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How well can children understand medicine related topics?

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Abstract

The aim of this study was to discover how well children understand medicine related topics and in this way to evaluate their preparedness for two-way communication about these matters. The data were collected by conducting 14 focus group discussions (FGDs) among Finnish schoolchildren aged 7–8, 10–11 and 13–14 years. The main theme during the FGDs was the management of diseases with medicines. Both inductive and deductive analyses were used to analyse the data [Patton M. Qualitative evaluation and research methods. 2nd ed. Newbury Park: Sage Publications; 1990].

Children had superficial knowledge of and a negative attitude towards medicine use. They used medicine related vocabulary uncertainly implying that they do not fully comprehend all the information that they have gained. Children realized that there may be risks when using medicines and this understanding tended to increase by age.

The results of this study indicate a need to educate children about medicines. In addition to school-based medicine education, health care professionals should communicate directly with children about their medicines at an appropriate cognitive level in order to increase their understanding and skills concerning health issues.

Keywords: Children; Counselling; Focus groups; Health education; Medicines

1. Introduction

Although children are users and potential users of medicines [2–8], little is known about their preparedness for two-way communication about medicine related health matters. However, such information is important when designing and implementing health education programs for children. Such information is also needed to support children in developing skills that improve their health literacy [9] and increase their involvement in their own medicine use.

Few studies have been done to explore children's knowledge [7,10,11] and attitudes [11–13] towards medicines. These studies show that e.g., factors associated with medicine efficacy are confusing for children [10,11]. Children may believe that size, taste, or colour of the pill are related to the efficacy of medicine, or that cheap medicine and medicine bought in a store are not so effective than other medicines [10,11]. Furthermore, children have little idea how medicines work, and the explanations that children give are quite superficial, e.g., that medicine just cures the disease [11,14]. Studies in four countries have found that understanding how medicines work increases with age, and that children rarely acknowledge the preventive value of medicines [11,15].

Children realize the possibility that medicines can cause harmful effects [7,11,12,15]. Older children are more likely to say that not all medicines are good and that medicines can cause side-effects indicating that the perception of risk appears during cognitive development [11,12]. Children perceive that the harmful effects result from taking the wrong medicine, e.g., medicine belonging to somebody else

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[11]. In some studies children have reported fear of using medicines [11,15].

The results of these studies evaluating children's knowledge and attitudes towards medicines imply a need for systematic medicine education for children. In Finland, medicine education is implemented as an obligatory part of school health education in 2003–2006. Furthermore, the importance of educating children about medicines has been noted in a national policy on medicines for 2003–2010 by the Ministry of Social Affairs and Health. The policy states that educating children is one of the means of increasing rational use of medicines among the population.

The present study is a part of a larger project aimed at creating recommendations on what to teach children of different ages about medicines during school health education. The results presented in this article describe the baseline evaluation of children's understanding of medicine related topics. The aim of this study was to discover how well children understand medicine related topics and in this way to evaluate their preparedness for two-way communication about these matters.

2. Materials and method

2.1. Method

The data were collected by conducting 14 focus group discussions (FGDs) among children. The FGD method was selected for this study in order to hear the children's own voices when talking about medicines and health matters, and to discover what kind of experiences, understanding, and attitudes children have concerning disease management with medicines. Since children's knowledge and understanding of medicines is still quite an unexplored subject a qualitative approach was chosen. Group interaction can produce unanticipated responses from children, and the variety of communication and interaction among children in the FGDs may reveal dimensions of understanding that may remain untapped by one-on-one interviews. This is why the FGDs were considered to be a more suitable method for this study than questionnaires or one-on-one interviews [16–18].

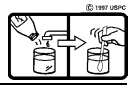
2.2. Materials

Children were recruited from four public elementary and middle schools located in middle-class suburbs in Kuopio, Finland. After approval from the headmasters, informed consent was obtained from parents. Teachers selected the final groups of children for the discussion from their classes. On the basis of the experiences gained during the pilot interviews, teachers were asked to select a group of children who do not quarrel and who normally are talkative, and this way a convenience sample of children was gained. Participation was voluntary.

The children were from three different age groups: first-graders (7–8 years), fourth-graders (10–11 years) and seventh-graders (13–14 years). These age groups were chosen according to Piaget's Cognitive Development Theory [19,20] in order to include children from three different developmental stages. However, the children were not tested according to their levels of intelligence or developmental stage. Four focus group discussions (FGDs) were conducted with first-graders and seventh-graders, and six FGDs with fourth-graders. There were 4–9 children in each group, and the total numbers of children participating in the study were 23 first-graders, 39 fourth-graders, and 19 seventh-graders. The discussions lasted 29–60 min.

The interview guide was based on that developed by Menacker et al. [11], and finalized after three pilot FGDs that were not included in the study. USP pictograms were used to focus the discussion on medicines (Table 1). These pictograms were shown to children who were then asked if they knew what kind of medicine was in the picture. If the children knew the medicine, additional questions were asked, for example, why did you use it, how does it work, why some people have to use this kind of medicine, and why some medicines have to be taken with meals or with a special schedule. The children were not asked whether they had any chronic diseases but some reported them

Table 1
The USP pictograms used to focus the discussion on medicines

Take by mouth	
Place drops in lower eyelid	
Nasal spray	
Inhaler	
Injection	
Shake well	
Take with meals	
Take in the morning	
Take 2 times a day with meals[a]	
Dilute with water[a]	

[a] Pictograms used only with fourth and seventh graders.