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Motivational Programs for Children with Cancer

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Abstract

Childhood cancers are common health problems, the treatment of which involves motivational programs to maintain well-being. Some of those motivational programs are mind-body techniques, storytelling, video games, camping, cognitive-behavioral approaches, and family-centered care. This review examined some motivational programs for children with cancer. They are technology- and model-based programs tailored to the needs of children with cancer aged 3 to 18 years in treatment. Children who receive motivational programs are likely to experience less anxiety, present fewer symptoms, have a higher quality of life, and cope better with problems. Nurses should play an active role in developing motivational programs and integrating them care of children with cancer.

1. Introduction

Childhood cancers are global health problems (Steliarova-Foucher et al., 2017). Cancer treatment has physical and psychosocial effects on children (Arceci, 2016; Rodgers, Withycombe, & Hockenberry, 2016). Treatment adherence is critical in this process (Liptak, Chow, Zhou, & Recklitis, 2016). Therefore, children need to develop skills to cope with their health condition (Ho et al., 2019). Motivation is an important factor that helps children develop coping strategies. There are some psychosocial programs developed by nurses to motivate children with cancer to stay strong and keep fighting (Thygeson, Hooke, Clapsaddle, Robbins, & Moquist, 2010; Wu et al., 2014; Yu, Mo, Tang, Huang, & Tan, J. 2014; Elkreem, Mohammed, & Mohammed, 2014; Zupanec et al., 2017; El Sayed, Ibrahim, Mohamed, & Ahmed, 2019). This review article examined some of those programs.

2. Motivational Programs for Children with Cancer

Some of the motivational programs for children with cancer are mind-body techniques, storytelling, video games, camping, cognitive-behavioral approaches. In addition family centered care can be employed within the content of programs. Some of those programs are only child-centered (Akel, Sahin, Huri, & Akyüz, 2019; Zhang, Mo, Torres, & Huang, 2019), while others are both child- and family-centered (Thygeson et al., 2010; Lyon, Jacobs, Briggs, Cheng, & Wang, 2014). Healthcare professionals often use technology to implement and evaluate those programs (Jones et al., 2010; Sajjad, Hanan Abdullah, Sharif, & Mohsin, 2014; Zhang et al., 2019). Technology-based motivational programs are adaptable, flexible, user-friendly, and cost-effective programs that appeal to the five senses and provide an interactive experience for a wide variety of users (Kazdin, 2015; MacDonell & Prinz, 2017; Corralejo & Rodríguez, 2018; Muntean, Bogusevschi, & Muntean, 2019). This section provided information about the content, duration, age groups, and outcomes of motivational programs for children with cancer. Figure 1 presents contents and benefits of motivational programs for children with cancer.

2.1. Mind-body techniques

Motivational programs based on mind-body techniques generally include yoga, physical activity, relaxation techniques, deep breathing, and progressive relaxation exercises (Thygeson et al., 2010; Kaushal, Narendra, & Smitha, 2013; Elkreem et al., 2014; van Dijk-Lokkart et al., 2016; Zupanec et al., 2017). Some of the motivational programs focus only on one of those exercises, while most integrate a few of them. For example, Thygeson et al. (2010) implemented a motivational program focusing only on yoga, whereas Zupanec et al. (2017) taught children about sleep hygiene and progressive relaxation, and deep breathing exercises.

Motivational programs based on mind-body techniques may range from three days to nine months and appeal to children aged 3-18 years with leukemia, lymphoma, and solid tumors. They alleviate psychological (anxiety) and physical symptoms (pain, fatigue, nausea, etc.) and improve the quality of life and sleep (Thygeson et al., 2010,

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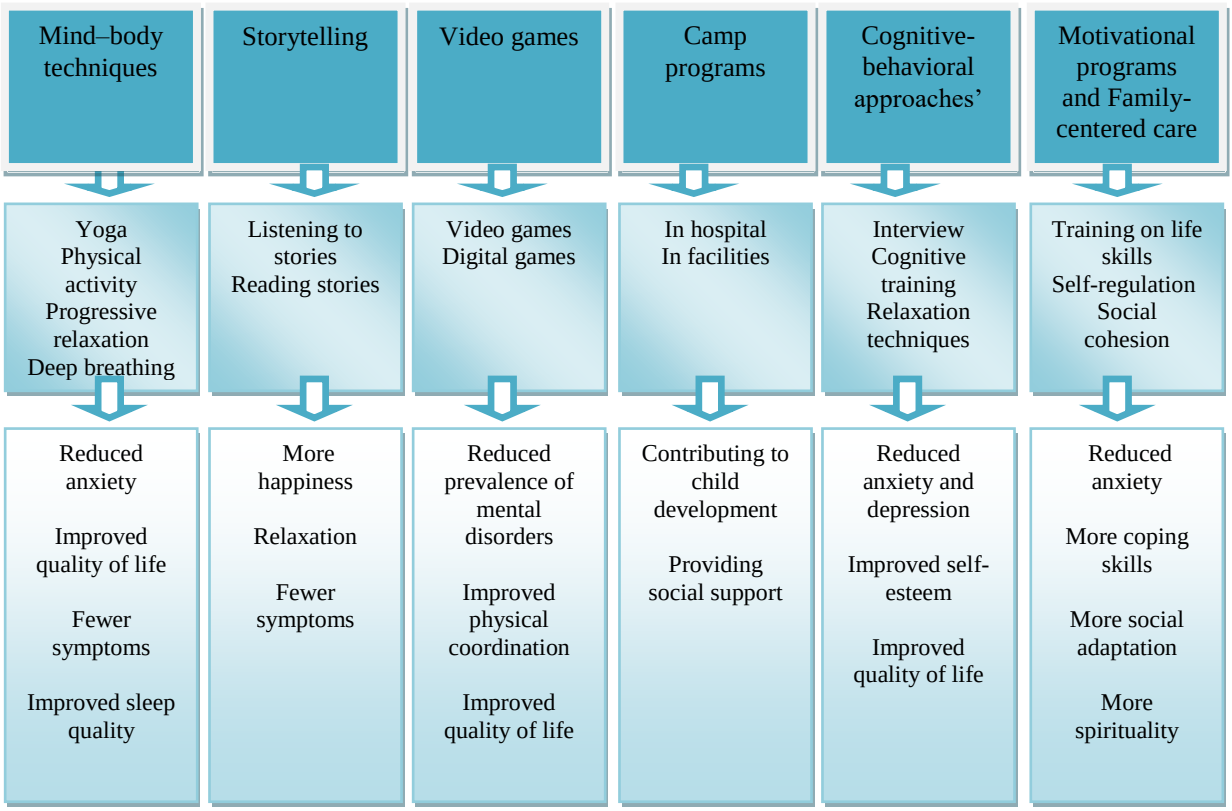
Figure 1. Contents and benefits of motivational programs for children with cancer*



*Developed by the researchers based on a literature review (Thygeson et al., 2010, Speyer et al., 2010, Amer, et al., 2020; Zhang et al., 2019; Elkreem et al., 2014; Piasai et al., 2018; El Sayed et al., 2019; Sajjad et al., 2014; Kauhanen et al., 2014; Nani, et al., 2019; Sabel et al., 2016; Wu et al., 2011; Gillard & Watts, 2013; van Dijk-Lokkart et al., 2016; Mehrara et al., 2019; Lyon et al., 2014; Yu et al., 2014).

Speyer, Herbinet, Vuillemin, Briançon, & Chastagner, 2010, Amer, Hamad, & El-Sayed, 2020; Zhang et al., 2019; Elkreem et al., 2014). In conclusion, motivational programs based on mind-body techniques are used to reduce muscle tension and physical and psychological symptoms and keep vital signs at a normal level in children with cancer (Amer et al., 2020; Zhang et al., 2019; Elkreem et al., 2014).

2.2. Storytelling

Some motivational programs are based on storytelling (El Sayed et al., 2019), which has curative effects on children (Burns, 2017) because stories help them stay positive and tackle whatever adversities they face. Storytelling is used to make them experience fewer symptoms and feel happier and more relaxed (Piasai, Phumdoung, Wiroonpanich, & Chotsampancharoen, 2018; El Sayed et al., 2019).

Practitioners can tell each child a story or tell different stories to children. Storytelling is applied in 30-minute sessions to children aged 3-12 under chemotherapy. It helps them feel happier and more relaxed and experience fewer physical symptoms (nausea, vomiting, etc.) (Piasai et al., 2018; El Sayed et al., 2019).

2.3. Video games

Games play an essential role in child development. Therefore, some motivational programs include

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video games, which encourage children to develop motor skills and engage in physical activity. Video games are used mainly in psychotherapy to improve children's quality of life and reduce their anxiety levels (Sajjad et al., 2014; Sabel et al., 2016; Fazelniya, Najafi, Moafi, & Talakoub, 2017). Physical effort and movement are required to play active video games. Therefore, an increase can be seen in the physical activities of children while playing such video games (Bailey & McInnis, 2011). Besides, moving lower body with hands during active video games can provide benefits in increasing motor skills and body coordination (Sabel et al., 2016). In a randomized controlled study conducted with the children aged 7-17 years followed with brain tumour diagnosis and having survived, children in the intervention group were allowed to play active video games including sports, balance and dance activities for 12 weeks, at least 5 times a week, and each lasting 30 minutes. At the end of the study, it was found that the body coordination of the children in the intervention group improved; initially the physical activity of children increased, but the activity level returned to the first level after calving (Sabel et al., 2016).

Motivational programs based on video games are used during the treatment of brain tumors (solid tumors) and leukemia in children aged 3 to 17 years. They are applied in five sessions up to 12 weeks. Children who undergo such programs are likely to have better physical coordination and physical and psychosocial quality of life and suffer less from mental health problems (Sajjad et al., 2014; Kauhanen et al., 2014; Nani, Matsouka, Theodorakis, & Antoniou, 2019; Sabel et al., 2016).

2.4. Camp programs

Camping is an effective option to increase the physical and psychosocial well-being of children receiving cancer treatment (Gillard & Watts, 2013). Camps are designed just for children or geared toward the whole family (Martiniuk, Silva, Amylon, & Barr, 2014). Children can participate in camps from diagnosis until the end of treatment. Such programs provide accommodation and activities through which children can discharge and socialize (Gillard & Watts, 2013). Camps may last one or two days (weekends) or a week in the hospital or some other facilities (COCA, 2017). Camp programs include trips, sports activities (swimming, basketball), artistic events (music, drama, dance) and group games (Sunrise Association, 2021).

Research shows that one-week camps are beneficial for children between the ages of 5-18. Children and their families enjoy camping (Wu, Prout, Roberts, Parikshak, & Amylon, 2011; Gillard & Watts, 2013). Camps provide children with opportunities and activities that contribute to their development and families with social support (Wu et al., 2011; Gillard & Watts, 2013).

2.5. Cognitive-behavioral approaches

Some motivational programs for children with cancer involve cognitive-behavioral approaches (interviews, cognitive training, role-play, keeping a diary, etc.) (Zhang et al., 2019). Such programs raise children's awareness, help them recognize their emotions, cope with their health problems, communicate better with peers and family members, plan their futures, and relax (van Dijk-Lokkart et al., 2016; Mehrara, Ghaffari, Ghezelghabr, Ghavasi, & Fatemizadeh,

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2019). Cognitive-behavioral approaches can be integrated with mind-body techniques or therapy game and video games (Mehrara et al., 2019; Sajjad et al., 2014).

Motivational programs based on cognitive-behavioral approaches are used for 5 to 12 weeks to treat children with cancer aged 8 to 18. Such programs reduce anxiety and depression and increase self-esteem and pain-related quality of life (van Dijk-Lokkart et al., 2016; Mehrara et al., 2019; Sajjad et al., 2014)

3. Motivational Programs and Family Centered Care

Family-centered care is based on collaboration with family members in the care process (Harrison, 2010; Oztürk & Ayar, 2014). Some motivational programs involve family-centered care because it accelerates

Table 1. Models for motivational programs for children with cancer*

Author, Year, Origin	Model	Explanation
Lyon et al., 2014, USA	Family-centered advance care planning for teens with cancer (FACE-TC)	A model for early palliative care based on the recommendations of the World Health Organization, Institute of Medicine, and the American Academy of Pediatrics. First developed for HIV adolescents and then adapted for children with cancer 1- Lyon Advance Care Planning Survey 2-Respecting Choices Interview (treatment plan, future expectations, etc.) 3-Five Wishes (Lyon, Jacobs, Briggs, Cheng, & Wang, 2013; Lyon et al., 2014).
Wu et al., 2014, Taiwan	Lazarus and Folkman's transactional model of stress and coping	People use problem-focused or emotion-focused strategies to cope with stressors. Problem-focused strategies: Confrontive coping, seeking social support and planful problem-solving Emotion-focused strategies: Self-control, distancing, positive reappraisal, accepting responsibility and avoidance (Lazarus & Folkman, 1984)
Robb et al., 2014 Indiana	The resilience in illness model (RIM)	Positive health protective factors: Resilience and self-transcendence, social integration, family environment, positive and courageous coping and hope-derived meaning Risk factors. Illness-related distress and defensive coping (Haase, Kintner, Monahan, & Robb, 2014).
Keats and Culos-Reed, 2008, Canada	The theory of planned behavior	Changes in beliefs lead to changes in subjective norms and perceived behavioral control, resulting in changes in intention and thus behavior (Ajzen, 1991).
Lam et al., 2018, China	Kolb's experiential learning theory	Focus on improving self-efficacy through a cycle The four stages of a learning cycle: Concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984)

*Developed by the researchers based on a literature review (Lyon et al.,2014; Wu et al., 2014; Robb et al., 2014; Keats and Culos-Reed, 2008; Lam et al., 2018; Lyon et al., 2013; Lazarus & Folkman, 1984; Haase et al., 2014; Ajzen, 1991; Kolb, 1984.

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recovery, increases development and confidence, and reduces pain and anxiety in children with cancer (Oztürk & Ayar, 2014). Those programs also integrate technology (videos, websites, etc.) (Yu et al., 2014; Walsh et al., 2014). Family-centered web-based programs are used to develop optimum chemotherapy regimens and reduce medication errors (Walsh et al., 2014). They may also include counseling, life skills training, and interviews (Lyon et al., 2014; Yu et al., 2014). Children and family members who receive counseling and social support in family-centered programs are likely to experience less anxiety and develop more sibling harmony and coping skills (Wiener & Pao, 2012). Children with cancer can participate in family-centered care programs from pre-school to adolescence. Such programs are applied in three sessions for 12 weeks, increasing social adaptation capacity and spirituality scores (Lyon et al., 2014; Yu et al., 2014).

4. Using Models in Motivational Programs for Children with Cancer

Models should be used to develop motivational programs with a specific framework. Motivational programs for children with cancer are based on a variety of models. Table 1 presents the models and their explanations (Lyon et al.,2014; Wu et al., 2014; Robb et al., 2014; Keats and Culos-Reed, 2008; Lam et al., 2018; Lyon et al., 2013; Lazarus & Folkman, 1984; Haase et al., 2014; Ajzen, 1991; Kolb, 1984).

5. Conclusion

Children with cancer are provided with motivational programs involving mind-body techniques, storytelling, video games, camping, cognitive-behavioral approaches. Those programs are either based on a model or integrated with technology. They should be integrated into treatment and implemented regularly to improve the health of children. Nurses, especially pediatric oncology nurses, have a great responsibility because they play an active role in developing and executing such programs. Pediatric oncology services should be equipped with materials and resources so that healthcare professionals can integrate such programs into treatment protocols and implement them effectively.

Conflicts of interest

The authors declare they have no conflict of interest.

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