



Promotion Media for Children's Health: Applicable Study of Management Child Illness

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Abstract

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BACKGROUND: Public understanding of immunization problems, pneumonia cases, and nutrition in children is important to improve children's health status. Provision of attractive and illustrated media is one option to increase public knowledge in supporting the success of government programs in the health sector.

AIM: The purpose of this study is as a form of promotion effort to support an increase in the immunization movement in infants, a decrease in cases of malnutrition and malnutrition, and a decrease in pneumonia cases in infants.

METHODS: The research method used is qualitative and quantitative study. Researchers analyzed the promoting media and the value of benefits in the community. Qualitative analyze used content analysis to get an assessment of media from cadres and parents of children. Quantitative study used univariable analysis to see understanding of illness prevention effort. Interesting picture books for immunization, pneumonia, and malnutrition are used as the promoting media. The number of samples was 20 cadres and 20 parents of children under five, done by simple random sampling technique.

RESULTS: The results showed that the media used for learning nutrition, immunization, and pneumonia material was effective for cadres and the community about easy to understand, completeness, attractive, assistance, easy to use, and practically. This is evidenced by a positive assessment of the media and increased understanding of the material from 50% to 90%.

CONCLUSION: Thus, it can be said that it is necessary to provide educational media to increase public knowledge and understanding of cases that often arise in the community as a problem.

Introduction

Some of the crucial problems in Banyumas district are related to children's health, namely, immunization, pneumonia, and malnutrition. The basic immunization for children is not 100% of the total number in every area of the Banyumas district health center. Cases due to not being immunized were 3.3%. Immunization is used as a routine and additional/supplement program, to reduce morbidity, disability, and infant mortality from diseases that can be prevented by immunization. The immunizations referred to are BCG, DPT, polio, and HB, to prevent tuberculosis, diphtheria, pertussis, tetanus, polio, and hepatitis [1], [2]. There was a decline in the past 5 years and increase 6% in the past year [3].

Pneumonia cases on children under five increased from 8.65% (2014) to 27.55% (2015). Promotional efforts are needed to prevent pneumonia cases and target to reduce pneumonia cases in children. There are cases of malnutrition in every area of the Banyumas district health center, a decrease of 0.4% in 2015 compared to 2014. There are 64 malnourished children under five and 100% on treatment. A malnourished toddler who receives treatment is a child

with malnutrition who is handled at a health service facility or at home by a health worker according to the management of malnutrition in one work area at a certain time [4].

Immunization is an effort to actively increase a person's immunity against a disease so that if exposed to the disease, they will not get sick. Immunization is also said to be an effective and efficient health effort for disease prevention. The goal of vaccination is to increase body immunity. The immunization program is aimed at reducing morbidity, mortality, and disability due to diseases that can be prevented by immunization.

Vaccines are antigens in the form of dead or weakened microorganisms and have been processed from microorganism toxins into toxoid, a recombinant protein. Immunity in the body can be obtained naturally either actively or passively. Naturally immunity is obtained by transplacental passivity (antibodies from the mother during pregnancy). Artificial passive immunity is obtained through administration of antibodies that are inserted into the child's body. Active immunity is obtained when a child is exposed to a disease, thus stimulating the child's body to actively produce immunity against the disease.

The basic immunization programs for infants are hepatitis, BCG, polio, DPT-Hib, and measles.

Immunization of DPT-Hb-Hib is performed in children at 18 months of age and measles at 24 months of age, and Grade 1 SD measles which is given in August. The immunization program is carried out by health workers at the Puskesmas with details of services: Ensuring that all children are registered, have received complete immunizations, and their completeness is monitored; calculate vaccine needs, store and use them properly; and carry out recording and reporting of immunization activities.

Based on the profile of Banyumas Regency in 2015, there were 3.3% of cases of acute flaccid paralysis (AFP). AFP is a disease caused by not being immunized against polio. The name of the disease case caused by not immunizing against polio is poliomyelitis, which is a disease of the central nervous system caused by polio virus type 1, 2, or 3. Clinically it attacks children under 15 years of age and suffering from AFP with transmission through contaminated human waste. Symptoms include fever, muscle aches, and paralysis that occur in the 1st week. It can cause complications of death, if the respiratory muscle is infected and not treated promptly [5].

Pneumonia is still a major serious problem in developing countries, including Indonesia [2]. The results of a preliminary study in Banyumas Regency experienced a drastic increase in the incidence of 2015–2018 which is still a priority. Factors that cause mortality include cases of pneumonia in infancy, low birth weight, not being immunized, not getting enough breast milk, malnutrition, vitamin A deficiency, and high industrial pollution or cigarette smoke.

Pneumonia is an inflammation of the lung parenchyma. Most of them are caused by microorganisms (viruses or bacteria) and a small part due to aspiration, radiation, and others. Pneumonia can occur initially with a viral infection, then progress to complications from a bacterial infection. Clinically, the symptoms of pneumonia in children are difficult to distinguish between viral or bacterial causes. In bacterial pneumonia, it tends to be onset fast, productive cough, looks toxic, leukocytosis, and significant changes on radiological examination.

Pathogenesis, the causing microorganisms are inhaled to the lungs in the periphery through the respiratory tract. Initially, edema occurs due to tissue reactions that facilitate proliferation and spread to surrounding tissues. The bronchopulmonary system that is not affected will remain normal. It is classified as pneumonia if there are signs of rapid breathing (>60 times/ min) or shortness of breath. If these symptoms appear, the child should be treated and received antibiotic therapy.

Bacteria that often infect children aged 0–20 days are *Escherichia coli*, Group B *Streptococcus*, and *Listeria monocytogenes*; children aged 3 weeks–3 months generally by the bacteria *Chlamydia trachomatis* and *Streptococcus pneumoniae*; and adenovirus, influenza virus, parainfluenza 1-2-3 virus, and respiratory

syncytial virus. At the age of 4 months–5 years, the bacteria *Chlamydia pneumoniae*, *Streptococcus pneumoniae*, and *Mycoplasma pneumoniae*, and adenovirus, influenza virus, parainfluenza virus, and respiratory syncytial virus are more common.

Malnutrition in children under five can occur due to the major factor of diarrhea, bottle feeding with low sanitation, lack of knowledge about nutrition, and lack of nutrition. The most extreme cases of malnutrition are kwashiorkor and marasmus. Kwashiorkor is a disorder caused by a lack of primary protein with sufficient calories. Predictions of the multifactor causes of kwashiorkor include cultural, psychological, and infectious causes. The appearance of the kwashiorkor child is with small and thin limbs; abdominal bulging due to edema/ascites; scaly, dry, hyperpigmented skin, vitamin deficiency.

Public understanding of the problem of immunization, pneumonia cases, and nutrition in children is important to improve children's health status. Information provided by health workers need to be made as easily understood by the audience [6], [7], [8], [9], [10]. The provision of attractive and pictorial media is one option for increasing public knowledge in supporting the success of government programs in the health sector.

The purpose of this research is as a form of promotional efforts to support the increase in the immunization movement in children under five, to reduce cases of malnutrition, and to decrease pneumonia cases in children.

Methods

The research has been carried out in Berkoh, Purwokerto Selatan, Banyumas Regency. The research period is from November 2018 to June 2019.

The population in this study were families with children under five for immunization-related cases and pneumonia-related cases, as well as school age children for nutrition cases. The number of samples was 20 cadres and 20 parents of children under five in the village of Berkoh, South Purwokerto subdistrict, which is in the area of Puskesmas Purwokerto Selatan. The sample selection technique used a random sampling method. Before starting the study, the selected sample signed an informed consent.

The research used qualitative and quantitative method. Researchers analyze the promoting media used and the value of benefit in society [11], [12], [13]. Interesting picture book for immunization, pneumonia, and malnutrition is used as the promoting media. Qualitative analyze used content analysis to get an assessment of media from cadres and parents of children. Quantitative study is conducted to see

understanding of illness prevention effort. The study was approved by the Institutional Ethics Committee of the health research ethics committee Universitas Muhammadiyah Purwokerto with reference number KEPK/UMP/02/VIII/2019.

Results

Characteristics of respondents

The characteristics of the respondents in this study are illustrated in the following Table 1.

Table 1: Characteristic of respondents

Variable	Cadres		Parents (mother)	
	n	%	n	%
Age				
Productive	17	85	18	90
Non-productive	3	15	2	10
Education				
High	13	65	16	80
Middle	7	35	4	20

Respondents were cadres and parents who were dominated by the characteristics of productive age and those with higher education. This supports the smooth running of the research process.

Analysis of media use on nutrition

Analysis of the use of media for nutritional material obtained input from children as users and targets of the media. The description is shown in the following Table 2.

Table 2: Analysis of media use on nutrition

No.	Aspect	Observations
1.	Pleasure	Children really enjoy learning vegetables and fruits using the pop-up book.
2.	Curiosity	Children are very enthusiastic with great curiosity, this can be seen when they open the first page of the pop-up book.
3.	Passion	The children are enthusiastic about participating in the introduction of vegetables and fruits using the pop-up book.
4.	Activeness	Children are active in participating in the introduction of vegetables and fruits using pop-up book media.
5.	Assistance	Children are greatly helped in understanding the content of the material using pop-up book media, because in addition to containing material, pop-up book is also equipped with pictures so that students are able to explore the material further.
6.	Convenience	Children can use pop-up book media easily. This is because the pop-up book is equipped with instructions for use on the home page.
7.	Practicality	Children can use pop-up book media practically. This is because the pop-up book media is easy to carry or to move anywhere because of its portable and medium size.
8.	Interest	Children are very interested in using pop-up book media because it is equipped with pictures and material as well as language that are easy for students to understand.

Analysis of the use of media for immunization and respiration

Analysis of the use of media for immunization and respiration material obtained input from cadres

and parents as users and targets of the media. The description is shown in the following Table 3.

Table 3: Analysis of the use of media for immunization and respiration

No.	Aspect	Observation result
1.	Easy to understand	Material books are easy to understand by users.
2.	Completeness	Materials of this book covers material needed and various problems that arise and are experienced by the community.
3.	Attractive	An attractive book design accompanied by images with clear writing, supports the ease of users in understanding the related material.
4.	Assistance	Cadre's said that this media helps to provide information to people in need. Parents with sick toddlers feel helped to get more intensive and complete information about their child's health.
5.	Easy to use	The book is clear and easy to use. It is also easy to provide information on the public.
6.	Practically	This media is practically designed in the form of a small book. It is practical to carry so that it easier for cadres to use the media when and where needed.

Discussion

Characteristics of respondents

Characteristics of respondents based on age and level of education, most of the subjects were cadres and parents at productive age and highly educated. This allows the activity of providing information to cadres and from cadres to parents. For parents, receipt of information from health workers and application to children was given.

Analysis of media use on nutrition

The children seemed happy to participate in the introduction and learning of the pop-up book, this was shown by the enthusiastic responses of the children seeing part of the picture on the pop-up book media. During the trial process, several children who were not the research subjects also followed the introduction process using pop-up book media [5], [14].

When children use the pop-up book, they seemed enthusiastic and curious, this can be seen when they opened the first page of the pop-up book, the children immediately search for the contents of the book in detail [15], [16]. The children told each picture contained in the media and some children tried to move the pop-up technique that was like in the mystery box section. In this part of the mystery box, children were interested in opening and trying to answer the questions in the mystery box.

The children are very enthusiastic in participating in the vegetable and fruit introduction activity using the pop-up book, this can be seen from the response of the children who immediately opened the media and observed every part of the pop-up book. When the trial took place on students with variations in cognitive levels, the research subject children looked

active in learning using pop-up book media, children who were known to be passive looked active and followed other children to tell stories and answered some questions contained in the mystery box when using pop-up books. Challenges in playing can improve children's cognitive abilities [17].

The pop-up book media is very helpful for children in understanding the material, because in addition to containing material, pop-up book media is equipped with pictures so that children are able to explore and to tell about the images contained in the media. Illustrations or pictures and several pop-up techniques are created to attract children's interest in consuming vegetables and fruit. Colorful and varied images attract children's attention [18], [19].

Children can use pop-up book media easily. This is because the pop-up book is equipped with how to use or the instructions for use at the initial page. This pop-up book media is practical to use and easy to carry or to move anywhere because of its portable and medium size. Children are very interested in using pop-up book media because it is equipped with pictures and materials as well as language that are easy for children to understand. This is evidenced by the participation of other children who also want to see the pop-up book media [20].

When opening the first page, according to the children who prefer to read, they simply see the foreword and instructions for using the pop-up book, which contains pictures with color. On the next page, it is shown a pop-up display about the care process and understanding of vegetables and fruit, students immediately read and see the pictures displayed from the media. At the stage and development, namely, concrete operations, students can explore their knowledge optimally using quality and interesting media at this stage [19].

Children are enthusiastic to see each picture and try to tell about the pictures displayed on pop-up media. On the next page, the students were shown again a pop-up display about the types and content of vegetables and fruit, on this page, the students were immediately interested in opening them. Some of the children's responses when using the media were "wow the pictures can stand up" and "these good pictures can appear and move." When the observation, the students looked enthusiastic and interested in exploring books, this was shown in the child's response expression. Media developed can help children to explore the ability to tell stories from pictures on the media, to ask questions, and to have an opinion [17], [18], [20], [21].

Analysis of the use of media for immunization and respiration

The material book is easy for users to understand. The material book covers material needs and covers various problems that arise and are experienced by the community. Kader said that it was

greatly helped by the media to provide information to people in need.

Parents with sick toddlers feel helped to get more intensive and complete information about their child's health [19], [22], [23]. Books are easy to use, clear, and easy to provide information to the public. The media design is in the form of a small book, practical to carry, making it easier for cadres to use the media when and where needed.

Assessment of parental knowledge after counseling by cadres

The level of parent's knowledge about immunization and prevention of respiratory diseases increased from an average of 50–90%. The instrument consists of 20 questions related to immunization and prevention of respiratory diseases. The lowest score was 43 and the maximum score was 95. Family involvement is an important factor in handling sick children [24], [25], [26], [27].

In other study, it was stated that the use of interesting, colorful, and pictorial media will be make the subjects understand more easily.

Conclusion

From the results of the study, it is concluded that the media used for learning nutrition, immunization, and pneumonia materials are effective for cadres and the community proven by a positive assessment of the media and an increase in understanding of the material from 50% to 90%. Thus, it is recommended necessary to procure educational media to increase public knowledge and understanding of cases that often appear in society as a problem.

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