video games, the setting should be age appropriate and child-friendly in order to minimize anxiety and fear. An environment which is peaceful, calming and inviting will encourage the child to come in with curiosity and inquiry but without fear or anxiety. Even if the setting is a treatment room or the emergency department where bright lights are necessary, the nurse should bring child centered items and use language which will ensure the child perceives calmness and comfort (Rono, 2021).

Nurses should consider videogames play as the most appropriate way to develop empathy and as a channel to understand the world from the viewpoint of children, which subsequently encourages bonding. These qualities enable the identification of real physical, psychological and social demands of these children, and help to build a care plan that is compatible with their individuality (Von Der Heiden et al., 2019).

Toys, books, games, and other kid-friendly materials may help level the playing field for a fearful child. Child friendly items can be stored in a large canvas bag, ready to be called into duty whenever needed. Supplies might include handheld video games, toys with visual components such as lights or moving parts, rattles bubbles, a pinwheel, Silly Putty, a squeeze ball (Chow et al., 2017).

Toys are a form of communication for children and nurse, in this way, with the use of dolls, needles, syringes, and bandages, video games as a therapeutic toy can assist in communication between the nurse and child. Play activities have several meanings for hospitalized children, understanding these meanings should be part of the professional routine, considering that care involves knowledge and the ability to identify the care needs of patients (Binay & Yardimci, 2018).

Conclusion:

This study concluded that Implementation of video games had significant effect in alleviation of post-operative pain level among studied preschool children on the posttest compared to the pretest.

Recommendation:

This study recommended that ongoing health education programs based on application of video games distraction technique for parents should be implemented to manage post-operative pain.

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