

## **Healthy behaviors in Polish children and adolescents based on their artwork**

Krajewska-Kułał E.<sup>1\*</sup>, Kułał W.<sup>2</sup>, Lewko J.<sup>1</sup>, Jankowiak B.<sup>1,3</sup>, Van Damme-Ostapowicz K.<sup>1</sup>, Łukaszuk C.<sup>1</sup>, Rolka H.<sup>1,3</sup>, Kowalczyk K.<sup>1</sup>, Klimaszewska K.<sup>1</sup>, Sierakowska M.<sup>1</sup>, Baranowska A.<sup>1</sup>

<sup>1</sup>Department of Integrated Medical Care, Medical University of Białystok, Poland

<sup>2</sup>Department of Pediatric Rehabilitation, Medical University of Białystok, Poland

<sup>3</sup>The State College of Computer Science and Business Administration in Łomża, Poland

### **ABSTRACT**

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**Introduction:** Health behaviors are generally regarded as behaviors, which are related to the health status of the individual.

**Purpose:** To evaluate children knowledge and healthy behaviors based on the drawings.

**Material and methods:** 605 children's drawings were analyzed. The artworks were made using various techniques: torn paper collage, collage, wax scratch, coloring pages, painting using poster paints and watercolors.

**Results:** Most artworks presented sports. The remaining artworks focused eating fresh fruits and vegetables, drinking of milk, spending a lot of time in the fresh air, hand washing, fruit washing, brushing teeth, and street safety. The children's drawings show their positive attitude towards healthy behaviors, including good eating habits; physical activity and personal hygiene.

**Conclusion:** The artworks suggest that children know healthy behaviors.

**Key words:** artworks, children, healthy behaviors

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#### **\*Corresponding author:**

Department of Integrated Medical Care

Medical University of Białystok

7a M C Skłodowskiej str.

15-096 Białystok, Poland

Tel: + 48 85 748 55 28

E-mail: elzbieta.krajewska@wp.pl (Elzbieta Krajewska-Kułał)

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## INTRODUCTION

Matarazzo has defined health behaviors in terms of their health-protective or health-impairing characteristics [1]. Behaviours with health-protective properties were termed 'behavioral immunogens' (e.g. eating healthy foods, taking regular exercise and gaining adequate sleep at night); whereas those which pose health risks were termed 'behavioral pathogens' (smoking, eating foods high in fat and drinking large amounts of alcohol). Health behaviors are generally regarded as behaviors, which are related to the health status of the individual [2].

Studies investigating the prevalence of unhealthy behaviors show that knowing about health risks does not tend to influence the performance of them [3,4].

The importance of psychological factors such as perceived control in promoting healthy choices should not be ignored. There has been a vast amount of research in the past evaluating health behaviors in children and adolescents and factors associated with why they may perform them [5-8].

However, there is limited research focusing on children perceptions of such behaviors [9,10].

Children's artwork is of interest to many researchers that are convinced that through art children manifest their feelings, express joy, delight, sadness, resentment, fear, despair, their expectations, and how they see themselves and the world around them [11,12].

The aim of the paper is to evaluate children knowledge and healthy behaviors based on the art works in the "I want to be a healthy" contest.

## MATERIAL AND METHODS

605 children's drawings were analyzed. These were submitted from all over Poland, from hospital recreation centers, schools, art studios, sick children, children with special needs, and healthy children, titled: "I want to be health" The artworks were made using various techniques: torn paper collage, collage, batik, wax scratch, coloring pages, painting using poster paints and watercolors.

The Ethics Committee at the Medical University of Białystok Poland, approved the study. Informed consent was obtained from participants' parents.

## RESULTS

Most artworks were from children aged from 8 to 9 years old (212), from 13 to 14 years (156) and from 10 to 12 years (136). The remaining

artwork was completed by children from 2 to 4 years old - (8) , from 5 to 7 years (18), and from 15-16 years (75).

The artworks were divided into subject groups in depending on health behaviors. The largest group of drawings was the work of promoting the preservation of health through sport (27% of artworks). Children prefer to play football, volleyball, gymnastics, swimming, jumping rope, running, skiing/painted as people practicing judo, skating or cycling, downhill on a sled, wandering in the mountains, or including fishing (Fig. 1-4).



Fig. 1

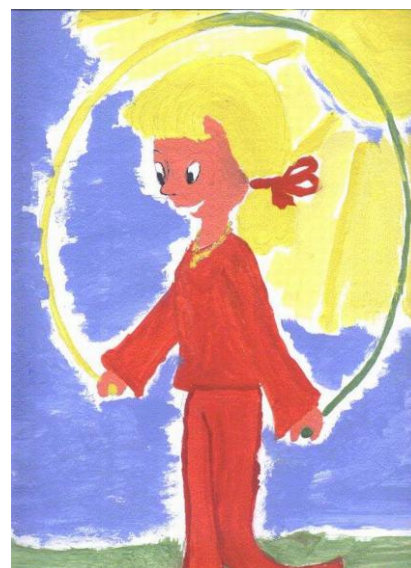


Fig. 2

Another large group of artworks (22.5%) were drawings of preferring a healthy diet, tend to consume fruits, vegetables and drinking milk (Fig. 5-7), for which you can even get by the author of one work - "Order a healthy child" (Fig. 8).



Fig.3



Fig. 6



Fig. 4



Fig 7



Fig 5.



Fig 8.

Some authors (15.3%) believed that the strengthening of health conducive to outdoor recreation-hiking, picking mushrooms, fun, picnics (Figure 9-11).





Fig. 9



Fig. 13



Fig. 10



Fig. 14



Fig.11

Some artworks (4.5%) presented the healthy hygienic habits as washing hands, fruits, taking care of oral hygiene or proper dressing, depending on the season (Fig.12-14). depending on the season (Fig.12-14)

Much of the artwork group (24.3%) portrayed a picture of one preferred by the author of several spheres of health activities. The artworks included risk behaviors (e.g., smoking, drinking, unhealthy diet, bad clothes), and the recommended behaviors, like brushing your teeth, healthy eating, drinking milk). Examples of artwork from this group are presenting figures 15-21.



Fig. 12



Fig. 15



Fig. 16



Fig. 19



Fig. 17



Fig. 20



Fig. 18



Fig. 21

Subsequent artworks (3.6%) showed safe behavior, to prevent accidents, warning "do not play ball with the road (Fig. 22) or" want to be healthy-learn to read, "emphasizing the need to familiarize children with warning signs, here "does not get off the hill '(Fig. 23).



Fig. 22





Fig. 23



Fig. 24

The authors of the drawings (4.5%) presented in their artworks: sick child longing for activity (Fig. 24-25), but also showed that disabled child should actively participate in daily life (Fig. 25).



Fig. 25

## DISCUSSION

All children's artworks revealed a vivid imagination and artistic sensibility. I confirmed that each child is a natural creator. What shall draw, painting, or gluing of merge, according to his psychological needs? It is closely associated with its own particular experience. They expressed in their works at their concerns or positive beliefs.

Children's artwork is of interest to many researchers that are convinced that through art children manifest their feelings, express joy, delight, sadness, resentment, fear, despair, their expectations, and how they see themselves and the world around them [11,12].

Health education is a fundamental right of every child guaranteed by the provisions of the Convention on the Rights of the Child [13].

Good health and nutrition are both essential inputs and important outcomes of basic education. First, children must be healthy and well-nourished in order to fully participate in education and gain its maximum benefits. Early childhood care programs and primary schools that improve children's health and nutrition can enhance the learning and educational outcomes of school children, especially girls, and thus for the next generation of children as well. In addition, a healthy, safe and secure school environment can help protect children from health hazards, abuse and exclusion.

International agencies such as WHO, UNICEF, UNESCO and the World Bank believe that there is a core group of cost effective strategies for making schools healthy for children and so contribute to the development of child-friendly schools. These agencies have launched a new approach to health education called FRESH (Focusing Resources on Effective School Health) [14].

A child's drawing is also a reflection of his/her or her mindset and the relationship to the environment revealed through colors [11,12,15]. Sometimes we get the impression that the colors of the drawings are random because they have nothing to do with what we see around us. However, it is not so, because a child, when drawing, may use only his/her or her favorite colors and for example, paint a blue mouth and green hair. Objects and characters that he/she doesn't like can be drawn in dark, sad, unclear or very intense colors, covering the entire page [11,12].

Health knowledge provides an excellent platform for integrating a wide variety of educational activities supporting the comprehensive and harmonious development of the child. Even preschoolers are a stage of life, which shape the attitudes that determine the child, current and future health-related behavior and locomotor activity. In early-childhood education takes the place of health education a priority. Even in children aged 7-10 years, attention should be given to developing the right attitude towards hygiene and health [16].

An important task is to foster the interest of health culture, ensuring the conditions for the harmonious development of physical, psychological, and health behaviors [17].

The methods used in health education are always derived from the objectives and tasks that

put in the process of education. The most important ones are currently active methods (activation, interactive), which creates space for the child's activity [18].

There are now many different learning methods that are developed keeping in mind the needs of the learner: working in small groups, brainstorming, role play, drama, simulations, unfinished sentences, case studies, discussion-oriented, creative thinking techniques, and the technique of "draw and write" activity [18].

In our case, we used the media of drawing as an expression of an existing or imagined attitude of children towards health behaviors.

As children grow and develop, their drawings change. Lowenfeld and Lambert Brittain in the book "*Creative and mental growth*" to distinguish six phases of children's artistic development [19].

The first phase is the *beginnings of self-expression* (2-4 years of age). During this period, the author distinguishes three stages: chaotic scribble when the first signs are randomly put down on a child, controlled scribble, and named scribble in which the child begins to name what he/she has drawn [19,20].



Fig. 26

The second phase is defined as *the first depicting attempts – the pre-schematic stage* (4-7 years of age). This is a time of creating conscious shapes, which are connected with the surrounding world. They allow one to read what is important for the child and what is his/her or her relationship with the environment. Usually, the first symbol created by a child in this period is the "cephalopod" man. During this phase, children often and willingly draw animals and birds, using rich, saturated color spots [15,19].

Movement also appeared - most frequently children playing ball or playing at the playground.

In our case, the drawings in this group were colorful, and the smiling faces of children.

The third phase is the *mastering shape – the schematic stage* (7-9 years of age). A child at this stage of creative development exaggerates important elements, reduces or omits those parts that are not important or those that he/she does not understand, and changes the symbolism. The child begins to create still lives, fantastic compositions inspired by life in space, the undersea world as well as historical elements [15,19-21].

The fourth phase covers *the beginnings of realism – the period of peer groups* (9-12 years of age). During this period, the child begins to take into account the characteristics of gender: for example, girls are drawn in a dress, boys in trousers. Small artists discover the natural beauty. They differentiate the blue of the sky from the blue of a lake, the green with a tree from the green of the grass. They play with colors perfectly discerning their differences and similarities. At this stage, we see a variety of decorations in the drawings [19].

Children's drawings also show that most of them prefer to play sport, being outdoors. They could see changes in his own body under the influence of physical activity, take care of your health according to their capabilities, the purity of his body and perform basic hygiene and activities to recognize and avoid hazards, and as well was aware that they often have their own attempt to make the right choices (Fig. 26 and 27).



Fig. 27

These works show that it does not matter whether someone is ill or has a bandaged leg, and moves in a wheelchair, everyone has to take care of their health, to overcome the stages of the disease to be successful, which is the fullness of health. (Fig.28)

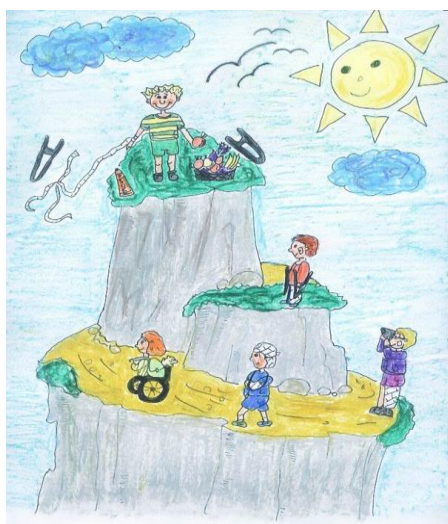


Fig. 28

## CONCLUSIONS

1. Most of the children's drawings show that they have the correct beliefs about the effects on health are proper nutrition, physical activity and use of appropriate hygiene procedures.
2. The drawings also suggest that children know it's possible effects on their health, in the context of the measures it takes and have the awareness that we often have to you make the right choices.
3. It seems that the analysis of artistic works of children could be used in the developing of educational programs.

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