The effect of storytelling on covid-19 prevention behavior in school-age children

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ABSTRACT

Background: The current covid-19 pandemic is not over. Everyone still needs to do Covid-19 prevention behavior. One of them is children. Children need special ways to understand how to prevent Covid-19 easily. Storytelling is an alternative to convey advice to children, introducing children to moral and social values. This study aimed was to determine the effect of storytelling on COVID-19 prevention behavior in school-age children. **Methods:** This type of research used quantitative research using the pre-experimental method one-group pretest-posttest design. The sample of this research was 37 students 3rd grade of Madrasah Diniyyah. Storytelling has been done using the corona storybook. The covid-19 prevention behaviors that were observed were wearing masks, washing hands, maintaining distance, and avoiding crowds. Behavior has been observed before and after given storytelling. an instrument to determine the behavior of preventing covid-19 using an observation sheet which includes wearing masks properly, washing hands properly, using hand sanitizer, not crowding with friends, and sitting apart while studying.
Result: The results showed that Covid-19 prevention behavior in school-age children before storytelling showed most of the negative behavior (66.7%), and after being given storytelling, most of them showed positive behavior (86.7%). There is an effect of storytelling on covid-19 prevention behavior in school-age children with a p-value of 0.000.
Conclusion: Storytelling can be used as a way to change Covid-19 prevention behavior in school-age children
Keywords: *storytelling, school-age children, behavior, covid-19.*

Introduction

Since March 2020, COVID-19 cases have started to appear in Indonesia. The spread of Covid-19 cases occurs in all ages, without exception occurs in children. Confirmed cases of Covid-19 in children aged 0-18 years in Indonesia reached 12.5 percent. Therefore, one in eight Covid-19 cases is children.

The infection caused Covid-19 with the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV-2) (1) (2). Spread of the virus through droplets when talking, coughing, and sneezing from people who are infected with the virus (3). Manifestations that arise due to being infected with the coronavirus include fever, cough, flu, fatigue, sore throat, shortness of breath (4). Children are an age group that is vulnerable to contracting COVID-19 from the surrounding environment. Some children who are infected with COVID-19 sometimes do not show symptoms of infection (5).

Covid-19 prevention behaviors include washing hands with soap, applying cough and sneezing etiquette, wearing masks properly, keeping a distance and avoiding crowds, and avoiding contact with people showing symptoms of respiratory disease (6). The application of preventive behavior can affect public health so as to avoid exposure to COVID-19 disease. During the pandemic, everyone, including children, is encouraged to reduce physical mobility. Children carry out online learning activities according to the decisions set by several relevant ministries such as the Ministry of Education and Culture, Ministry of Religion, Ministry of Health, and Ministry of Home Affairs, which were set on June 15, 2020, regarding guidelines for online learning systems in the new school year. For educational institutions that already have the readiness to teach students face-to-face, the fastest it will be in November 2020, be in the green zone, and apply Covid-19 prevention behavior. Understanding the application of Covid-19 prevention behavior in children requires media and ways that are easily accepted and understood by children. One thing that can be done is through storytelling.

Storytelling is a way of speaking to convey stories or provide explanations to children orally to introduce new things to children. Storytelling is seen as an activity that can be used to develop children's vocabulary and literacy (7). Storytelling is also a technique to convey health information (8). In addition, the development of school-age children's moral values can use storytelling (9).

This study aimed was to determine the effect of storytelling on COVID-19 prevention behavior in school-age children.

Methods

The design of this study is a quantitative study using a pre-experimental design method with a one-group pretest-posttest approach. Covid-19 prevention behavior was observed before and after the storytelling intervention was given.

The respondents of this study were students of grade 2 Madrasah Diniyyah Ula Thoriqul Huda Jatipecaron Gubug who were allowed by their parents to be respondents. Respondents' exclusion criteria were students who were not present at the time the research was conducted or who were sick. Respondents amounted to 37 obtained by total sampling.

The research was conducted in January-March 2021 at Madrasah Diniyyah Ula Thoriqul Huda Jatipecaron Gubug. In the pre-test, researchers made observations related to Covid-19 prevention behavior without the respondent knowing, which included wearing masks properly, washing hands properly, using hand sanitizer, not crowding with friends, and sitting apart while studying. After all, respondents were assessed pre-test, the storytelling intervention

was carried out. After being given the intervention, the researchers observed the Covid-19 prevention behavior as a post-test. The storytelling intervention was given once, carried out in groups of 10-13 respondents, the media used was the story of the corona with illustrators Watiek Ideo and Luluk Nailufar delivered with the help of LCD and PowerPoint. The theme of the storytelling that was conveyed was about the corona and the behavior of preventing transmission of the coronavirus. The stages that were carried out in the storytelling intervention include conditioning the respondents, arranging the seats with a minimum distance of 1.5 meters. Then, opening and starting the activity by asking the respondent's readiness to listen to the story. After that starting the story by delivering a brief synopsis of the story's contents, next, providing information about the characters who appear in the story. Then, start the story by describing the place, describing the time, the expression of emotions. When storytelling takes place, it encourages respondents to respond, asks questions to deepen understanding of the story, invites them to make assumptions about what will happen before the story continues, provides opportunities to interpret the story, translates words that are still difficult for children to accept. The stages of closing the story are evaluation, questions, and answers about behaviors that must be imitated, encouraging respondents to try to retell (10).

The instrument used is the Covid-19 prevention behavior observation sheet. The observation sheet consists of observations of wearing masks correctly, washing hands properly, using hand sanitizer, not crowding with friends, and sitting apart while studying. The observation sheet has been through an expert test.

This research begins with the licensing process at Madrasah Diniyyah Ula Thoriqul Huda Jatipecaron Gubug. The next research process conveyed an explanation of the research to the respondent's family and obtained approval. A total of 37 respondents in charge gave informed consent.

The data were analyzed univariately, including the Covid-19 prevention behavior variable. The bivariate test was carried out using the Wilcoxon Match Paired Test after the normality test using the Shapiro Wilk.

The ethical principles applied in this study are the principles of benefit free from suffering, free of exploitation, respect for human rights, treatment given according to procedures, and informed consent obtained from the person in charge of the respondent. This study has been approved by the Faculty of Nursing and Health Sciences, Universitas Muhammadiyah Semarang ethics committee (ethical aproval no. 00026/KEPK/VII/2021).

Results

This study examines the effect of storytelling on Covid-19 prevention behavior in school-age children. There were 37 respondents, most of them were female (56.8 %), the average age of the respondents was 7.6 years.

Table 1

The effect of storytelling on COVID-19 prevention behavior in school-age children

variable	Before intervention	After intervention	P-value
Covid-19 prevention behavior	6(±1.71)	10 (±0.93)	0.001
positive behavior	27(72.97%)	34(91.89%)	
negative behavior	10(27,03%)	3(0.081%)	

Covid-19 prevention behaviors were categorized into two categories, namely positive and negative behavior, based on the cut off point value. If the cut off point value was more than or equal to the mean then it's categorized as positive behavior, otherwise if the cut off point value was less than the mean then it's categorized as negative behavior.

Discussion

In this study, storytelling was conducted on respondents with an average age of 7.6 years. Children aged 7-11 years are in the stage of concrete operational development. Children are able to think rationally, have cognitive progress or a better understanding of something. At the stage of concrete operational development, children have inductive reasoning, logical actions, and reversible concrete thoughts. Children have also been able to classify, sort, compile and organize facts in solving a problem (11). The delivery of messages through storytelling needs to adjust to the child's developmental stage. Storytelling about Covid-19 prevention behavior is appropriate for children with the stage of concrete operational development.

Respondents' covid-19 prevention behavior before giving storytelling showed negative behavior. Most of them were not correct in washing their hands and using masks, etiquette when coughing and sneezing has not been implemented properly, and most of them were still close to their friends when sitting. Information about COVID-19 prevention behavior has been installed in schools but has not been effective in changing student behavior in preventing the spread of Covid-19. Storytelling is an alternative to moral education in getting used to good behavior in children, the techniques used are repeating stories, giving examples, explaining stories, dramatizing stories, and changing according to the moral message to be conveyed (12). The storytelling component has four elements, including perspective, narrative, interactivity, and medium. When telling stories, it is necessary to involve emotions according to the way the story is conveyed (13).

In this study, the storytelling intervention was given in groups of 10-13 respondents, using the storybook "Si Corona" with illustrators Watiek Ideo and Luluk Nailufar to see the storytelling assisted by PowerPoint and LCD. The storytelling begins by asking the respondent's readiness to listen to the story, conveying a brief synopsis of the contents of the story, providing information about the characters that appear in the story, starting the story by describing the place, describing the time, and expressing emotions. Respondents are encouraged to respond, ask questions to deepen understanding of the story, invite to make assumptions about what will happen before the story continues, provide opportunities to interpret the story, translate words that are still difficult for children to accept. The storytelling ends with an evaluation, asking and answering questions about the behavior that should be imitated, encouraging respondents to try to retell.

The results of this study indicate that there is a change in behavior to prevent the spread of Covid-19 before and after being given storytelling. After being given storytelling, most of the respondents' behavior was positive. The respondents washed their hands properly, used masks correctly, applied to cough and to sneeze etiquette, used hand sanitizer, did not crowd, and kept a distance when sitting with other friends. Early school-age children really like stories like fairy tales that children often hear from their parents as a child. When storytelling, children can enjoy the story and are happy with the prediction of what events will happen next. This indicates cognitive involvement during storytelling. Storytelling has an important role in children's education and increasing vocabulary[14] [15].

During the Covid-19 pandemic, schools have a role in understanding students' positive behavior [16]. Behavior to prevent the spread of Covid-19 needs to be a student's daily behavior. Through storytelling, explanations regarding Covid-19 prevention behavior were given. Storytelling can be used as a technique for conveying health information and developing the moral values of school-age children [8] [9]. Children's hygiene behavior is influenced by children's knowledge and awareness [17].

Conclusion

The results showed that Covid-19 prevention behavior in school-age children before storytelling showed most of the negative behavior (66.7%), and after being given storytelling, most of them showed positive behavior (86.7%). There is an effect of storytelling on covid-19 prevention behavior in school-age children with a p-value of 0.000.

Conflict of Interest

No conflicts of interest.

Ethic Approval
This study has been approved by the Faculty of Nursing and Health Sciences, Universitas Muhammadiyah Semarang ethics committee (ethical aproval no. 00026/KEPK/VII/2021).

Author Contribution
All authors have contributed to all processes in this study, including preparation, experiment process, data gathering and analysis, preparing the manuscript, and agreeing to submit this final paper to this journal. AS and DA specifically conducted the searching of literature. M specifically performed the data and statistical analysis. All authors cooperate in discussing and compiling the manuscript.

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Date : 20 July 2021

Letter of Acceptance

Dear Author(s): Mariyam Mariyam,

We are pleased to inform you that your abstract (ABS-4723, Oral Presentation),

entitled:

"The Effect Of Storytelling On Covid-19 Prevention Behaviour In School Age Children"

has been reviewed and accepted to be presented at ICoSI 2021 conference to be held on **25 - 26 August** in Universitas Muhammadiyah Yogyakarta, Indonesia.

Please submit your full paper and upload the proof of payment.

Thank You.

Best regards,

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Commentary

Dear Sir/Madam,

Here are some commentaries to the manuscript entitled **" The effect of storytelling on covid-19 prevention behavior in school-age children ".**

No.	Section	Commentary
A	Title and Affiliation	Title and affiliation have been written appropriately
B	Abstract	Has been written properly.
C	Introduction	Introduction has been well written with background story and aims.
D	Method	Methods have been stated clearly and appropriately, however study design needs to be mentioned rather than just stating 'pre-experimental design method'. Independent and dependent variables are also needed to be explicitly stated.
E	Result	Tables and its titles were not written in neat format → has been edited by BMJ editor The result should show the baseline characteristics of the samples, before showing the bivariate analysis result
F	Discussion	Discussions have interpreted the result of this study, but more comparison to previous similar studies is needed. Please include limitation of the study.
G	Conclusions	Conclusions have yet been written conclusively according to the result → has been edited by BMJ editor
H	Table, figure and Reference	Please write the citation in Vancouver format → has been edited by BMJ editor
I	Others	1. There were numerous grammatical errors. → has been edited by BMJ editor 2. Please complete the checklist attached on the *next page/*

| | | *sent as a different file.* → thank you for already submitting. |

STROBE Statement—Checklist of items that should be included in reports of *cross-sectional studies*

	Item No	Recommendation
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract. **Clear**
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found. **Clear**
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported. **Clear**
Objectives	3	State specific objectives, including any prespecified hypotheses. **Clear**
Methods		
Study design	4	Present key elements of study design early in the paper. **Clear**
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection. **Clear**
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants. **Clear**
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable. **Unclear**
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group. **Clear**
Bias	9	Describe any efforts to address potential sources of bias. **Optional**
Study size	10	Explain how the study size was arrived at. **Unclear**
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why. **Clear**
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding. **Clear**
		(*b*) Describe any methods used to examine subgroups and interactions. **Clear**
		(*c*) Explain how missing data were addressed. **Unclear**
		(*d*) If applicable, describe analytical methods taking account of sampling strategy. **Optional**
		(*e*) Describe any sensitivity analyses. **Optional**
Results		
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in

		the study, completing follow-up, and analysed. **Unclear**
		(b) Give reasons for non-participation at each stage. **Unclear**
		(c) Consider use of a flow diagram. **Optional**
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders. **Unclear**
		(b) Indicate number of participants with missing data for each variable of interest. **Unclear**
Outcome data	15*	Report numbers of outcome events or summary measures. **Clear**
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included. **Clear**
		(*b*) Report category boundaries when continuous variables were categorized. **Clear**
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period. **Optional**
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses. **Optional**
Discussion		
Key results	18	Summarise key results with reference to study objectives. **Clear**
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias. **Unclear**
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence. **Clear**
Generalisability	21	Discuss the generalisability (external validity) of the study results. **Clear**
Other information		
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based. **Clear**

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

Thank you,

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