

Health Education in Primary School Textbooks in Iran in School Year 2010-2011

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Abstract

Objectives: Health education in schools is one of the most effective ways of promoting health in a society. Studies have shown the effectiveness of health interventions aimed at improving students' knowledge, attitude, and behaviors about health issues. The aim of this study was to evaluate health issues in primary school textbooks in Iran.

Materials and Methods: In school year 2010-2011, the contents of all primary school textbooks in Iran were assessed in accordance to their health-related teachings. Health lessons of these 27 textbooks in the form of picture and text were retrieved and analyzed using content analysis method.

Results: In total, 502 health-related lessons were found. The textbooks of the third grade contained the highest (144) and those of the fourth grade had the lowest (26) number of health lessons. Among health-related issues, the largest number (87) of lessons were about personal hygiene, while prevention of high risk behaviors comprised the least number (8). Some important health issues such as nutrition, oral health, and prevention of high-risk behaviors were not adequately discussed in the textbooks.

Conclusion: The potential of primary school textbooks in delivering health messages has been neglected in Iran. Taking the critical importance of school ages into account, incorporating health issues in textbooks should be more strongly emphasized.

Keywords: Health promotion, Oral health, Primary education, Textbooks

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INTRODUCTION

Health promotion is the process of empowering people to have control over their health and improve it. It is more than paying attention to individual behaviors, and includes a wide range of social and environmental interventions [1]. One of the most important fields in health promotion is health education [2],

and schools are the biggest ground for providing education. The importance of schools is well reflected in the statement by the United Nations Children's Fund (UNICEF) that calls schools "the widest world channel for broadcasting information to the families, school staff, community members and students themselves" [3].

Therefore, schools are an imperative part of health promotion [4]. Schools provide access to about one billion students and their families worldwide [5]. Furthermore, schools provide necessary education to students at the most effective time of their lives [6].

Health education in schools is effective in promoting knowledge, reforming, and improving health related beliefs and behaviors [7-15]. It seems, however, that children's health knowledge and health related behaviors are inadequate and poor in underdeveloped and developing countries [16-20]. For example, a study in South Africa observed malnutrition in primary school children, as well as limited knowledge about nutrition among them [16]. Deficient health knowledge and poor health related behaviors have been reported in studies on school children in African countries [17, 18], Colombia [19], and Turkey [20].

School textbooks are an essential part of health education. They are the primary tools for transmitting educational content and guiding the classroom activities [21]. School textbooks have been considered as important as teachers, students, and the classroom itself in achieving educational goals [22]. The role of school textbooks as a reliable source of information becomes even more important when access to other sources of information is limited [23]. The Organization for Economic Cooperation and Development (OECD), World Bank and United Nations Educational, Scientific, and Cultural Organization (UNESCO) have acknowledged the importance of textbooks for health education in developing countries [24].

A 2011 systematic review conducted in the United states and Spain, evaluating the content of school textbooks in relation to health lessons, concluded that the lessons in these textbooks are inadequate, inaccurate, or out of date, and hence need improvement [25]. In a study in Spain, Irala et al. reported that sexual and reproductive education in school textbooks are inaccurate [26].

Two studies about the status of health education in school textbooks from Iran showed that the content of textbooks, according to the age of children and their vulnerability, is poor and quantitatively limited [27, 28]. However, these studies only evaluated a few aspects of health and many important health topics, including oral health have not been evaluated yet.

Nearly 100% of the Iranian children receive primary education. Primary education in Iran up to the year 2012 included five years for children six to 11 years old studying in grades one through five. Children take part in educational programs in schools for 24 hours a week for about nine months each grade. In this period they mainly receive lessons in mathematics, Farsi, arts, physical education, religious studies, natural sciences, and social sciences.

The aim of the present study was to qualitatively and quantitatively evaluate health-related topics in primary school textbooks in Iran during the school year 2010 – 2011.

MATERIALS AND METHODS

We downloaded all of the primary school textbooks that existed as PDF files on the official website of the Iranian Ministry of Education (www.talif.sch.ir) [29]. These are the electronic versions of printed textbooks, which are taught in the primary schools all over the country. In totally 27 textbooks, including reading, writing, science, mathematics, social sciences, and religious studies, with 3598 pages were evaluated.

In this study, the authors used content analysis, which is a common method to perform qualitative studies. Using this method, presence of a special word or concept is searched for through the whole text. Texts or pictures are subsequently broken into pieces and classified into manageable content categories [30,31]. One of the authors (RK) searched the entire PDF content and extracted each text or picture unit including a health related lesson. This was subsequently reviewed by the other authors until consensus was reached.

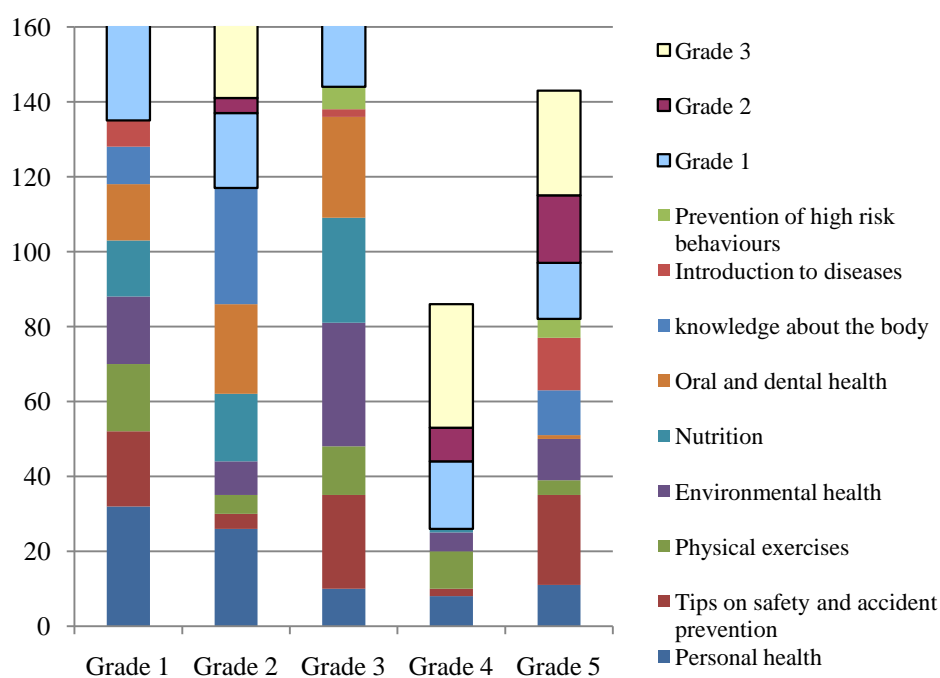


Fig 1. Comparison of the number of health related messages in the primary school textbooks in Iran.

A text unit is any sentence, question, piece of poetry, phrase or word, and a picture unit represents any picture, figure, or drawing. For the large pictures, each component has been considered as a separate picture.

The health related lessons were categorized into nine groups, including personal health, oral and dental health, physical education, nutrition, environmental health, introduction to diseases, prevention of high-risk behaviors, knowledge about the body, and safety and accident prevention.

The total number of the health lessons was subsequently enumerated and reported based on each grade, textbook, and health related category, using descriptive statistics.

RESULTS

In 3,598 pages of the 27 primary school textbooks, 502 pieces of texts and pictures were retrieved that contained health lessons.

Among the textbooks of different grades, the prevalence of health-related lessons was the highest in the textbooks of the third grade with 144 lessons and the lowest in the textbooks of the fourth grade with 26 lessons (Figure 1). The number of lessons in each topic in the third grade books was as follows: environmental health: 33, nutrition: 28, oral and dental health: 27, safety and accident prevention: 25, physical education: 13, personal health: 10, prevention of high-risk behaviors: six, and introduction to diseases: two. For the textbooks of the Fourth grade, the total number of lessons (26) comprised of the followings: physical education: 10, personal health: eight, environmental health: five, safety and accident prevention: two, and nutrition: one.

Figure 2 presents the number of health lessons according to different school textbooks.

As it appears in this figure, among the five grades, science textbooks with 210 messages

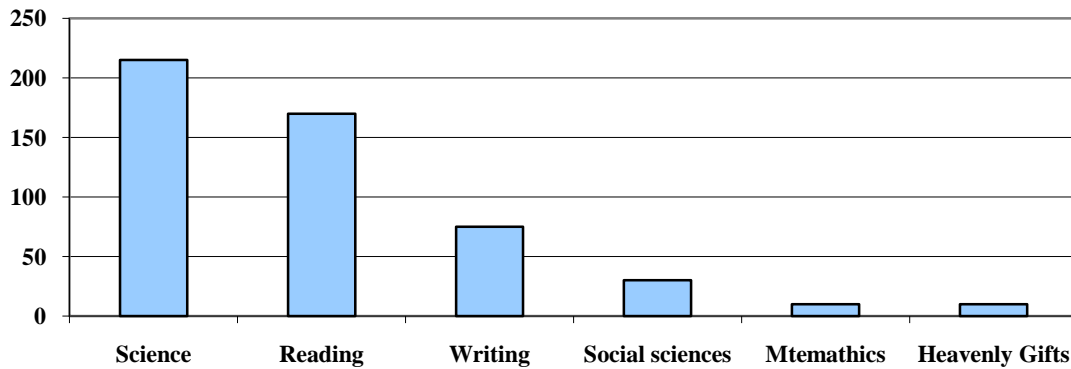


Fig 2. The number of health related messages in different primary school textbooks in Iran.

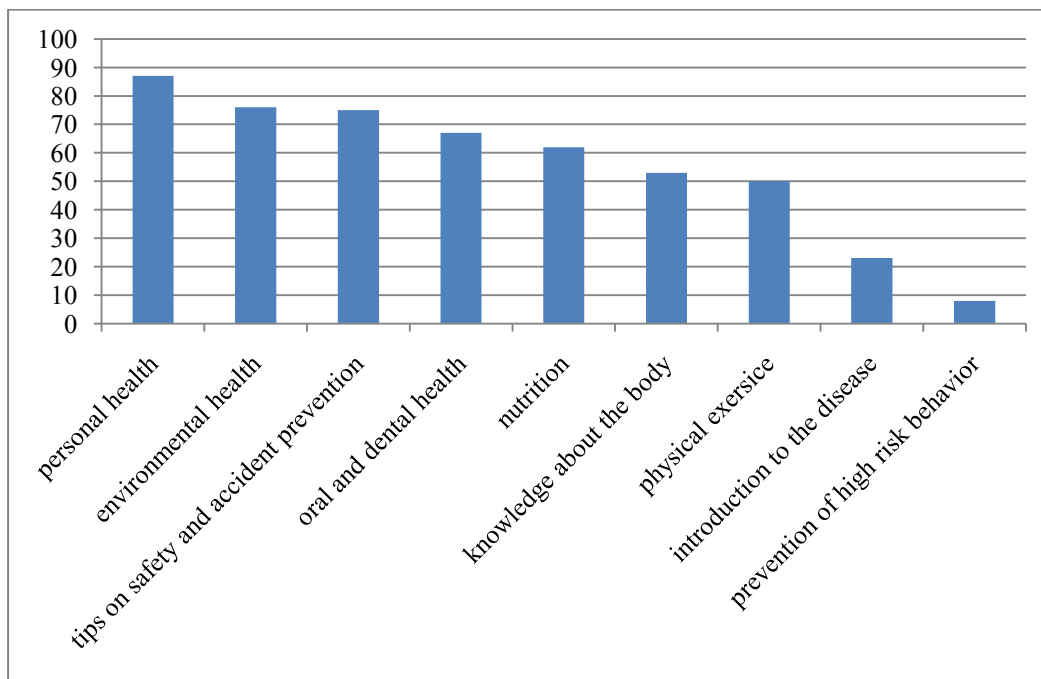


Fig 3. The number of health messages in relation to various health topics in primary school textbooks in Iran.

and religious studies textbooks with seven messages contained the highest and the lowest number of health messages, respectively. Personal hygiene had the highest prevalence among the nine mentioned health topics with 87 lessons and prevention of high-risk behaviors with eight messages earned the lowest prevalence (Figure 3).

The content of lessons in each topic was briefly summarized: personal hygiene included basic health behaviors such as hand washing with soap, adequate sleep, using a personal water glass, bathing, and wearing clean clothes. Environmental health included lessons about putting waste in trashcans, water and air pollutants, and saving and cleaning the

earth. Safety and accident prevention included lessons about car safety, preventing fires, surviving natural disasters such as floods and earthquakes, and injury prevention. Nutrition consisted of messages about avoiding overeating, healthy foods, and the correct way of eating. Knowledge about the body category covered lessons about injury prevention, and the different stages of human growth and development. Physical education was largely addressed by pictures of people participating in different sports. Introduction to diseases was similarly limited to texts and pictures regarding signs and symptoms of some common diseases and preventative methods. Finally, prevention of high-risk behaviors included messages about sexual behaviors, and tobacco and alcohol abuse.

With regards to oral and dental health, the textbooks of the first three grades contained the most number of lessons, with 15 lessons in the first grade books, 24 lessons in the second grade books, and 27 lessons in the third grade books. There were no lessons in the fourth grade books, and only one lesson in the fifth grade books (Figure 1). The lessons contained messages about using a toothbrush and brushing teeth regularly, dental hygiene, visiting a dentist on regular basis, exfoliation of primary teeth and eruption of permanent teeth, functions of different types of teeth, and tooth decay in the form of pictures or text.

Considering the route of message transmission, 46% of the messages were presented as pictures and the remaining 54% as text. The number of visual messages decreased gradually from the first grade to the fifth grade.

DISCUSSION

Providing early health education to school age children helps shaping their attitude and beliefs towards health, and ultimately results in healthier lifestyles. Children are very impressionable during the school ages and lessons learned at school will stay with them for a long time [4].

Furthermore, according to the statistics of the UNICEF, the number of children who attend primary schools in Iran is exceptionally high, even larger than the number of students in secondary schools [32]. This led us to evaluate primary school textbooks as an important source for presenting health information to children.

The results of the present study show that in a total of 3598 pages of primary school textbooks, just 502 health related messages are presented. This relatively small number of health lessons is not adequate for effectively presenting a broad range of health concepts to the students and shaping their beliefs and attitudes towards healthy choices throughout life.

Another important point is the way in which messages are presented. In the first grade books, 72% of messages are presented visually while that decreases to 30% in the fifth grade. This is in line with the results of a study showing that images and diagrams are associated with improved learning [33]. This is especially the case in early school years, when kids are not able to read.

In all five grades of primary school, science textbooks had the most contribution in delivering health messages. Farsi literature textbooks, which comprise a big proportion of education time in primary school, have an important role in teaching health concepts as well. On the other hand, the textbooks of social sciences, religious studies, and mathematics were very poor in presenting health concepts, despite having a great potential for delivering health messages considering the total time devoted to these topics. Health concepts could be presented in these textbooks very successfully if combined with social and religious subjects, or Intellectual activities.

Personal hygiene is one of the most important aspects of health education. Unless measures are taken to cleanse the body on regular basis, the body is at risk of catching infections [34]. To this end, personal hygiene had the highest number of messages among the nine health

related categories in primary school textbooks. The basic hygiene behaviors such as using a personal cup, using soap and hand washing, taking a bath, appropriate dressing, adequate sleep, and proper attitude towards hygiene, have been properly emphasized in primary school textbooks. It has been reported that health knowledge and attitudes of students significantly improve after receiving education [35].

In both developed and developing nations, the prevalence of childhood overweight and obesity are increasing rapidly and this is perceived as a major public health.[36]. It has been shown that promoting healthy eating practices and regular physical activity in young children benefit them throughout their lives [36]. Poor knowledge of nutrition has been reported as one of the reasons for poor food choices [37] and consequently, a major contributing factor in the development of malnutrition and obesity [38]. It has been found that adequate knowledge about nutrition is a significant predictor of dietary intake, leads to better dietary habits, is integral to the achievement of healthy dietary behaviors, and consequently improves the quality of one's diet [39, 40]. Our findings, together with studies that show growing rate of obesity in Iran emphasize the need for more nutritional health lessons [41, 42]. Our results also show that during the last two years of the primary school, nutrition education was completely neglected. Absence of a systematic nutrition education program for school children has been separately stressed in another study in Iran (Abdollahi et al. 2008)[43].

There was a dearth of lessons about prevention of high-risk behaviors in the studied textbooks (only eight lessons in 27 books). Results of a few published studies have previously shown the low level of knowledge with regards to preventative measures and high-risk behaviors among Iranian students [44,45]. While lessons about prevention of high risk behaviors such as smoking, alcohol and drug abuse, and high risk sexual behaviors may be unnecessary in

early school years (i.e. grades one through three), it is imperative to educate students in the fourth and fifth grades who are in transition period from childhood to adolescence and probably experience puberty, about such high risk behaviors.

Oral health education aims to promote oral health through provision of information to improve knowledge and awareness, which may lead to adoption of a healthier lifestyle, and direct people toward desirable behaviors [46,47]. While oral health education is an important part of oral health promotion and a basic part of dental health services in children and adolescents [48, 49], there were only 67 lessons about oral health education in all 27 textbooks of primary school in Iran. These lessons were mainly about introduction to primary and permanent dentition and tooth brushing. The World Health Organization (WHO), in one of its information series on school health [51], specifies some educational goals for oral health education curriculum of primary school children. These goals mainly emphasize on dental plaques and healthy foods, demonstrating a positive attitude toward oral health and dental team and appreciating the importance of teeth. However, primary school textbooks of Iran generally failed to cover WHO specified goals in areas of knowledge, attitude and values. Despite the high rates of gingivitis and dental caries in Iran, there were no lessons about gum health, dental floss, fluoride containing compounds, and proper way of tooth brushing. Furthermore, although fear of dentists is one of the main factors for low frequency of dental visits and poor oral health, no attempts have been made in the school textbooks to portray a positive view of dentists and dental health team for children [52-56].

In terms of methods, a combination of qualitative and quantitative analyses were used to assess the degree to which each health concept received attention in the primary school textbooks. This combination of at least one qualitative and one quantitative component in the

method of analysis in a single research is utilized in order to gain complementary views about the same phenomenon [57].

CONCLUSION

There is a high potential for promoting health related concepts through primary school textbooks in Iran, which has been neglected thus far. The results of the present study call for improving the quality and the quantity of health lessons in school textbooks in order to increase the level of health knowledge in school children.

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