



## REVISIONES

### Improving diarrheal preventive behavior through therapeutic sociodramatic play in school-aged children

Mejora del comportamiento preventivo diarreico a través del juego sociodramático terapéutico en niños en edad escolar

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#### ABSTRACT:

Healthy and clean living behaviors among school-aged children are still relatively low, exposing them to the risk of experiencing health problems in the future, such as diarrhea. This school-age period is actually the earliest phase in which children can develop healthy behaviors, hence making this phase a strategic target for health improvements. School-aged children are in a period of concrete operational development and they require specific health education methods that can reflect real and interactive experiences. The aim of the study was to determine the effect of therapeutic sociodramatic play on diarrheal preventive behaviors among school-aged children (6–12 years). The study design was a quasi-experimental with pre- and post-tests design, involving 76 school-age children who were divided into intervention group and control group. Multistage random sampling was used to determine the research area and school where the research was conducted, while the research subject was selected using simple random sampling. The results showed that therapeutic sociodramatic play significantly affects knowledge ( $p$  value = 0.000), attitudes ( $p$  value = 0.000), and diarrheal prevention skills ( $p$  value = 0.001). The study recommends that therapeutic sociodramatic play could be applied in an effort to enhance healthy and clean living behaviors and to prevent diarrhea among school-aged children, and it could be integrated into school nursing services.

**Keywords:** : Diarrheal prevention behavior; school-aged children; therapeutic sociodrama

#### RESUMEN:

El comportamiento del estilo de vida de los niños en edad escolar es todavía bajo por lo que el riesgo de problemas de salud como la diarrea. Sin embargo, el período de los niños en edad escolar es el punto de partida para desarrollar comportamientos saludables y se convierte en un objetivo estratégico para mejorar la salud. Los niños en edad escolar son un período de desarrollo operativo concreto para requerir métodos de educación sanitaria que puedan reflejar experiencias reales e interactivas. El estudio tuvo como objetivo determinar el efecto del sociodrama terapéutico sobre los cambios de

comportamiento preventivo de la diarrea en niños en edad escolar (6-12 años). El método de estudio utilizado cuasi experimento pre-post con grupo control que consistió en dos grupos; 38 sujetos fueron como grupos de intervención y 38 sujetos fueron como grupos de control. Muestreo aleatorio multietapa utilizado para determinar el área de investigación y la escuela, mientras que la muestra del sujeto de la investigación utilizó un muestreo aleatorio simple. Los resultados mostraron que el sociodrama terapéutico se realizó significativamente en el conocimiento (valor de  $p = 0,000$ ), actitud (valor de  $p = 0,000$ ) y habilidades de prevención de la diarrea (valor de  $p = 0,001$ ). El sociodrama terapéutico podría aplicarse como un esfuerzo para mejorar el comportamiento preventivo de la diarrea de los niños en edad escolar que podría integrarse en el servicio de enfermería escolar.

**Palabras clave:** Conducta de prevención de la diarrea; niños en edad escolar; sociodrama terapéutico

## INTRODUCTION

Improving the health of school-aged children could be considered a national investment, as it will ensure a healthy generation in the future. These children represent an age group that could potentially participate actively in building the nation in the future <sup>(1)</sup>. One-third of the Indonesian population, totaling about 82.85 million people are school-aged children <sup>(2)</sup>. The number of school-aged children (6–12 years old) in Indonesia could be as high as 26,504,160 <sup>(2)</sup>. Considering the aforementioned statistics, elementary school-aged children represent strategic targets for the implementation of health improvement programs in Indonesia.

The school-age period is the earliest phase in which children can develop healthy and clean behaviors. Regardless, the comprehension of healthy behaviors among school-aged children is relatively low still, so they are exposed to the risk of health problems, such as diarrhea. The risk of health problems on school age children directly by several risk factors, such as biological, behavioral, physical environmental, and social environmental risks <sup>(3)</sup>. School-aged children are at a stage in which they prefer to participate in activities outside the home and to play with their peers. School-aged children who lack clean and healthy life behaviors are exposed to the increasing risk of experiencing health problems, including diarrheal diseases. They do not care about the hygiene of their playground, which features dirt, rivers, and fields, or of other outdoor areas outside their homes. Bodily contact with dirt increases the risk of diarrhea <sup>(4)</sup>. Therefore, encouraging clean and healthy life behaviors has become an important target of health education in an attempt to improve diarrhea disease prevention among school-aged children.

The number of children casualties of diarrheal diseases is around 20% of the total 10 million children who die each year (5,6) . In terms of age, the prevalence of diarrhea at age 5–14 years was 6.2% with a diarrhea rate of 3.0% (7). One of the areas experiencing a diarrhea endemic is Banyumas Regency, with most incidences occurring in Southern Purwokerto District. Behavioral factors have become dominant in relation to health problems (8). The result of a preliminary survey of 41 school-age children in the South Purwokerto region showed that 22 children (53.7%) had a history of diarrhea in the past three months.

The government has put forth much effort to control diarrhea, but the efforts are still not optimal, as the case fatality rate (CFR) of diarrhea has yet to reach the target of <1% (9). The government has also put forth efforts to prevent diarrhea by providing health education. However, this health education has not been adjusted to the specific needs of children's various developmental stages, particularly the school-age stage. Health education is still using the linear lecture method, but school-aged children need a more interactive and engaging method that can reflect real-life experiences to help

them remember lessons better. Therefore, in this study, researchers aimed to develop an intervention by encouraging therapeutic sociodramatic play among school-aged children in an effort to improve diarrheal prevention behaviors. Sociodramatic play with peers increases social interactions among them <sup>(10)</sup>. Cognitive enhancement in the intervention group that engaged in fantasy role-play <sup>(11)</sup>. Sociodramatic play is an important method of language development in children <sup>(12)</sup>, and sociodramatic method by utilizing folklore to improve fifth-graders' speaking skills <sup>(13)</sup>.

Health education that incorporates therapeutic sociodramatic play can increase effectively diarrheal preventive behaviors and help school-age children remember these behaviors. School-aged children are at a concrete operational development stage in which they are able to contemplate an event and actions that they see in real terms <sup>(14)</sup>. Sociodramatic play reflects real events, so it can motivate children to act in accordance with what they experienced during role-play. For example, a child who plays the role of a patient suffering from diarrhea will be driven to believe it is not optimal to be infected with the disease, hence motivating the child to develop diarrheal prevention behaviors. Peers play an important role in developing healthy and clean behaviors, which is why researchers have chosen them as a role partner, making use of this relation in an attempt to describe diarrheal prevention behaviors better. Therefore, therapeutic sociodramatic play is expected to increase diarrheal prevention behaviors among school-age children.

## METHODS

### Design

This study incorporated a quasi-experimental design with pre- and post-tests using the control group method. Multistage random sampling was used to determine the area and school where the research was conducted, while the subject of the study was determined using simple random sampling. SD Negeri 3 Karanglesem was selected to be the intervention group, while SD Negeri 4 Teluk was selected to be the control group.

### Sample

The sample size was 76 children, 38 of whom were assigned to the intervention group and 38 to the control group.

### Research Instrument

The data collection tool used in this study is a questionnaire based on the guidelines of previous research and guidance from the Directorate General of Disease Control and Environmental Health MOH RI and Health Ministry of RI (15,16). The result of the validity and reliability test shows that the instrument is valid and reliable as a measure of diarrhea prevention behaviors, with 13 questions of knowledge variables ( $r$  table  $> 0,361$ ; *Cronbach's alpha* = 0.805), 12 questions of attitude variables ( $r$  table  $> 0,361$ ; *Cronbach's alpha* = 0.816), and 12 questions of skill variables ( $r$  table  $> 0,361$ ; *Cronbach's alpha* = 0.829). In addition, researchers also used an observation sheet to identify the availability of handwashing facilities, healthy latrines, and healthy water sources.

## Procedure

Therapeutic sociodramatic play is conducted in groups of 9–10 children each. The researcher intervened six times within a three-week period for 40 minutes per session, including 20 minutes of sociodramatic play followed by a focus group discussion (FGD) of the same duration. Researchers involved peers as actors in the sociodramatic play. Final measurements were taken after a two-week internalization phase. The researchers also provided health education about diarrheal prevention to the control group once.

## RESULTS

The characteristics of respondents are as follows: most of the parents' education levels are low (55.3%); the incomes of the parents are in the low category (59.2%); the children experienced a diarrheal disease in the last three months (76.3%); and hand-washing facilities, healthy water sources, and healthy latrines are readily available (69.7%).

**Table 2 Results of the paired t-test of knowledge, attitude, and skill variables on school-aged children in South Purwokerto in 2017 (n = 76)**

Variable	Intervention Group					
	Before		After		Differentiate in <i>mean</i>	p <i>value</i>
	Mean	SD	Mean	SD		
Knowledge	7.61	1.326	9.82	1.540	2.21	0.000
Attitude	29.66	2.998	33.61	3.680	3.95	0.000
Skills	28.66	2.714	29.61	2.715	0.95	0.001
Variable	Control Group					
	Before		After		Beda <i>mean</i>	p <i>value</i>
	Mean	SD	Mean	SD		
Knowledge	7.89	1.269	8.08	1.148	0.19	0.109
Attitude	28.66	2.485	29.05	1.610	0.39	0.129
Skills	28.63	2.247	29.05	1.559	0.42	0.081

The result of analyzing the knowledge, attitude, and skill variables shows a significant change in the levels of each variable before and after engaging in therapeutic sociodramatic play. Alternatively, in the control group, there was no significant change in the mean values of the knowledge, attitude, and skill variables.

**Table 3 The independent t-test results of the knowledge, attitude, and skill variables among school-aged children in South Purwokerto in 2017 (n = 76)**

Variable	Group	Mean	SD	p <i>value</i> *
Knowledge	Intervention	9.82	1.540	0.000
	Control	8.08	1.148	
Attitude	Intervention	33.61	3.680	0.000
	Control	29.05	1.610	
Skill	Intervention	29.61	2.715	0.001
	Control	29.05	1.559	

The result of the analysis showed differences in the knowledge, attitude, and skill variables between the intervention and control groups after the intervention in the treatment group.

## DISCUSSION

The mean knowledge variable scores increased significantly between before and after the therapeutic sociodramatic play in the intervention group. This significant increase in the knowledge rate of the intervention group was influenced by the therapeutic sociodramatic play. The question variables that exhibited increased scores include signs and symptoms when exposed to diarrhea; the type of diarrhea, whether acute or chronic; how to prevent diarrhea; what healthy snacks are; how to wash hands properly; and important occasions for washing hands. Health promotion through sociodramatic play has become an effective method to increase self-awareness about healthy behaviors. Increasing awareness through education using a dramatic relief method became one alternative to improve the respondents' knowledge <sup>(17)</sup>. Point out that role-play can improve cognitive abilities in children through materials provided during sociodramatic play <sup>(11)</sup>. Therefore, therapeutic sociodramatic play can increase the diarrheal prevention knowledge of school-aged children.

The result of analyzing the attitude variable showed a significant change in the mean attitude scores between before and after therapeutic sociodramatic play in the intervention group. This method has become a health promotion strategy in improving diarrheal prevention attitudes. One's attitude could express his or her readiness to take action, which comes from the individual reaction <sup>(8)</sup>. One's reaction to a stimulus is an important component in the development of behavior. Although the attitude has yet to be shaped into action, it could still become a disposition of a behavior. Through therapeutic sociodramatic play, school-aged children can receive and react to stimuli through the characters they portray.

Post-intervention attitude changes are also supported by the positive impact of increasing knowledge. Therapeutic sociodramatic play is conducted in six sessions using a storyline about diarrhea prevention. The first session was about the concept of diarrheal diseases, the second about the use of healthy latrines and healthy water sources, the third about healthy snack foods, the fourth about handwashing behaviors, and the fifth about practicing handwashing, while the sixth included a handwashing contest and a review of the diarrheal prevention material. Health promotion with a storyline through the sociodramatic method establishes motivation and self-awareness to behave healthily <sup>(18)</sup>. Respondents with no previous knowledge of the subject became aware of the methods of preventing diarrhea, which also led to a change in their attitudes. The sociodramatic method reflects diarrhea prevention attitudes through the scenes portrayed by the school-aged children. Furthermore, these school-aged children can adopt an attitude of diarrhea prevention that will gradually lead to the development of a habit of behaving healthily. On average, there is a positive trend in the attitudes of respondents after they realized the importance of behaving healthily, which was illustrated in the sociodramatic scenes.

Improved attitudes among school-aged children are indicated by an increase in attitude scores on questionnaire question variables after the sociodramatic play intervention. Questions were about attitudes toward using a latrine, running water for washing hands, and washing hands with soap after holding dirty objects, as well as considerations before buying snacks, such as choosing snacks that are properly

wrapped. The human attitude is an affective component that deals with one's subjective emotional outlook. This component represents an individual's feelings toward the object and it has something to do with emotional issues. Therapeutic sociodramatic play enables children to explore their emotions through the characters they are playing. Sociodramatic play allows attitudes to be shaped into an applicative form of social and emotional capability through the scenes that are played out using the sociodramatic method. Attempts to develop attitudes could be seen in various scenes, such as reminding peers to wash their hands with soap, eat healthy foods, bring a healthy lunch, use clean water, and avoid defecating in the river. Peers evaluate and verbally remind their friends who do not behave healthily in the sociodramatic scenes to encourage good social and emotional attitudes. The role of peers in developing attitudes is also apparent during the internalization process, so school-age children could remember this diarrhea prevention attitude better. Sociodramatic method can improve the social and emotional attitudes of children, which proves the therapeutic sociodramatic play method is effective in improving attitudes toward diarrhea prevention <sup>(19,20)</sup>.

Researchers also used reward and punishment principles during the intervention process with school-aged children. The principles are in accordance with the moral development stage of school-aged children, as indicated by the change from an initially egocentric mindset to a logical mindset. Children begin to follow the rules and recognize the rewards and sanctions they receive as the result of the actions they take <sup>(14)</sup>. School-aged children started to learn the rules of behaving and they now show concern for breaking these rules. The researchers packaged all the activities from the intervention process into a contest. For example, the groups that follow the rules and are able to perform their sociodramatic roles well will be awarded. Conversely, non-obedient groups that display negative attitudes and behaviors, such as quarreling, disturbing friends, and being needlessly noisy during the sociodramatic performances will be sanctioned in the form of singing national songs in front of their friends. Rewards are given when children are able to enforce the rules, while sanctions are applied when children violate the previously agreed-upon rules of conduct. Rewards and sanctions are an essential component of moral development in school-age children. Therefore, this principle can be used as an effort to strengthen attitudes towards healthier behavior.

The results of analyzing skill variables showed significant changes in the mean score between before and after the therapeutic sociodramatic play in the intervention group. Improved skills were identified in the intervention group through the increase in scores on questionnaire questions about skill improvement. Variable questions that have increased scores include skills in using healthy latrines, using healthy water sources, handwashing with soap and running water after defecating, bringing a healthy lunch to school, and choosing healthy snacks. These increases in scores on skill-related questions prove that the therapeutic sociodramatic play method is effective in improving diarrhea prevention skills. The therapeutic sociodramatic method can also be utilized to provide practical education on diarrheal prevention skills, such as handwashing with soap, bringing a healthy lunch, and choosing healthy snacks.

The sociodramatic technique intervention four times during their study to improve students' assertive behavior <sup>(21)</sup>. Implementation of dramatic play for children who have experienced traumatic events in the past <sup>(22)</sup>. Dramatic play can improve the coping skills of children with this specific background. There are significant differences in bullying behaviors between before and after subjects are given social guidance using

the sociodramatic method in a class at VIII Junior High School Negeri 1 Bendo Magetan Regency <sup>(23)</sup>.

Researchers make use of equipment that could support sociodramatic role-playing, such as masks to illustrate protective forces and—its counterparts—germ forces, oralite ingredients and tools for making medicine, and examples of healthy and unhealthy foods. The use of the therapeutic sociodramatic play method is considerably interesting and it encourages a fun learning atmosphere, hence rendering it easier for respondents to process information that is given. Therapeutic sociodramatic play is a health education method that involves participants in the learning process by inviting them to play and move while learning. This method is selected and adjusted to the needs of and developmental stage of school-age children who are in need of a concrete operational development learning method. Children of this age prefer to learn by playing, moving, working in groups, and practicing the lesson directly. Sociodramatic play is also capable of reflecting a real-life experience and making it easier for those children to remember content.

Researchers also used FGD methods in discussions conducted after the sociodramatic play. Discussion is a part of the therapeutic sociodramatic play intervention, and FGD as a discussion method was applied in the intervention group, making it possible for the participants to explore the subject more deeply and to provide more focused feedback, which makes the method itself more effective and interactive compared to conventional discussion methods. FGD method proved more effective in improving the focus of discussions related to health service problems compared to the conventional discussion method (24). Discussions were held in each group with the help of facilitators to evaluate the discussion material that was delivered in the sociodramatic scenes.

The final measurement on diarrheal prevention behavior is taken two weeks after internalization. The internalization process is necessary so the children will remember the healthy behavior education for longer. Internalization is achieved by giving the children a student activity sheet that must be completed daily. This worksheet functions as an intermediary between the researchers and respondents, making it possible for researchers to evaluate skills while the respondents are not in contact with the researchers. Researchers evaluated the worksheet twice a week to assess respondents' adherence to the healthy behaviors.

Therapeutic sociodramatic play in this study involves using peers as the cast. Commitment to the action plans is also influenced by interpersonal factors that come from peer models <sup>(25)</sup>. Interpersonal support coming from peers could positively influence the health promotion process that encourages living healthily <sup>(25)</sup>. Peers used as a model to provide examples of handwashing behaviors in an effort to prevent diarrhea <sup>(26)</sup>. Peers play an important role in developing diarrheal prevention behaviors, which is reflected in such activities as reminding each other to bring a healthy lunch, to choose healthy snacks, and to wash our hands properly by using soap. Healthy behaviors showcased by peers in the sociodramatic play provide positive support for behavioral changes, proving that therapeutic sociodramatic play can improve the diarrheal prevention behaviors among school-age children.





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