IMPACT OF CANINE ASSISTED THERAPY ON EMOTIONS AND MOTIVATION LEVEL IN CHILDREN WITH REDUCED MOBILITY IN PHYSICAL ACTIVITY CLASSES

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Abstract. Canine assisted therapy is increasingly used in the treatment of children with various diseases. The participation of a dog in classes evokes positive emotions in children, which are often an important factor in the success of a therapy. *Purpose:* The aim of this study was to present the influence of emotions on the level of motivation toward physical activity in children with reduced mobility. *Material:* The study involved six 5-year-old children, i.e. 5 boys and one girl, who had refused to participate in physical activity classes. They reacted with anxiety, anger and did not want to exercise. Assessment of feelings and emotions of the children was based on observations and interviews with parents. *Results:* After introducing a dog to the physical activity classes, the children changed their attitude not only to training, but also to themselves and their classmates. There was an observed increase in their motivation for the exercises. Such a significant impact of a dog on child's emotions can be very important in the therapeutic process and is reported and recognized by many specialists. *Conclusions:* Canine assisted therapy sessions could be promoted in the treatment of children with locomotor impairment, as well as with other disabilities such as autism, obesity, cerebral palsy, learning difficulties and depression.

Keywords: canine, therapy, physical education, children.

Introduction

Rehabilitation as a medical and social process is a very important part of the healing process of patients with reduced mobility. In many cases, the use of kinesiotherapy or physiotherapy can provide very favourable results and lead to complete recovery. However, this is not always possible. In patients with permanent impairment of the nervous or locomotor system, mobilization therapy can only be helpful to a certain extent, dependent on the level of damage to the neuromuscular structures [5].

In general rehabilitation, an important role is also played by psychological therapy, applied along with the medical rehabilitation. The outcome of a treatment often depends on a patient's attitude and motivation. In people with reduced mobility following accidents, it is very difficult to rebuild motivation and prevent mental breakdowns. These are often children who deserve special care and a professional thoughtful psychological therapy. One form of such supporting treatment is canine assisted therapy involving the participation of a dog.

Contemporary canine assisted therapy is completely different from what it used to be in the 1970s and 1980s. A dog is an active helper for the physiotherapist, and the success of such work very often depends on its participation. There is a growing recognition of the importance of non-verbal communication between a patient and the dog [16]. The observation of non-verbal interactions between a child and the dog can result in diagnostically valuable information on the child's health condition [7]. Such a communication has also been observed in agility classes for children with type 1 diabetes in which a dog was involved [13,14].

Studies by Hunt [10], Silva [17] and Cipriani & Cooper [4] show that in canine assisted therapies both children and adults are more likely to have positive reactions; they are calmer, smile more often and endure pain more easily. The introduction of a dog in therapy sessions with autistic children has also been highly successful [8,15,19]. Research conducted by Silva et al. shows that the involvement of a dog in a group of autistic children provided a positive modulation of their behaviour. In the presence of a dog, autistic children displayed more positive behaviour for longer periods of time, while negative behaviour occurred for shorter periods and less frequently. In the medical community, these studies have become the main argument in discussions about the acceptance of therapy programs involving dogs [18]. The psychological impact of a dog has also been reported in children with special educational needs [1]. The results of tests on a group of boys aged 7-11 years show that the presence of a dog in the education process is justified and provides better results than the groups without a dog involved.

Research conducted over the past 30 years indicates that the participation of dogs in therapy may provide physiological, emotional, social and physical support to children. Although the dogs used in therapy are trained, children perceive them as usual dogs, friendly and empathic beings not holding any expectations. Such an interaction offers young patients a great form of both social and emotional support in educational and therapeutic institutions [4,9,6].

A therapy dog may be involved in a wide field of rehabilitation activities. Canine assisted therapy has been applied in physical activity classes. The participation of dogs in physical activity sessions with obese children resulted in a greater motivation to exercise and more efficient performance of exercises [20].

Objective, material, methods

Being aware of the extensive positive effects of canine assisted therapeutic activities, we planned to ascertain their emotional and motivational advantages in a group of children with locomotor disabilities.

We selected six children aged 5 years for the sessions – 5 boys and 1 girl with reduced mobility, i.e. dysfunctions in upper and lower limbs. Their parents were informed about the course of the project and agreed for their children's

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participation. The number of participating children had to be limited due to the nature of the classes. A small group allowed the proper organization of classes and optimum contact with a dog. The small size of the study group was also important for the dogs' psychological and physical well-being. The intensity of the dog's work during the classes is usually so large that the increased size of the group or extended time of activities would have adversely affected the dogs' health.

Well-documented tests (Thomas, Lasègue and Dega) [11,12] were carried out with the children and showed muscle contractures and a limited range of motion in the shoulder joint. Nevertheless, the children were classified as fit for physical activities. The problem was that the children did not want to participate in the classes. They felt inferior and less efficient than their peers.

The parents of the children were interviewed before and after the course. The interview included questions about the attitudes of children towards physical activity, as well as about their well-being and mood. The interview conducted before the start of classes showed that the children did not want to participate in any physical activity classes. Performing exercises resulted in aversion, shame in front of other more agile children, fear and anxiety. All these emotions were so strong that it often drove them to tears. The children reacted by resisting, crying and negating the class. Analysis of such behaviours revealed that the manifestation of these emotions gave the children a sense of relief, because in the end they could avoid participating in the activities. From the perspective of a child, this strategy proved to be effective as it allowed them to avoid the exercises, so the children started to use them repeatedly.

Evaluation of children's well-being was based only on observations and information obtained from interviews with their parents, since the emotional sphere of children cannot be analyzed statistically. Children's feelings during during classes with the dog cannot be interpreted numerically. Other authors show similar approach and base their analysis on interviews with parents [13]. In analysis of the child's emotions, the occurrence of feelings such as anger, fear, fear, relief or joy, may be represented graphically as in the Figure below [Fig. 1]. Children's emotions are frustration and anger, which turn into relief when the child manages to avoid participation in the classes.

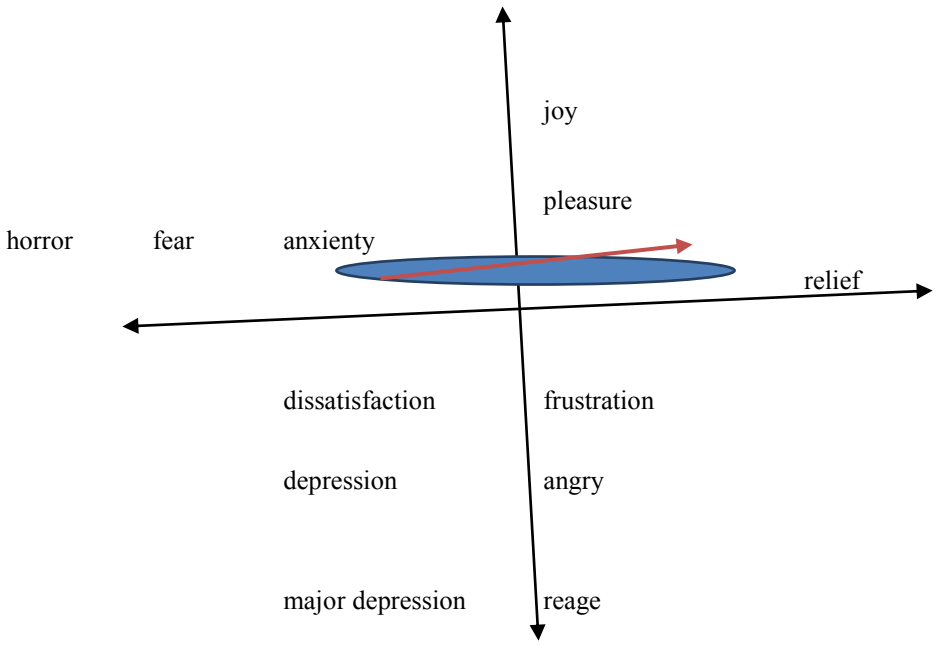

Fig. 1. Emotions of children in reaction to physical activity classes.

The aim of our canine assisted therapy sessions was to encourage children to exercise; to evoke appropriate emotions concerning physical workout and to build motivation for doing the exercises. The active participation of a dog was to improve self-perception in the social group and increase the sense of self-confidence.

Classes were conducted in a nursery school in Szczecin-Załom once a week for two months. During the course the children had contact with a dog. It could be stroked, rewarded and cuddled. Two Border Collie females participated in the therapy.

List of activities:

1. The child throws a ball using the right and left hand. After each throw the dog retrieves the ball and brings it back to the child.

2. Hitting a target using a right and left hand throw. After each throw the dog retrieves the ball.

3. Kicked a ball into a goal using the right and left foot. The dog stands in the goal, playing the role of a goalkeeper.

4. Jumping through low obstacles. The dog performs the same exercises as the children.

5. Passing a simple obstacle course (hurdles and tunnels to be cleared by moving upwards or downwards), bypassing cones in slalom. The dog as a member of the group clears the obstacle course along with the children.

6. Various "tags" (running, on all fours) were also played with the dog involved in the activities.

Results

The introduction of a dog to the classes brought a sense of great joy and interest. The children smiled and stroked the dog. These interactions made their barriers of inaccessibility disappear. They became more communicative and started to talk about their homes and problems.

The activities gave children satisfaction and they were much more likely to perform the assigned tasks. Their motivation for doing exercises was increasing as the assigned tasks were performed with better accuracy.

1. Throws made with the right and left hand. The children tried to throw a ball as far as possible. They enjoyed the fact that the dog was always catching the ball and bringing it back to them. Good throws were rewarded with points. Children rewarded the dog by giving him treats.

2. Hitting the target. At first it was a difficult task. The children were rewarded with points for accurate throws.

3. Shooting into the goal with the right and left foot. This exercise was performed with great commitment and caused intense excitement. The dog standing in the goal defended well, which made the children even happier, despite the fact that they could not score a goal. The children rewarded the dog for each successful save.

4. Clearing the obstacle courses. The children had forgotten about their mobility problems. Their involvement and attention were directed at the dog and his ability to clear the obstacle course with or without any mistake.

5. The introduction of running games and those with hands and knees on the ground created a relaxed atmosphere, allowing close contact with the dog.

Carrying out the aforementioned tasks by the children completely changed the emotions they experienced during the physical exercises. They started to find joy and satisfaction in performing them. They stopped being afraid of difficulties. Sometimes the children experienced satisfaction from completing a difficult task.

It can be concluded that the participation of the dog significantly influenced the emotions of the children and positively changed their attitude toward physical activity. Improved contact between the children was also observed. Children became more talkative; they were less likely to be annoyed, became open to new tasks and were glad to carry them out. After the completion of the series of classes, parents reported that the children smiled more often and seemed happier. They showed much less of the aggressive behavior and anger. The children's emotions are shown in the Figure below [Fig. 2].

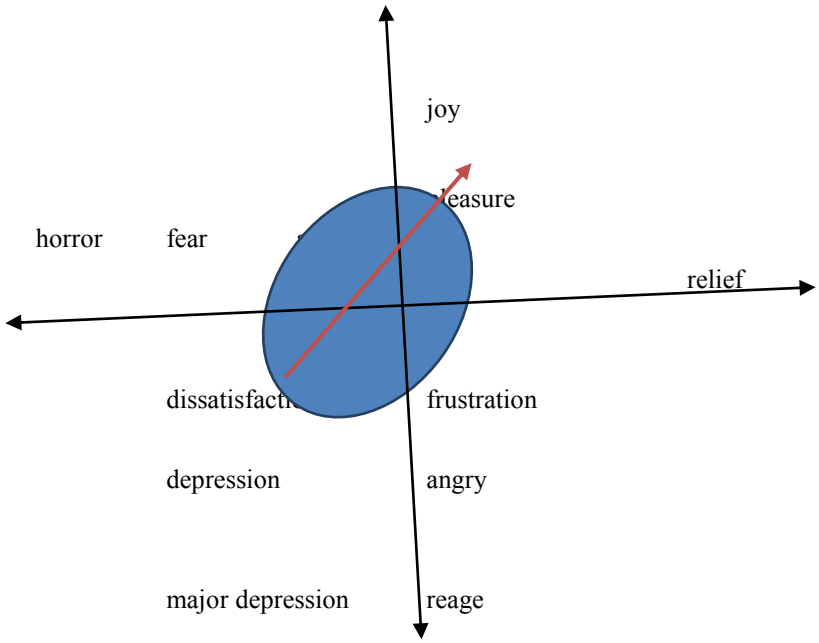

Fig. 2. Emotions of children in reaction to physical activity in the classroom dogotherapy.

Discussion

Dog therapy classes have a huge impact on the psychology of children. Not only can they improve the child's motivation for activities but also evoke a deep empathy. Children are more sensitive to the suffering of others. They are more focused on helping and are kinder to each other.

During the dog assisted activities in our study group, as well as in the research by Prothmann et al., a non-verbal communication between the child and the dog could be observed. Although it could not be measured or assessed using scientific methods, its positive impact on the psychology of the child was indisputable [7].

Other authors have also reported the change of emotions in the children who were reluctant to undertake physical activity. Wohlfarth et al. organised canine assisted physical activities for obese children. The obtained results clearly indicate an increased physical activity of the children performing exercises with the dog [20].

Currently there are many scientific reports and evidence on the beneficial effects of animals on increasing motivation in humans. However, very little attention is paid to this issue on a wider scale. The managers of educational and medical institutions often ignore dog therapy classes. An increasing number of people recognize the need to create educational programs with dogs, in support of their beneficial effects [4].

The presence of a dog helps children of preschool age focus better on tasks and improves the quality of their performance [2,7]. A similar result was obtained in our study group. By redirecting the emotions of the children and improving their motivation to exercise, children performed better.

The application of canine assisted therapy is still in development and constantly takes on new and elaborate forms. It is increasingly often used with children of different ages [21]. There is no perfect dog for every kind of medical condition or age of the patient, therefore a lot of attention should be paid to the adequate training of dogs and the choice of the right breed and temperament in order to bring the therapy to a success [3].

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