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SPECIAL ARTICLE

The role of the psychologist in the preparation of young children for radiotherapy: short review

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Summary

Psychooncology is now recognized as an important part of the holistic approach to therapy of very young cancer patients. When the psychologist is included in a multidisciplinary team, his/her duty is to prepare the child for several procedures he/she is scheduled for. If the very young child has to be treated by radiotherapy, adequate preparation of the child before the start of radiotherapy may enable the child to undergo the whole procedure without sedation or repeated anesthesia. Such practice has started in Serbia in 2002, at the Department of Pediatric Oncology of the Institute for Radiology and Oncology of Serbia, Belgrade. In this article, we discuss the model we currently use, and we present how this approach has been successfully applied in a 5-year-old girl treated by radiotherapy.

Key words: children, psychological estimation, psychological preparation, radiotherapy

Introduction

Psychooncology is now an important part of pediatric oncology [1,2]. One of the aspects of the psychologist's job is to cooperate with the child, the parents and the radiotherapy team during the treatment planning, positioning and delivering radiotherapy. The aim of the collaboration between the psychologist and the radiotherapy team is to establish adequate cooperation with the child, in order to avoid sedation or anesthesia on a daily basis, which both represent an additional problem in the treatment of the sick child. From a psychological point of view, the situation of a child's preparation and radiotherapy performed in the bunker, when the child stays alone, can be very traumatic, especially for preschool children, aged 4-7 years. Because of their limited cognitive capacity, children of this age are unable to understand neither what is happening to them nor the reason why it is happening.

Some of the unpleasant situations which children can experience are fear, anxiety, and nuisance, insecurity due to the separation from their parents, which can cause a range of reactions such as crying, anger, protest and antagonism. Because of that, children who are not gradually and adequately prepared for new situations and procedures that can be expected are likely to express anxiety and non-compliance during the preparation for radiotherapy. In these children, radiotherapy needs to be carried out under anesthesia. An adequate and gradual psychological estimation and preparation of both the parents and the child can prevent the child's negative reactions and enable continual delivery of radiotherapy, without daily anesthesia.

Model of good practice of psychological estimation and preparation of preschool children for performing radiotherapy

The model described below is used at the Department of Pediatric Oncology of the Institute for Oncology and Radiology of Serbia. This model is universal, but it can be modified and adapted to fit each child, depending on the current needs of the child and the barriers with which we can face during the psychological estimation and preparation of the child and the parents

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[3,4]. The psychological preparation of the child and the parents for radiotherapy consists of 3 parts:

1. Collecting informations about the child. The process starts with making a contact with empathy and the first so-called informative-supportive conversation with the parents (usually with the mother who stays with the child at the department). The initial conversation with the psychologist is important for two reasons:
   a) A relation of trust and understanding as a basis of further cooperation is based on the initial conversation with either both parents or one of them, because the adequate preparation of the child demands active participation of the parents.
   b) Assessment of the child and his capacities for adequate cooperation is based on the initial conversation with the child's parents [4,5].

It is essential for the psychologist to have balanced, calm, warm, accepting, non-intrusive relationship in order to achieve a quality initial contact either with both parents or with the one who is staying with the child.

Psychological assessment during the first conversation with the parent is focused on collecting important information related to the following particular assessments:

a) Assessment of the child's general maturity (estimation of the quality of the child-parent relationship and of the confidence, attachment and trust in that relationship); estimation of the child's independence; estimation of the child's ability to be separated from the parents; estimation of the child's reactions to new and unfamiliar situations; information about the child's habits, favorite toys and games; information about the child's behavior during previous hospitalization - whether he/she played games with other children, what kind of contacts he/she made with the medical staff.
b) Assessment of the child's behavior and his/her individual reactions during other therapeutic actions before the start of radiotherapy (child's reactions to injections and other medical interventions; child's behavior during magnetic resonance imaging /MRI/ or scanner /CT); whether these procedures were performed without anesthesia; whether and how the parents prepared the child for the hospital and the interventions.
c) Assessment of the parents' mental stability.
d) Assessment of the level of the information and knowledge that parents have about radiotherapy.

Psychological estimation and contact with the child is based on the assessment of the parents and information that is obtained from them [6,7].

It is important to emphasize that psychological estimation needs to be made spontaneously and unobtrusively, from the position of a "companion" who joins the parent and the child in order to introduce new and unfamiliar situations in radiotherapy to the child in the most successful manner. The purpose of conversation and making questions is explained to the parents at the beginning of the conversation: preparation of the child for radiotherapy without anesthesia, which is in the child's best interest.

2. The second part of the psychological estimation consists of direct contact with the child and estimation of the child. Our experience is that the first estimation made on the first day of the child's hospitalization can be inadequate to a certain degree. This can be explained by the fact that children are usually insecure, frightened, shy and silent when they come to the hospital for the first time; they stay with their parents /refuse to be separated from their parents and have more difficulties than usual making contact with strangers. Because of these reactions that are expected in the child, contact and cooperation with parents are of great importance [3,8,9].

Contact with a preschool child and the observation of the child are established at the same time using toys (those that the child brought or those that the psychologist has), interesting and educational computer games appropriate for the child's sex and age, or drawings if the child wants to draw something.

If a quality relationship of trust and cooperation is established with the parents and the child and the criteria (Table 1) which indicate that the preparation for new and unfamiliar situations of radiotherapy will not be a traumatic experience for the child are met, we can proceed to the third part which consists of direct psychological preparation of the child for radiotherapy [10-12].

3. Psychological preparation begins with playing a game and demonstrating the process on a doll (usually the child's favorite toy). The psychologist speaks directly to the child and says: "Now I'm going to tell you about everything that is going to happen to you here and show it to you". It is very important to tell the child clearly that nothing will hurt, that there are no injections, etc [13].

Afterwards, the psychologist and the child make a special agreement and the psychologist makes a promise that nothing will hurt (the child is given a paper which says "no injections"; then they agree that the child will come after the radiotherapy immobilization procedure - e.g. after the immobilization mask is made - and tell whether the agreement that nothing will hurt is fulfilled [14,15]. In addition, the psychologist describes the situations the child is going to face. Simultaneously,

Table 1. Criteria for the preparation for new and unfamiliar situations of radiotherapy

Criteria	*Meets the criteria*	*Doesn't meet the criteria*
Safely bounded child who trusts the parents and other adults; makes contacts of confidence quickly and easily		
Child can be separated from the parents and tolerates physical separation		
Child can stay alone in the room		
Child is adequately prepared for hospital and medical interventions		
Child has already had experience with medical interventions without anaesthesia, i.e. showed successful cooperation during the intervention		
Child accepts the contact and cooperation with the psychologist		
Child doesn't show antagonism or other negative reactions of rejection		

all situations are demonstrated on the doll and showed in the picture book.

The situation where the child leaves the ground floor with his/her mother and enters the room where he/she needs to be immobilized for the radiotherapy is described in detail (e.g. usually the psychologist makes the head immobilization mask and shows on the doll what it looks like and also shows the picture in the picture book). Then the psychologist describes the situation of placing the child on the scanner table for the radiotherapy and for the first time introduces to the child the situation in which he/she needs to stay alone in the room, lie quietly, breathe normally and that he/she can have his/her favorite toy or towel with him/her (Figure 1).

After this, the process of radiotherapy is described in detail; who does what (what the technician does, where mum or dad waits, the look of the machine is described, the room with the machine and the duration of the treatment as well; everything is shown on the doll and in the picture book).

Before the start of radiotherapy, the psychologist often takes the parent and the child to the rooms where the radiotherapy is performed and shows them on the screen what happens during the radiotherapy. The child can see some other patient laying quietly, the rotation of the device and can see that nothing bad happens.

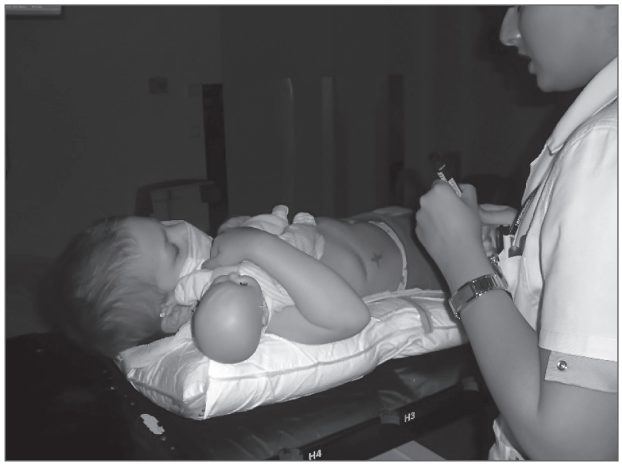

Figure 1. Preparing child to stay alone in the room.

In the conversation with the parents, the psychologist indicates the importance of the support, rewarding the child after the first successful interventions. The child should be awarded with a toy, a picture book, chocolate or an activity he/she likes (playing, going to the zoo, taking a walk, going to cinema, etc. depending on the child's affinities) [16].

Illustrative case

A 5-year-old girl with stage IV low grade neuroblastoma localized in the abdomen started treatment at the Institute for Mother and Child, Belgrade. Treatment included surgical tumor reduction, followed by chemotherapy according to the Neuroblastoma SIOP Protocol (HR NBL 1/ESIOP) and reoperation and autologous bone marrow transplantation. After that, the treatment was continued by 13-cis-retinoic acid. She was then sent to our institute for radiotherapy. During hospitalization the primary tumor site received a total dose of 21 Gy with conventional fractionation 1.5 Gy per fraction, 5 fractions per week, 14 fractions in total.

When the girl came to the Department of Pediatric Oncology and entered the rooms for radiotherapy for the first time, she found herself in a completely new, unfamiliar environment. Then the psychologist specialized in pediatric psychooncology was introduced to the process of radiotherapy before delivering radiotherapy in order to get adequate psychological estimation and achieve adequate preparation of the child for the radiotherapy to be delivered. All the above-mentioned steps were applied, and in a short period of time she showed independence and readiness to go through all processes involved in planning and delivering radiotherapy which

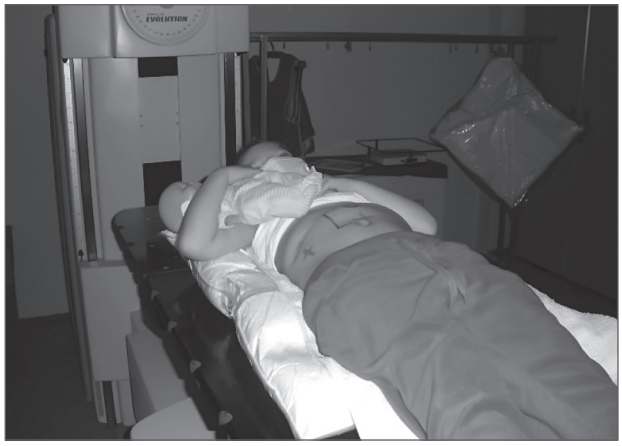

Figure 2. Child is alone in the room.

was successfully completed without anesthesia (Figures 1 and 2).

Conclusion

The previously described method of multidisciplinary collaboration among radiotherapist, radiological nurse, technician, parent and psychologist, followed by the described steps of the child's psychological preparation for radiotherapy indicate the importance of team work in performing radiotherapy in such particular cases. At the same time, this approach represents a good model that can be used, with minor adjustments and modifications, as a quality standard of multidisciplinary practice in pediatric radiotherapy. The model of good practice in the world, which has been existing for a long time now, means that the child is familiarized with new, unfamiliar, and therefore frightening medical interventions and procedures, and everything needs to be turned into a game and imagination while taking care of the sick child's sense of security and trust at the same time. This model of good practice is slowly and gradually being implemented in this environment in which, unfortunately, psychological approach and perception of oncological patients (both children and adults) through a psychological prism still remains a poorly developed and recognized area.

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