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The role of nutrition education for correct nutrition in toddlers

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ABSTRACT

Introduction: Knowledge and awareness of nutrition recommendations may determine compliance with the principles of proper nutrition, and translate into improved quality of the diet of children in nurseries. The aim of the study was to evaluate the educational program in nurseries, including its impact on improving the planning and nutrition of children.

Material and methods: The research was conducted in 2015 and repeated in 2016 in the randomly selected nurseries in Poland, which took part in the program “Healthy eating, healthy growing”. In 2015, 59 nurseries were included in the study, and in 2016 – 86 nurseries, respectively. In both surveys CATI method was used. Phone interviews were conducted with directors of DCC, data were collected by trained interviewers. Respondents were asked about selected facts about the nutrition education implemented within the program.

Results: It was found that nurseries evaluated project very highly in terms of merit content as well as usefulness of the acquired information in the daily menu planning for children. The topics of the workshops were extensive, the most interesting of which were reflected in the declarations of nutritional changes in participating institutions.

Conclusions: Although the educational offer of the program was highly evaluated, the inclusion of such education offered for a fee did not find interest in the institution. In our program education was provided free of charge, which definitely influenced its positive acceptance.

KEY WORDS: nutrition, education, nurseries, day care centers.

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INTRODUCTION

Knowledge and awareness of nutrition recommendations may determine compliance with the principles of proper nutrition, and translate into improved quality of the diet of children in nurseries. However, knowledge is not always relevant [1]. On the other hand, even if the staff at the day-care centers (DCC) has the necessary knowledge, it is not always used in everyday practice. Correct nutrition of children must be preceded by proper planning based on the specialized guidelines [2-5]. The role of nurseries where a child spends many hours during the day is enormous. In this place the child eats 3-4 meals, which accounts for 70-75% of one's daily needs. In such situation, one cannot afford the nutrition

mistakes that may have their health consequences in childhood or at a later age [6, 7]. Continuous staff education, including enhancement and awareness raising, requires a comprehensive approach. An example of such comprehensive approach is the project “Healthy eating, healthy growing”, started in Poland in 2014, and initiated by the Nutricia Foundation [8]. The main purpose of this project was formation of correct nutrition habits of children. This objective was realized through nutrition education directed among others to the staff of the DCC.

The aim of the study was to evaluate the educational program in selected nurseries. The results of the evaluation of the education in DCC provided within the program “Healthy eating, healthy growing” are presented in this paper.

MATERIAL AND METHODS

The study was conducted in two consecutive years: May-June 2015 and November 2016. The research was conducted in randomly selected nurseries in Poland, which took part in the program “Healthy eating, healthy growing”. In 2015 59 nurseries were included in the study, and in 2016 – 86 nurseries, respectively. In both surveys CATI (Computer Assisted Telephone Interview) method has been used. Phone interviews were conducted with directors of DCC, data were collected by trained interviewers. Respondents were asked about the merits of the program, the practical use of the acquired nutritional knowledge, the usefulness of the workshop topics presented, and the interest in participating in similar educational programs in the future. The collected data were analyzed and compared in the individual years of the study: 2015 vs. 2016. The aim of the study was the evaluation of nutrition education in DCC within the program “Healthy eating, healthy growing”. In the program 170 graduates of dietetics or human nutrition have completed a 24-hour training that has prepared them for the role of nutrition educators. Next, educators had a 6-months internship in the DCC, including a series of free workshops for staff on topics related to healthy nutrition, and planning and preparing meals for children. The program “Healthy eating, healthy growing” has been implemented in Poland since 2014 and its completion is planned for the end of 2017. Nutrition education is also targeted at children and their parents. Currently, 749 cities, 2,500 DCC, including nurseries and kindergartens, and more than 211.000 children from all over Poland have been already included in the program. The purpose of the program was, among others improving and forming the correct eating habits of children, implemented through educational activities. This paper presents the issues related to the evaluation of the program by the directors of nurseries, including the evaluation of nutrition education and the declaration of changes resulting from its effects.

RESULTS

The merit value of the project and declaration of practical application of acquired knowledge in daily meals planning for children in DCC are presented in Figure 1. Generally, the merit value of the project was evaluated as a very good by high percentage of DCC. This score was higher in 2016 compared to 2015. In addition, similarly high percentage of DCC declared application of acquired knowledge in their everyday practice.

The topics of nutritional workshops are presented in Figure 2. The majority of institutions have found as the most engaging and useful workshops topics on the contribution of sugar in children’s diets, the general principles of proper nutrition as well as water and its importance, and salt in children’s diet.

Declared changes at planning of the children’s diets resulting by nutrition education are shown in Figure 3.

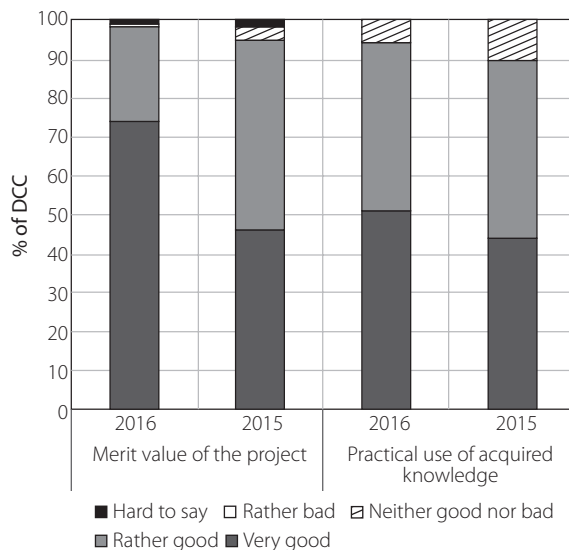


FIG. 1. The merit value of the project and declaration of practical application of acquired knowledge in daily planning of meals for children in DCC

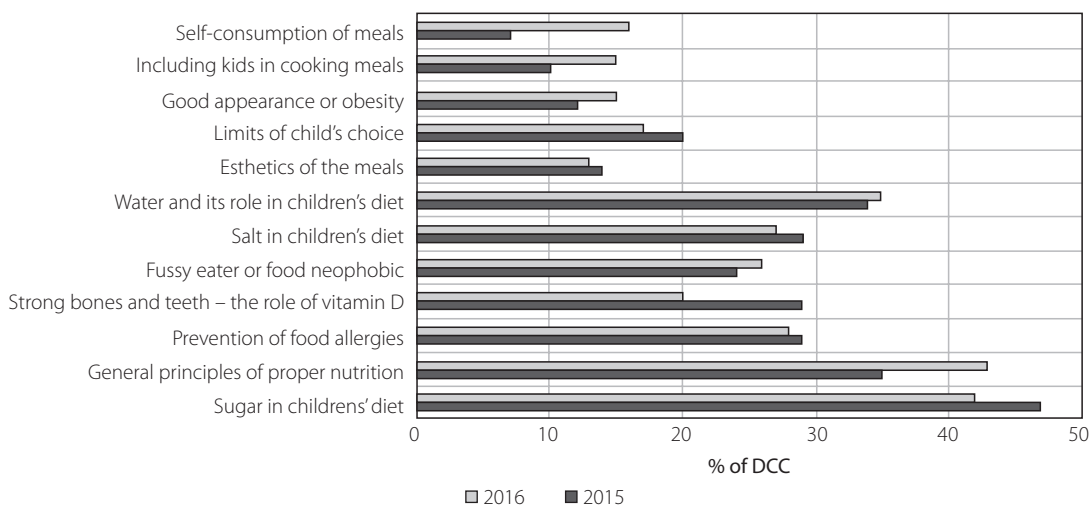


FIG. 2. The topics of nutritional workshops offered within the program

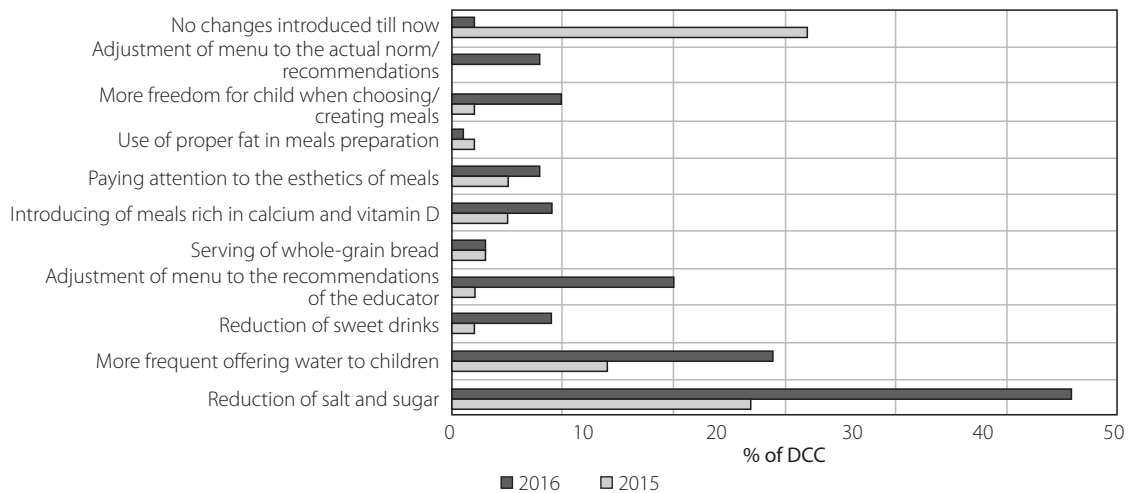


FIG. 3. Declared changes at planning in the children's diets caused by nutrition education

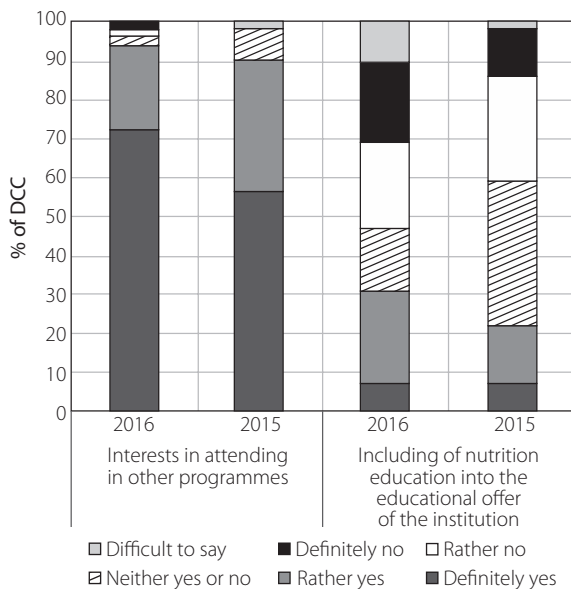


FIG. 4. Interests in attending in other programs and including of nutrition education into the educational offer of the institution

The highest percentage of DCC declared reduction in sugar and salt, and increased availability of water in the served menus. In 2016, declarations of changes were more spectacular compared to 2015. Only a very small percentage of DCC in 2016 did not make any changes.

Interests in attending in other programs and including nutrition education into the educational offer in the institution are shown in Figure 4. The highest percentage of DCCs in both years of the study confirmed such interest. Unfortunately, this was not reflected in the declaration of inclusion of such an offer in the institutions' range of activities. It is worth mentioning that the question was about the implementation of paid education that could be conducted by the same educators but after the end of the project.

Among the reasons for lack of interest in paid education activities, the directors most often indicated lack of

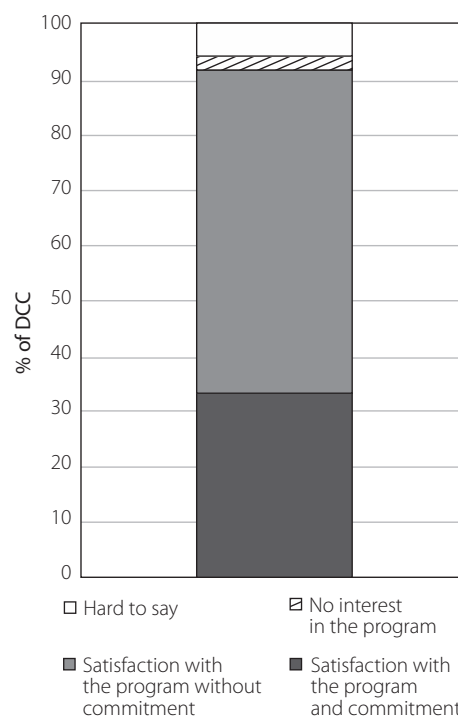


FIG. 5. Satisfaction with the program and parent commitment in the opinion of the directors of the DCC

funds (78%), followed by lack of need (7%), similar classes in the institution's offer (2%) and other reasons (13%).

At the end of the interview the directors of the DCC were asked how the program was received by parents of children. The results are shown in Figure 5. Satisfaction with the program was declared by a high percentage of parents but their involvement was relatively low.

DISCUSSION

There are specific errors in infants and young children nutrition [9]. In the literature inadequate energy and macronutrients supply, low diversity, lack of regularity as well as inappropriate assortment of snacks and

drinks have been reported. Adherence to nutrition recommendations is important at all ages, but especially in early childhood, when growth and development rate is highest. Adequate nutrition is a prerequisite for prevention for many diet-related diseases. Nutrition depends, however, on many factors. Nutritional habits and knowledge as well as nutritional awareness are also very important. Children's food preferences and willingness to try new foods are influenced by people around them [10]. The role of parents and DCCs is significant [11, 12]. Child carers should be a good example for kids to take appropriate patterns to imitate. Some parents' methods of action can be effective in feeding children, as demonstrated by the different intervention study [13].

In our study parents were satisfied that the institution was involved in the educational program but they were not fully involved. The pluralities of everyday life combined with professional work are often raised as arguments that prevent further parental activity, including those important for the health of one's own child. Declaratively, parents are always interested in feeding their children and broadening their knowledge in this regard, but this does not translate into practice.

So when a child goes to a DCC, spends there many hours, and eats a variety of meals, its importance in forming proper eating habits becomes crucial.

Therefore, knowledge and nutritional awareness of employees of these institutions is important. Not all studies confirm that these are suitable [14]. The assessment of menu items served in care facilities also indicates the occurrence of certain irregularities [15-18]. On the other hand, the study validates the effectiveness of education in improving knowledge and awareness, which allows better planning of children nutrition [19, 20].

Educational activities of the program "Healthy eating, healthy growing" are being implemented throughout Poland for several years and have already covered many institutions. The effectiveness of the activities carried out within the program will be evaluated only after the completion of the project. The subject of this paper was examination of declarations of directors of institutions. In present surveys, they evaluated the program. They have also declared the transfer of acquired knowledge to everyday practice. The education program covered a wide range of topics related to child nutrition. The thematic scope of the workshop corresponds to the most common problems associated with errors in the planning and implementation of child nutrition. One of the issues is the amount of sugar in child nutrition. This is a very current topic in international literature [21]. Young children often eat too much sugar [15, 22]. Surplus of sugar is also planned in nurseries menus [18]. Excessive sugar intake increases the risk of many diseases, including obesity [6, 7]. The problem of obesity also affects Poland, including young children [23, 24] hence probably a big interest of DCC in this subject.

Another important topic that has been included in the educational workshops is calcium and vitamin D deficiency. Abnormalities in this range are observed very often in different age groups, including young children [22, 24] and pre-school children [17]. Such a situation is also due to anomalies in the planning of their child feeding [18], which to some extent can be improved by education [20].

Very good evaluations of nutrition workshops presented in our study could also be due to the fact that the training was conducted by well-educated educators. In addition, the educators used the same materials, resulting in consistent delivery to each facility. The purpose of the training was also to update knowledge. In recent years, a number of new recommendations for children have been published [3, 5, 21]. Another important thing that could have influenced such a favorable evaluation of workshops is the place where training was provided. Educators have been training in institutions tailoring the content to their real needs. These trainings were very practical. Such training allowed translation of the theoretical knowledge into the practice to implement in DCCs. Directors of DCC declared changes in child nutrition. These changes were most affected by the reduction in sugar, salt intake and changes in the range of beverages served. After education water was offered more often. According to current recommendations even for the youngest age group [3] water should be the first choice to quench thirst. Have the declared changes actually been implemented? The final answer to this question will appear after the end of the project. The qualitative and quantitative assessment of the institution's menu, before and after nutrition education is one of the objectives of the project. This goal is being implemented on an ongoing basis during the trainee's internship, so some changes are being observed during the project. A similar study [26], which evaluated nutritional practices used in crèches and their adherence to dietary recommendations was conducted in England. The authors have proved that large percentage of DCC were still not meeting national guidelines. Similar information collected in our project is not the subject of this publication. Currently, based on the data presented in the paper and individual preliminary observations [19, 20] we can state that nutrition education has an impact on improving the quality of feeding in DCCs. Other authors also indicate the need for educational in the area of nutrition addressed to the staff of childcare facilities [17, 25-27].

CONCLUSIONS

Several observations were made on the program's implementation, including nutrition education for nursery staff. The nurseries evaluated the project very high in terms of merit content as well as usefulness of the acquired information in the daily planning of children menus. The range of the topics of workshop was quite

extensive, including the most interesting of which were reflected in the declarations of nutritional changes in institutions. Although the educational offer of the program was highly evaluated, the inclusion of such education but with a fee, did not find interest in the institution. In our project education was provided free of charge, which definitely influenced its positive acceptance. Is it clearly visible that the management of DCCs are very interested in all activities, also in terms of nutrition education but only when such activities are free of charge. DCCs are not interested in the implementation of paid education project, especially in the absence of any planned costs or the possibility of external financing. Providing free educational programs increase the chances of reaching institutions which do not have a budget for such activities. Paying attention for early nutrition education is the prevention of many illnesses in children and creating their eating habits. Therefore, the assignment of such tasks is very important and should be emphasized. However, educational programs should be comprehensive and include all those who influence the planning and realizing nutrition of children. In this case, the staff of institutions, parents and their children should be involved. Such approach increases the chance of achieving the intended purpose. Our educational program is an example of such a comprehensive approach.

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DISCLOSURE

Authors report no conflict of interest.

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AUTHORS' CONTRIBUTIONS

AH/JMR prepared design of the article, analysed and interpreted data, wrote the article and approved the publication.