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Health Promotion of Families and Early Childhood Education Teachers in Improving Cognition, Commitment and Behavior to Prevent COVID-19 Transmission in Children

Promoción de la salud de las familias y docentes de educación infantil en la mejora de la cognición, compromiso y comportamiento para prevenir la transmisión de la COVID-19 en niños

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SUMMARY

Introduction: *Indonesia was entering the COVID-19 emergency response period, as indicated by the increase in COVID-19 cases and the risk of transmission in high-risk groups, one of which is children. The increase in COVID-19 cases has not been followed by compliance with COVID-19 transmission prevention behaviour in the community, especially among children. This research aimed to improve the cognition, commitment and behaviour of COVID-19 prevention during the COVID-19 emergency through the health promotion of families and kindergarten teachers.*
Methods: *The research design used a quasi-experiment, with a sample of 100 pre-school age children divided into two groups using simple random sampling techniques. Independent variables included health promotion of families and teachers using pocketbook media, children's new life adaptation logbook, educational videos, and variable dependents included cognition, commitment and preventive behaviour of COVID-19 in pre-school children. The instrument used is a questionnaire, statistical test using Wilcoxon rank test, pair t-test, and Mann Whitney.*
Results: *The study results found that health promotion using pocketbooks, AKB logbooks and WhatsApp group media, and educational videos improved cognition, commitment and behaviour of COVID-19 prevention because it provides information directly to families and teachers. For seven days, under the supervision, assistance, and facilitation of teachers, the child performs health protocol in school and, through the help of parents, carries out the process at home. This is what helps children get used to the adaptation of new life in the COVID-19 emergency.*
Conclusion: *There is an improvement in cognition, commitment and preventive behaviour of COVID-19 in children after health promotion.*

Keywords: *Child, COVID-19, health, promotion*

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RESUMEN

Introducción: *Indonesia estaba entrando en el período de respuesta de emergencia de la COVID-19, como lo indica el aumento de casos de COVID-19 y el riesgo de transmisión en grupos de alto riesgo, uno de los cuales son los niños. El aumento de casos de COVID-19 no ha sido seguido por el cumplimiento de las conductas de prevención de la transmisión de COVID-19 en la comunidad, especialmente entre los niños. Esta investigación tuvo como objetivo mejorar la cognición, el compromiso y el comportamiento de prevención de la COVID-19 durante la emergencia de COVID-19 a través de la promoción de la salud de las familias y los maestros de jardín de infantes.*
Métodos: *El diseño de investigación utilizó un cuasi-experimento, con una muestra de 100 niños en edad preescolar divididos en dos grupos utilizando técnicas de muestreo aleatorio simple. Las variables independientes incluyeron la promoción de la salud de las familias y los docentes utilizando medios de bolsillo, la bitácora de adaptación de los niños a la nueva vida, los videos educativos y la variable dependiente incluyó la cognición, el compromiso y el comportamiento preventivo de la COVID-19 en niños de preescolar. El instrumento utilizado es un cuestionario, prueba estadística mediante la prueba de rangos de Wilcoxon, la prueba t de pares y la prueba de Mann Whitney.*
Resultados: *Los resultados del estudio encontraron que la promoción de la salud utilizando libretas de bolsillo, bitácoras AKB y medios grupales de WhatsApp, y videos educativos mejoraron la cognición, el compromiso y el comportamiento de prevención de la COVID-19 porque brinda información directamente a las familias y maestros. Durante siete días, bajo la supervisión, asistencia y facilitación de los docentes, el niño realiza el protocolo de salud en la escuela y, con la ayuda de los padres, realiza el proceso en casa. Esto es lo que ayuda a que los niños se acostumbren a la adaptación de la nueva vida en la emergencia de la COVID-19.*
Conclusión: *Hay una mejora en la cognición, compromiso y comportamiento preventivo de la COVID-19 en niños después de la promoción de la salud.*

Palabras clave: *Niño, COVID-19, salud, promoción*

INTRODUCTION

World Health Organization (WHO) declared the outbreak of coronavirus disease (COVID-19) in January 2020 to be an international public health emergency. WHO stated that there is a high risk of spreading COVID-19 to other countries in the world. In March 2020, WHO declared COVID-19 a pandemic. Statistically, as of May 17, 2020, there were 4 535 731 positive cases of COVID-19, and as many as 307 537 died worldwide (1). WHO has also reported more than 2 million cases of COVID-19 in more than 210 countries and territories, resulting in 195 755 deaths (2). The Indonesian Pediatricians Association mentioned 3,324 children who were patients in the hospital. The number of children confirmed positive for COVID-19 amounted to 584 children, and 14 of them died with a positive status of COVID-19 (3).

Key messages and actions for COVID-19 prevention and control in schools, a basic principle that can help keep students, teachers, and staff safe in schools and help stop the spread of this disease. The activities that schools should enforce regular such as handwashing with clean water and soap, maintaining distance, coughing and sneezing ethics, use masks (1,4-6). Keeping distance can stop the transmission of the virus, and using a mask can prevent the virus from entering the respiratory tract (7-9). In Indonesia, the implementation of handwashing using soap, maintaining distance, using masks, and the ethics of coughing and sneezing during pandemics is often still seen as one eye or considered a trivial thing. However, this action attempts to break the chain of microorganisms, including viruses, as a source of disease (10-12). Based on the results of a preliminary study of 10 mothers conducted in one of the districts in East Java, Indonesia, showed that five children (50 %) had less behaviour in the prevention of COVID-19, two children (20 %) had sufficient behaviour in the prevention of COVID-19, and three children (30 %) had good behaviour in prevention of COVID-19. Low behaviour of children in the prevention of COVID-19 in children is characterized by children not knowing the six steps of proper handwashing, children do not use masks properly when outside, children do not wash their hands properly after activities outside the house, children do not bring hand sanitizer when outside the home, children do not keep a distance when outside the house. Based on the results of the preliminary study above shows the problem in this study is still low behaviour of children in the prevention of COVID-19.

The impact of early childhood health behaviour problems (4 - 6 years) will increase the high risk of children being exposed to and contracting COVID-19 (10). During the COVID-19 pandemic, parents need support from the workplace, home environment and where children are educated. Parents need health education about good home learning and supporting child development. Parents need the support of health workers in caring for children's health at home, and parents also need information from education personnel in the place where children attend school about learning methods and media while at home (7).

Health promotion in families and teachers is one of the efforts that can be done to provide physical, psychological and social health support in improving COVID-19 prevention behaviour in children. Two fundamental concepts in family-center care are empowering and empowering or involving parents in their child's care (enabling). Enabling families by creating opportunities for all family members to demonstrate their latest abilities and competencies and to gain skills and new competencies to meet the needs of the children and families (13,14). This research aims to improve cognition, commitment and behaviour to prevent the transmission of COVID-19 in children through health promotion using pocketbook media, offline health counselling, educational videos through WhatsApp group and logbook. The results of this study are expected to provide information for early childhood education institution managers, health workers, the general public and stakeholders in delivering efforts to prevent the transmission of COVID-19 in children.

METHODS

The research design used is quasi-experimental research. The design seeks to reveal causal relationships by involving control groups in addition to experimental groups. The variables in this study are the independent and dependent variables. Independent variables include health promotion of teachers and parents using pocketbook media and audiovisual media, logbook. Dependent variables include family behaviour in the prevention of covid transmission in children belonging to cognition of prevention of COVID-19 transmission in children, such as commitment to preventing the transmission of COVID-19 in children and preventive measures for transmission of COVID-19 in children.

The population in this study was teachers and parents who had children aged 4-6 years who were registered in 6 kindergartens in the Bangkalan Cluster region. The size of the sample in this study was as many as 100, divided into two groups, namely 50 treatment groups and 50 control groups. Simple random sampling with lottery technique that we list the names of all kindergarten students who qualify as many as 234 students, and then we take the name lottery as many as 50 treatments and 50 controls. Research instruments used for health promotion variables use the COVID-19 prevention pocketbook for children and audiovisual (educational video). Variables of cognition, commitment and prevention of COVID-19 transmission in children use questionnaires as many as three types, namely cognition questionnaire (8 questions with measurement results in the form of total score), commitment questionnaire (10 questions with measurement results in the form of total score) and observation sheet of COVID-19 preventive behaviour (10 items with total score results).

Parents and teachers in the treatment group get educated by hybrid learning (offline and online) with the media pocketbook "Guidelines for preventing the transmission of COVID-19 in children in the COVID-19 emergency response period", given at the first meeting and explained directly in kindergarten. Parents and Teachers are also gathered in WhatsApp (WA) groups to get education assisted by The class teacher becomes a facilitator. Group WA became a medium to send educational videos and have discussions for 21 days with classroom teachers and parents about COVID-19 in children. The family also gets a new habit adaptation (AKB) logbook containing about habituation of COVID-19 transmission prevention behaviour in children that must be filled out every day for 21 days aimed at familiarizing children and families with transmission prevention behaviours following the health protocol. Statistical tests used Wilcoxon signed-rank and Mann Whitney test. The research design used is quasi-experiment research. The design seeks to reveal causal

relationships by involving control groups in addition to experimental groups. The variables in this study are independent and family behaviour. Independent variables include health promotion of teachers and parents using pocketbook media and audiovisual media, logbook. Family behaviour in the prevention of covid transmission in children belongs to cognition of prevention of COVID-19 transmission in children, such as commitment to preventing the transmission of COVID-19 in children and preventive measures for transmission of COVID-19 in children. This research has passed the ethics of research through the Health Research Ethics Commission of Sekolah Tinggi Ilmu Kesesehatans Ngudia Husada Madura on August 21, 2021, with the Number 1098/KEPK/STIKES-NHM/EC/VIII/2021.

RESULTS

Based on the Table 1, it is found that 100 mothers who have children aged 4-6 years in 6 early childhood education schools have varying demographic characteristics. Based on age, it was found that more than 50 % of mothers are of productive age or the ideal age to become a mother, which is 31-40 years. This age shows the maturity and maturity of women being a mother, so they can receive the information provided by the researcher. Mothers can act as educators for their children while at home and at school in implementing the COVID-19 prevention protocol

Data on maternal education shows the highest number of high school students in both the treatment group (38 %) and the control group (24 %). The educational factor affects the mother's ability to receive information and educate pre-school age children in implementing the COVID-19 prevention protocol, especially when at home. Mothers who have good reading skills also affect their ability to understand the contents of pocketbooks used as educational media. Mother is also actively engaged in discussions on WhatsApp group media with teachers and researchers. Most mothers were homemakers in the treatment group (40 %) and the control group (38 %). Some were entrepreneurs in the treatment group (32 %) and the control group (34 %). The rests were farmers and teachers. The mother was very enthusiastic about participating in health education activities, mentoring, and home visits during the research. This is because most of the mothers are not employees, so they have more time to focus on participating in offline and online health education activities

Table 1

Characteristics of Respondent

Characteristics of Respondent	Treatment Group		Control Group	
	n	%	n	%
Age				
20-30	21	42	19	38
31-40	26	52	30	60
41-50	3	6	1	2
Education				
Magister	3	6	4	8
Bachelor or Diploma	8	16	14	28
High School	19	38	12	24
Junior High School	9	18	8	16
Elementary School	11	22	12	24
Work				
Housewife	20	40	19	38
Entrepreneur	16	32	17	34
Teacher or Lecturer	9	18	10	20
Farmer	5	10	4	8
Gender of child				
Male	21	42	19	38
Woman	29	58	31	62
Number of children				
1-2	26	52	29	58
3-4	12	24	11	22
5-6	12	24	10	20

Table 2

Tests Differences in Treatment and Control Groups

Variable	p-value
Cognition Difference Test between treatment and control groups	0.0001
Test Commitment Differences between treatment and control groups	0.001
Behavioural Differences Test between treatment and control groups	0.003

Based on the results of data analysis, shows that there are differences in cognition, commitment and behaviour to prevent transmission of COVID-19 in pre-school age children between those given the treatment and the control group. This means that the provision of health promotion through direct or offline health education, provision of pocketbooks, provision of new life adaptation logbooks, and mentoring of teachers during school has a significant impact on increasing cognition, commitment and behaviour to prevent transmission of COVID-19 in pre-school age children. The results showed that cognition in the treatment group was better than in the control group, with a mean score: of 7.15 in the treatment group and 5.16 in the control group. This is influenced by the activities that parents participate in and are accompanied by the class teacher. Information received directly through pocketbooks, and educational videos provide information to parents and teachers about the importance of COVID-19 prevention in the COVID-19 emergency.

DISCUSSION

Based on the study results, there are differences in cognition between the treatment group and the control group. Family health promotion is one of the effective and efficient efforts to improve behaviour, especially parental cognition. This is relevant to the philosophy of child nursing. The philosophy of family-centred care shows the family is constant in the child's life. Service and personal systems must support, appreciate, encourage and enhance the strength and competence of families through the empowerment of effective approaches and assistance (13). Nurses enable families by creating opportunities for all family members to demonstrate their latest abilities and competencies and acquire new abilities and competencies necessary to meet the needs of children and families (13). The direct impact of family empowerment activities through health education is that families can increase their understanding of the importance of preventive measures in children. It is like the concept of the health promotion model (Nolla J Pander) that human cognition will see the benefits of action, see obstacles to action that can inhibit health behaviours and see self-efficacy, which is a person's ability to decide to use or avoid health protocol behaviours that will be done. Self-efficacy affects the resistance to action so high self-efficacy has an impact on low resistance and vice versa (15). Health education conducted for parents and teachers will help parents understand how to prevent the transmission of COVID-19 in homes and schools.

Based on the results it was found, significant differences and high commitment among parents who received interventions. Parents who get an explanation when meeting offline in kindergarten continue by reading independently Pocket Books submitted to parents to make parents more understanding about the prevention of COVID-19 prevention in children. Parents who understand the benefits of health protocol and understand the obstacles and abilities of self make parents sure to do health protocol prevention of COVID-19 in children. It is as in the concept of Nolla J Pander that commitment to the plan is the intention and purpose of a person to create a planning strategy to implement health behaviours optimally. It is relevant to the study results that commitment will increase when given health education in schools about the prevention of COVID-19 (16,17). The role of parents is crucial in increasing commitment to the prevention of COVID-19, so it requires the active participation of parents in health education. One of the things parents can do is read stories about COVID-19 to children (18). The increase in parental commitment to the prevention of COVID-19 transmission is in line with the results of previous research that TPQ Awalulmu'minin teachers are committed to the implementation of learning activities obliging to implement health protocols prevention of COVID-19 transmission in schools (19). This is because teachers experience an increased understanding of COVID-19 prevention in children after getting health education. Teachers understand the dangers of COVID-19 in children and understand how to prevent the transmission of COVID-19 in children effectively. This understanding affects the teacher's confidence and commitment to actively participate in the prevention of COVID-19 transmission in children.

Based on the results of the study found that there is a significant difference between

the behaviour of children in the prevention of COVID-19 transmission between the groups given treatment and those who are not. Families and teachers get pocketbooks and educational activities online through educational videos and discussions on WhatsApp groups, while children get a 21-day activity logbook containing about ten new life adaptation (AKB) activities that must be done by children at home at school in carrying out the COVID-19 prevention health protocol. For 21 days, the child gets help, supervision, and facilitation by the family and teachers in carrying out 10 AKB activities. Improved cognition scores and commitment to the treatment group impacted the behaviour of the COVID-19 prevention health protocol. Families and teachers who better understand the importance, benefits and barriers of health protocol in children will be more confident in taking a stand and have a direct impact on their behaviour in everyday life. This study is in line with the previous study (20). It is also relevant to the results of research conducted in Indonesia that the role of parents is positively correlated to the behaviour of children in the implementation of prevention health protocol in the COVID-19 pandemic (17). Education to prevent COVID-19 transmission effectively improves the behaviour of pre-school children (21). Relevant to the results of the study that health education can enhance children's compliance with treatment compliance (22).

CONCLUSION

Hybrid learning health promotion with pocketbook media, educational videos and discussions via WhatsApp group and logbook AKB can improve cognition, commitment and family behaviour, teachers, and preschool children in COVID-19 prevention health protocol in the COVID-19 emergency. Improving family and teacher understanding will empower families and teachers in improving children's behaviour in COVID-19 Prevention. Teachers will help facilitate, support and ensure the child's health protocol behaviour while at school, and the family provides the child's health protocol while at home.

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