

Needs Assessment in Elementary School Students About the Effects of Secondhand Smoke Exposure: Baseline Studies in the Development of Picture Stories as Smoking Media Literacy for Children

Septian Emma Dwi Jatmika^{1*}, Muchsin Maulana¹, Mufidatusholihah¹

¹Public Health Faculty, Ahmad Dahlan University, Yogyakarta, Indonesia

*Corresponding author. Email: septianemma@ikm.uad.ac.id

ABSTRACT

Background: Children's health literacy about cigarettes has a low impact on its ability to minimize second-hand smoke exposure. **Objective:** To analyze the needs of elementary school children to develop picture stories, a health education media about the dangers of smoking. **Methods:** Research using qualitative methods. Data were obtained through Focus Group Discussion (FGD) to several grade 3,4 and 5 elementary students and literature reviews. This type of instrument uses focus group discussion guides. **Results:** The results showed that the picture storybook developed by the researcher presented the material in the form of a story that was equipped with colorful pictures. The chosen theme is health. Peer figures play the main characters with side characters such as teachers, doctors, and parents. The setting in which the story takes place at school and home. The time setting is also not far from the activities of children, namely when studying at school and coming home from school. The plot is fostered straight or chronologically. The language style in this storybook uses everyday conversation. Informant needs for information include differences in active smokers and passive smokers, diseases caused by second-hand smoke exposure in children, and preventive and promotive efforts that can be done to reduce exposure to second-hand smoke in children. **Conclusion:** An illustrated story about a secondhand smoke exposure in a child entitled "Be Superhero to Zero Smoke" was designed according to the steps in the preparation of a child's story, and informant's information needs about second-hand smoke exposure.

Keywords: need assessment, development, media, picture stories, smoking

1. INTRODUCTION

The child protection law states, "the government is required to provide facilities and carry out comprehensive health efforts for children so that each child gets an optimal degree of health from the womb." So, in this case, the child must be protected from the effects of the danger caused by cigarette smoke. One way to protect children from the risks of passive smoking is to provide information about the risks of cigarette smoke for health (1). Studies that have been done show that children's knowledge about cigarettes and the dangers are still low. Children only know that cigarette smoke can be harmful to the health of people who smoke only, children do not know that cigarette smoke is also dangerous for people who don't smoke but are around people who smoke (2). So in the absence of the provision of appropriate knowledge, the child will continue to be exposed to the surrounding cigarette smoke and be affected by the health effects of the dangers of smoking.

Providing education about the effects of cigarette smoke exposure on children since they were in elementary

school is very important because children at the age of primary school are the next generation of the nation whose number of communities is quite large, besides elementary school-age children are susceptible to be taught understanding and healthy living habits. The knowledge gained by children after reading a picture book is one of the efforts to protect children from the dangers and effects of smoking.

His observations highly dominate the stages of development of children aged seven years to 12 years, every aspect of psychology in children, thus the characteristics of elementary school students are more interested in reading books that have exciting pictures (3). Therefore the researcher intends to analyze the need to develop a picture book containing the effects of second hand smoke exposure as smoking media literacy for children.

2. METHOD

This research is the first stage of the research and development phase. (4). the research uses a qualitative approach. Data was obtained through Focus Group

Discussions (DKT) and literature review. As the FGD informant, they were representatives of grades 3, 4, and 5 students of SD N G Yogyakarta. Their ages range from 10-12 years. Most of the DKT participants were male. Literature data review data obtained from journals, research, articles, and books relating to the development of illustrated stories as a medium of health education and the impact of cigarette smoke exposure on children. The results of this data collection were analyzed using content analysis. The results of the study are used to plan the right strategy in making a picture book "Be Superhero to Zero Smoke.

3. RESULTS AND DISCUSSION

Results

The results of the needs analysis conducted on the informants of grade 3, 4 and 5 students of SD N G are as follows:

Media

a. A character your child likes
Characters who are liked by informants can be used as a reference in the manufacture of picture stories. Researchers dig up information about their favorite characters through the type of card film they like. *"Upin ipin, syifa, limba, marsha, ultramen, power ranger rimba"*(4A)

Cartoons with the character "human" become the primary choice of several respondents.

"Upin ipin, spongebob, and masya"(3B)

Almost all informants conveyed their preference for the cartoon character Upin Ipin. *"upin ipin, ultramen, marsha, spongebob, zeg, power ranger, tsubasa"*(5A)

"Spongebob, Upin Ipin, Marsya, Syifa terus Malky and Friend"(8B)

"kapten tsubasa, upin ipin, monkaret"(3C)

"kapten tsubasa, upin ipin, monkaret"(3B)

b. The storyline the informant wants
At the time of the FGD, the researcher gave several choices of story books as consideration for choosing the story line. The first uses story books that describe daily life in the family. Based on the results of the FGD, it was found that the informants preferred the storyline of daily life in a family.

"How to go to the toilet by yourself"(1A)

"Father and Mother Cooperation" (4B)

"The habit of loving my body" (5B)

"The habit of loving my body" (10B)

The storybook with the title, let's go to the toilet myself, the excitement of my mother's father's cooperation, and the habit of loving my body is a story of everyday life. Besides, some informants chose ASETARO comics. This comic has a storyline that is almost the same as the books chosen by the previous informants.

"asetaro, aku sehat tanpa asap rokok" (I'm healthy without cigarette smoke)(9C)

c. Color selection
Informants prefer picture story books that have bright colors.

"There are colors ... bright" (2A)

d. The size of a picture book
The selection of the size of these picture books is through books presented by researchers. In this case, not only size is considered but also the use of paper and book thickness.

"at this rate but a bit thick, ASETARO I'm healthy without cigarette smoke (Aku sehat tanpa asap rokok)"(1C)

Informants prefer the type of picture book with A5 size.

"this one miss, like this one, the title is called the cooperation of my mother's father" (2C)

"This one, he exclaimed the cooperation of my father and mother" (4C)

"Father and Mother Cooperation" (4A)

"The habit of loving my body" (5A)

2. Informant experience related to smoking
a. Able to mention who and where to see people smoking

Based on the results of the group discussion forums conducted for elementary school children 3,4 and 5 total of 36 children, on average, all of the informants had seen and met people smoking. Either in his home or the surrounding environment. "At home, father, uncle, and grandfather" (3B)

"at home father's brother" (1C)

The informant said that they found people smoking not only at home. But also neighbors or other public places.

Grandparents, Father, father's brother, uncle. And then the people who are near the bridge" (3C)

"Father, grandfather, father's brother. The same as what my house approached me" (8C)

"My cousin, and neighbors" (1C)

Thus it can be concluded that these school children are in the environment of active smokers. Because they always meet and be around active smokers.

b. What is felt when you are around people who smoke

When around people who smoke, informants feel discomfort due to exposure to cigarette smoke. Exposure to cigarette smoke makes informant feel tightness, coughing and body odor becomes unpleasant.

"tight, the smell is not good if it's already so unpleasant. Then what should I do ... the smoke spread everywhere. So later the clothes will be like that, the smell of cigarettes" (1C)

"not comfortable, you know, if the body feels bad, it smells"(5C)

"Sesek and cough" (3B)

"Shortness of breath" (6B)

Besides making it tight, exposure to cigarette smoke can cause a sore throat and sore eyes. This is

consistent with what was conveyed by the following informants:

"His eyes became blurry, Want to vomit. His throat hurts" (10A)

"Eyes that get stale cigarette smoke, when inhaled coughing with a cough" (12B)

Not only that, but due to exposure to cigarette smoke, they also feel able to make informants dizzy and want to vomit.

"Coughing, making my head dizzy, the same smell of smoke it doesn't feel right. So if you go into your nose, it feels like you're going to throw up" (4C)

Informants with a history of asthma describe their recurrence of asthma when they are near people who smoke.

"Asthma relapse briefly only 5 minutes so, trust is getting longer and longer the weight of the chest is heavy" (7C).

3. Attitude

a. Actions are taken while around people who smoke
Informants who are around people who smoke sometimes don't just choose silence and enjoy smoking cigarettes. Some want to stay away or avoid it.

"Stay away ... go away" (2A)

"Stay away" (9A)

"If I go to play cell phone ... stay away" (7A)

Informants not only stay away, but there are efforts to ban people who are smoking from smoking again.

"... stay away, tell you not to smoke again because it is uncomfortable" (12B)

"Stay away, tell if you don't smoke anymore" (9B)

"Stay away, and then if you smoke, you can say that you don't smoke" (8A)

There are informants who dare to forbid his father not to smoke

"Prohibit, Yo ngene ki ... packs ojo ngrokok sir ... pak" (4A) (Forbid, like this. Dad don't smoke here, Dad)

Not just avoiding, stay away, and try to ban it.

There are other things that informants do when they are around people who are smoking

"Don't absorb the air. Blown. Using a fan, sister" (6A)

"Go play" (11A)

4 .Knowledge

a. Cigarette related information

Lack of informant knowledge about the differences between active smokers and passive smokers. From 36 total informants, only 1 (one) informant is able to mention the difference between active smokers and passive smokers..

"If an active smoker is a smoker, who smokes directly. Passive smokers smell it" (5C)

Other informants have not been able to distinguish between active smokers and passive smokers. Some convey the difference based on the number of cigarettes consumed. "It's active every day, if it's passive sometimes" (2B)

Some informants argued that the difference between active smokers and passive smokers lies in the form of cigarettes used.

"the difference between electronics and a cigar being burned" (1C)

"If it's an active smoker, there's a stub. For smokers, yes, passive smokers who are given such oils. Like only smoke like that" (4C)

"Passivity exists, whether passive is fragrant. If the other one is active, it doesn't smell good" (8C)

"What was a cigarette? Passive smokers have oats, if you use active cigarettes, use oils like that" (12C)

parents or families have a role in providing early education about smoking to children. Although this education has not been maximized, it can be a provision for children not to try smoking.

"Brother said, tomorrow If you are an adult don't beat up" (8A)

"Mother. He said you shouldn't smoke when you grow up. So that there is no disease" (6A)

b. Dangers of smoking

Most informants agreed that smoking is a dangerous thing. Cigarettes have an impact on the health of smokers. According to some informants, smoking can cause lung disease.

"Makes the lungs damaged. Makes the throat perforated" (12A)

"Makes the lungs hurt" (11A)

"Make sick and perforated teeth" (2A)

Not only cause lung disease, other informants argue that smoking can cause cancer and health problems in the throat.

"Cancer, perforated, perforated throat and cough" (4B)

"Causes cancer" (10A)

Besides, some informants said that smoking could cause death.

"Makes people die" (9B)

c. Danger of exposure to secondhand smoke for passive smokers

When asked about the dangers of cigarette smoke, the informant said that cigarette smoke has risks. The informant can convey what he experienced when he was near someone smoking but has not been able to specifically mention what the dangers of exposure to cigarette smoke are.

"Make a sneeze, sore nose" (10A)

"Well, it's dangerous, it can make you tight" (4C)

"The air makes it uncomfortable" (2C)

Exposure to cigarette smoke can cause cancer.

This was stated by several informants.
"Cancer" (5B)
"The lungs can perforate" (12C)

Discussion

Analysis of the need for the development of a picture book with material on the effects of exposure to cigarette smoke on children is based on the steps in the preparation of the story (5). The first step in composing a story is determining the theme. The theme of the picture book that the researcher developed was health. The next step is the selection of figures. The main characters in picture books are children of the same age as 3rd, 4th, and 5th grade students, while the secondary characters are adults, teachers, doctors, and parents. The main character indirectly conveys the provision of material in the story by not leaving the nature of the children, even though in the guidance of side characters.

This is intended so that the story can be liked by children where the condition for the story to be loved by children is the transfer of the adult mindset to the world of children, the existence of the soul, and the nature of the children. (5). Picture books are print media that are loved by children so that they can be used as appropriate health education media (6).

The next step is setting the background and storyline. The setting and plot are made not far from children's activities. The story takes place at school and home, the storyline takes place while studying at school then comes home from school. These stories have a chronological flow. Event after event is directly related to each other until the story ends. Students will continue the account until they find the desired answer. Students' curiosity is the primary weapon in creating a storyline so that they can genuinely attract students' imagination and emotions. One characteristic of children aged 6-12 years is that many are curious and like learning (3). Reading material that has an attraction for students will motivate students to read the text seriously, which in turn will support students' reading comprehension. (7). Material that is easily understood will be interesting reading material for further reading. Regarding informants' knowledge about the effects of cigarette smoke exposure on children, data obtained showed that the majority of informants did not know the difference between active smokers and passive smokers. However, some informants agreed that smoking behavior is a dangerous behavior, both for smokers and others. Some of the effects of smoking on smokers mentioned by informants are damaged lungs, cavities, cancer, perforated throat, and death.

This is in line with previous research, which states that what children know about the dangers of smoking is, as they usually see in the picture of the disease printed on the

cigarette pack, that smoking can cause cancer, lung damage, and tooth decay. (8).

Based on the results of the FGD, the informant said that cigarette smoke is dangerous but has not been able to specifically mention what diseases can be experienced by children due to exposure to cigarette smoke. Based on the results of previous studies, children who are exposed to SHS at home have a 50% increase chance of having ≥ 2 childhood neurobehavioral disorders compared to children who are not exposed to SHS. Impacts of exposure to cigarette smoke for children include eye irritation, headaches, coughing, sore throat, and dizziness, pneumonia, bronchitis, meningitis, sudden infant death syndrome (9) (10) (11) (12) (13).

Children are the group with the highest prevalence of cigarette smoke exposure, which is 56.8% at the age of 0-4 years, 57.4% at the age of 5-9 years, and 57.5% at the age of 10-14 years (14). These results indicate that children must be protected from the dangers of smoking because the biggest victims of exposure to cigarette smoke are children. Thus the correct information about diseases caused by exposure to cigarette smoke in children needs to be conveyed to students so that they are more vigilant so they can avoid illnesses due to exposure to cigarette smoke (6) (15) (16).

On average, all informants stated that they had seen and met people smoking. Either in his home or the surrounding environment. Thus it can be concluded that the informant is in an active smoker environment. The results of previous studies showed that the majority of respondents lived with one family member who smoked, amounting to 82.05% and a small proportion of respondents living with four family members who smoked, amounting to 2.56%. The habits of family members who smoke in the house affect other family members who do not smoke. The results of previous studies indicate that there are still family members who smoke in the house at 25.6% and even smoke near other family members at 10.3% (17) (18). When the informant is around people who smoke, the informant feels uncomfortable when exposed to cigarette smoke, so some of the informants choose to avoid it. There are even informants who dare to forbid people who are smoking around (19).

These stories are told through examples in everyday life that are often done by children. Besides, the researchers also invited readers together to be agents of change for families to minimize exposure to cigarette smoke in children. The only function of a picture book is a point that explains that the function of a picture book can help children behave and behave accordingly nonverbal verbal, seen from that function, that's where the role of a picture book is in delivering health promotion education about the impact of second-hand smoke exposure for children (20). These results are consistent with previous research that students' interest in contemporary fiction is very high. (21). Contemporary fiction is an equivalent term

contemporary realistic fiction, which is one genre of children's fiction that presents "real problems" that are very likely to occur in human life today.

4. CONCLUSION

Picture books developed by researchers emphasize the presentation of material in the form of stories that are equipped with colorful images. The chosen theme is health. The main characters are played by peer figures, while the side characters are played by adults, namely teachers, doctors, and parents — the setting in which the story takes place at school and at home. The time setting is also not far from the activities of children, namely when studying at school and coming home from school. The plot is fostered straight or chronologically. The language style in this storybook uses everyday conversation. Regarding the informant's need for information about the effects of cigarette smoke exposure on children, it is known that the informant needs education about the differences between active smokers and passive smokers, diseases caused by exposure to cigarette smoke in children, preventive and promotive efforts that can be done to reduce cigarette smoke exposure in children. In addition, at the end of the story, there are conclusions and questions to help students understand the material about the impact of cigarette smoke exposure on children. The design of a picture book about the effects of cigarette smoke exposure on children entitled "Be Superhero to Zero Smoke" will be made based on the findings obtained from the needs analysis phase.

REFERENCES

- [1] Undang-Undang. Undang-Undang Republik Indonesia Nomor 23 Tahun 2002 Tentang Perlindungan Anak. Jakarta Indonesia: Kementerian Sekertaris Negara; 2002.
- [2] Purnamasari A. Pengetahuan dan Sikap Siswa Sekolah Dasar Mengenai Bahaya Rokok (Studi pada SD Perkotaan dan SD Pinggiran di Kota Semarang. Universitas Muhammadiyah Semarang; 2015.
- [3] Djaali H. Psikologi pendidikan. In: Tarmizi, editor. Jakarta: Bumi Aksara; 2011.
- [4] Sugiyono. Metode penelitian pendidikan:(pendekatan kuantitatif, kualitatif dan R & D). In Bandung: Penerbit Alfabeta; 2003.
- [5] Rampan CL. "Dasar-Dasar Penulisan Cerita Anak" dalam Teknik Menulis Cerita Anak. Sabrur R. Yogyakarta: Pinkbook; 2003.
- [6] Salawati T, Indrawati ND. Analisis Kebutuhan untuk Merancang ASETARO Komik Anak tentang Bahaya Rokok. *J Kesehat Masy*. 2016;11(2):249.
- [7] Farida Rahim. Buku Pengajaran Membaca di Sekolah Dasar. In Jakarta: Bumi Aksara; 2008. p. 2008:85.
- [8] Faletau J, Glover M, Nosa V, Pienaar F. Looks like smoking, is it smoking?: Children's perceptions of cigarette-like nicotine delivery systems, smoking and cessation. *Harm Reduct J*. 2013;10(1):1–6.
- [9] Aurrekoetxea JJ, Murcia M, Rebagliato M, Guxens M, Fernández-Somoano A, López MJ, et al. Second-hand smoke exposure in 4-year-old children in Spain: Sources, associated factors and urinary cotinine. *Environ Res* [Internet]. 2016;145:116–25. Available from: <http://dx.doi.org/10.1016/j.envres.2015.11.02>
- [10] Critselis E, Panagiotakos DB, Georgousopoulou EN, Katsaounou P, Chrysohoou C, Pitsavos C. Exposure to second hand smoke and 10-year (2002–2012) incidence of cardiovascular disease in never smokers: The ATTICA cohort study. *Int J Cardiol* [Internet]. 2019;295 (xxxx):29–35. Available from: <https://doi.org/10.1016/j.ijcard.2019.07.065>
- [11] Shannon Lange, Ai Koyanagi, Jürgen Rehm, Michael Roerecke, & André F C. Association of tobacco use and exposure to second-hand smoke with suicide attempts among adolescents—findings from 33 countries Shannon. Publ by Oxford Univ Press behalf Soc Res Nicotine Tob. 2018;1–39.
- [12] Patra J, Bhatia M, Suraweera W, Morris SK, Patra C, Gupta PC, et al. Exposure to Second-Hand Smoke and the Risk of Tuberculosis in Children and Adults: A Systematic Review and Meta-Analysis of 18 Observational Studies. *PLoS Med*. 2015;12 (6).
- [13] Barrington-Trimis JL, Berhane K, Unger JB, Cruz TB, Urman R, Chou CP, et al. The E-cigarette Social Environment, E-cigarette Use, and Susceptibility to Cigarette Smoking. *J Adolesc Heal* [Internet]. 2016;59(1):75–80. Available from:

<http://dx.doi.org/10.1016/j.jadohealth.2016.03.019>

- [14] National Institute of Health Research and Development IM of H. Laporan Riset Kesehatan Dasar Tahun 2010 - Basic Health Survey Report year 2010. 2011;
- [15] Rahimzadeh M, Rastegar H, J FK. prevalence and Causes of Tendency to Cigarette and Water Pipe Smoking among Male and Female Physical Education Students in University of Kurdistan
هب فرصم راگ یس و نای لق رد نایب یب
پ سررب پ ناوارف فرصم و ل لع ش یارگ
رسپ و رت خد ت پ برت پ ندب هگ ش ناد ناته سدرک
پ و ج ش نادنا 2016;7(5):680-6.
- [16] Bjartveit K, Tverdal A. Health consequences of smoking 1-4 cigarettes per day. *Tob Control*. 2005;14 (5):315-20.
- [17] Emma SDJ, Maulana M. Characteristics of Children with Secondhand Smoking. *Indones J Med Heal J JKKI* [Internet]. 2017;8(2):118-23. Available from: www.journal.uui.ac.id/index.php/JKKI
- [18] Mishra S, Joseph RA, Gupta PC, Pezzack B, Ram F, Sinha DN, et al. Trends in bidi and cigarette smoking in India from 1998 to 2015, by age, gender and education. *BMJ Glob Heal*. 2016;1(1):1-9.
- [19] Jamal A, Phillips E, Gentzke AS, Homa DM, Babb SD, King BA, et al. Current Cigarette Smoking Among Adults-United States, 2016. *Morb Mortal Wkly Rep* [Internet]. 2018;67(2):7.
- [20] Burhan Nurgiyantoro. *Sastra Anak: Pengantar Pemahaman Dunia Anak - Burhan Nurgiantoro* Google Books [Internet]. Yogyakarta: Bulaksumur, Yogyakarta: Gadjah Mada University Press; 2005 [cited 2019 Oct 10]
- [21] Hasanah A. *Pengembangan Profesi Keguruan* [Internet]. Cetakan I. Bandung: CV. Pustaka Setia; 2012.