

Title:

Mother's Anxieties Before the Proton Beam Therapy of Child

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References:

Ångström-Brännström, C., Engvall, G., Mullaney, T., Nilsson, K., Wickart-Johansson, G., Svärd, A. M., ... & Lindh, V. (2015). Children Undergoing Radiotherapy: Swedish Parents' Experiences and Suggestions for Improvement. *PloS one*, 10(10), e0141086.

Fedele, D. A., Hullmann, S. E., Chaffin, M., Kenner, C., Fisher, M. J., Kirk, K., ... & Mullins, L. L. (2013). Impact of a parent-based interdisciplinary intervention for mothers on adjustment in children newly diagnosed with cancer. *Journal of pediatric psychology*, jst010.

Houtrow, A. J., Yock, T. I., Delahaye, J., & Kuhlthau, K. (2012). The family impacts of proton radiation therapy for children with brain tumors. *Journal of Pediatric Oncology Nursing*, 29(3), 171-179.

Mizumoto, M., Oshiro, Y., Ayuzawa, K., Miyamoto, T., Okumura, T., Fukushima, T., ... & Sakurai, H. (2015). Preparation of pediatric patients for treatment with proton beam therapy. *Radiotherapy and Oncology*, 114(2), 245-248.

Abstract Summary:

There are few facilities for proton beam therapy of children. We accept children from all over Japan and from other countries. We are considering care about children and their families receiving proton beam therapy. We are considering preparation programs including parents so that children can receive treatment without sedation.

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
The learner will be able to understand about the situation of mothers their children receiving proton therapy .	The learner will be able to recognize mothers of children receiving proton beam therapy have been impact by radiation therapy and environmental changes both.

The learner will be able to understand about the need of care for mothers their children receiving proton beam therapy before the treatment.	The learner will be able to recognize that mothers are hard to obtain information in advance, and will be able to discuss that how to improve the care to encourage the preparation of mothers such as providing information before transfer
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Abstract Text:**Background:**

Proton beam therapy is one of the radiation therapy in pediatric cancer treatment. Proton beam therapy is expected to reduce the late complications. However, there are only a few centers offering this promising therapy in the world. The largest centers in the world in Japan, but there are still only four centers that are treating children. Patients and their families usually need to travel to a proton center and stay for approximately 2 months in order to avail of it. It has been studied that there are the family impacts by environmental changes (Amy et al., 2012).

Radiation therapy itself is a noninvasive treatment, but it can be stressful and challenging for the children. Children are exposed to an unknown large radiation equipment and the new medical staff such as radiologists. Additionally, the children have to remain alone in the treatment room during treatment. These factors can cause the children stress and anxiety, so anesthesia is often used in radiation therapy for children's safety.

However, preparation programs for children to receive radiation therapy has been studied in some countries, and they have been shown that it is possible to reduce the amount of anesthetic. So we have created a program with reference to previous research, and carried out for the children to receive proton beam therapy in Japan. Through this program we were able to reduce the amount of sedatives (Mizumoto et al., 2015).

The radiotherapy treatment process involves interactions with the most advanced skills in pediatric oncology care, so there is a need to continue to improve the preparation program. Although There are few studies have investigated the child's and the parents' view of this particular procedure, a study reported the parents have various uneasiness due to radiation therapy (Charlotte et al., 2015). Parent's mental stability has been reported to lead to mental stability of the child (David, et al., 2013). Therefore, we thought that incorporation of parent intervention in the program of children receiving proton therapy would lead to a more effective program.

Purpose:

The purpose of this study is to clarify anxieties encountered by parents of children who will receive proton therapy, before the treatment.

Methods:

Our study subjects were mothers of children they received the proton beam therapy after implementing the current preparation program.
Our study's target facility was one of the proton therapy center in Japan.

We conducted Semi-structured interviews after the treatment. We carried out content analysis, we found codes, subcategories, and categories.

The current preparation program: At the center nurses and radiologists care the children using the preparation program. The preparation program starts at 1~2 days before the CT scanning for the proton beam therapy and continue during treatment. First they explain to the children about treatment using picture book or pamphlet. Next they invite the children to facility for become familiar with the treatment room and staff before starting the treatment. Then the children practice to stay a treatment bed with mothers, and little by little they practice to stay alone using favorite DVD or music for their relaxation. Nurses and radiologists play with the children every time after practice and we give them the stickers of the reward.

Ethical considerations:

Our study obtained the ethics committee's proposal of the organization. We explained to participants about the purpose and method of this study, the participation is free, and keeping anonymous in document. Participants signed on consent form.

Results:

5mothers participated in our study. Their children are 3male and 2 females, 4-13yearas old. 4 of the children could receive proton beam therapy without sedation.

We found 4 categories such as [Anxiety whether children can overcome proton beam therapy], [Anxiety as to whether you can receive similar care as hospitals so far] ,[Anxiety about mothers themselves after transference] ,[Anxiety what happens to other family members by mother's absence].

The mother was concerned that the child could successfully overcome it. Before the child 's preparation program, they could not understand how the child' s proton beam therapy will proceed specifically. They had few opportunities to encounter new medical stuff until they moved to the hospital, so they could not hear the way of care and could not figure out what they could do for their children. Besides, mothers were concerned that there might be a change not only in proton beam therapy but also in normal cancer care by moving through the hospital, too.

And also they had to leave the house as they had to accompany the child for proton beam therapy. So mothers expressed anxiety about changes in their lives and changes in the lives of other families, too.

Conclusion:

The proton beam therapy is an unknown treatment not only for children but also for mothers. From the background that it is often necessary to transfer to receive proton beam therapy, it is expected that the mother will be transferred to the proton beam treatment center without information and the mother's anxiety will increase after the transfer.

The current children's proton therapy preparation program has been found to reduce children's anxiety and deepen their understanding. However, unlike normal radiation therapy, it often requires metastasis. As a result, the time available for children's preparation program is limited.

Until now, it has been shown that the mental state of mother influences children. In order to do effective care in a limited time, it is thought that it is necessary to consider not only children but also programs incorporating mother's preparation. It is suggested that it is necessary to provide information on proton therapy and information on a new medical environment in advance.