

Telenursing's Effectiveness on Mothers's Ability to Stimulate Child Development

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ABSTRACT

Introduction: Children have a golden period of development. The proper stimulation will stimulate the child's brain so that development can occur optimally according to age. **Objective:** This study aims to determine the effect of telenursing on the mother's ability to stimulate the development of children aged 9-12 months. **Method:** The study used a pre-experimental design with a pre-posttest one-group design approach. Thirty-two respondents were selected purposively. The telenursing intervention was given three times for one week using Whatsapp group media. The instrument used was the Stimulation Early Intervention Detection Growth and Development checklist. **Result:** Paired T-test results showed that telenursing effectively increased the mother's ability to stimulate growth and development in children ($p=0.000$). Telenursing allows nurses to control the delivery of nursing interventions, even if they do not meet in person. **Conclusion:** Telenursing can be an alternative method to provide nursing care, one of which is providing information about child development.

Keywords: Child, Development, Stimulation, Telenursing

ABSTRAK

Pendahuluan: Anak memiliki periode emas dalam masa perkembangan. Stimulasi yang tepat akan merangsang otak anak sehingga perkembangan dapat berlangsung optimal sesuai dengan usia. **Tujuan:** Penelitian ini bertujuan untuk mengetahui pengaruh telenursing terhadap kemampuan ibu dalam melakukan stimulasi perkembangan anak usia 9-12 bulan. **Metode:** Penelitian menggunakan desain pre eksperimen dengan pendekatan pre-posttest one group design. 32 responden dipilih secara purposif. Intervensi telenursing diberikan tiga kali selama satu minggu, dengan menggunakan media Whatsapp group. Instrumen yang digunakan adalah lembar ceklis SDIDTK (Stimulasi Deteksi Intervensi Dini Tumbuh Kembang). **Hasil:** Hasil uji T berpasangan menunjukkan bahwa telenursing efektif dalam meningkatkan kemampuan ibu dalam melakukan stimulasi tumbuh kembang pada anak ($p=0,000$). Telenursing memungkinkan perawat untuk mengontrol pemberian intervensi keperawatan, meskipun tidak bertemu secara langsung. **Simpulan:** Telenursing dapat menjadi alternatif metode yang digunakan untuk memberikan asuhan keperawatan, salah satunya dalam memberikan informasi tentang tumbuh kembang anak.

Kata Kunci: Anak, Perkembangan, Stimulasi, Telenursing

INTRODUCTION

Childhood is a golden age for child development. Age 0-3 years is a golden period (golden age period) appropriate for child development, including physical, cognitive, emotional and social aspects. At this golden age, children have a great desire to learn; this is because, at this time, there is brain development known as the brain growth spurt period, where the brain develops very quickly so that the stimulation of child development is very appropriate at age. Most parents see developments from what is seen roughly, so they often ignore developments that cannot be seen immediately, such as the development of social independence (Windiyani et al., 2021). The proper stimulation will stimulate the toddler's brain so that the development of movement, speech and language skills, socialization and independence in toddlers takes place optimally according to the child's age. Children with developmental disorders include functional limitations in main activities in life, mental retardation marked by cerebral palsy, specific learning disabilities, overall developmental disorders, autism, visual and hearing impairments, and communication disorders (Ratnaningsih et al., 2019).

The United Nations Children's Fund (UNICEF) stated that the global growth and development disorders in children aged 0-5 years reached 3 million. The prevalence is estimated that around 5-10% of children born experience developmental delays in general. Based on Riskesdas 2018, stated that 11.5% of children under five in Indonesia had growth and development disorders. The Indonesian Pediatrician Association (IDAI) East Java 2018 examined 2,634 children aged 0-72 months. The examination showed that 13% of children experienced dubious development (needing a more profound investigation), and 34% experienced developmental irregularities (Ruauw et al., 2019).

Genetic and environmental factors influence child development. One of the environmental factors that affect the development of children is stimulation. Stimulation is stimulation and

exercises for children's intelligence from the environment outside the child. Parents should be aware of the importance of providing stimulation for child development. Stimulation is essential in child development. Children who receive directed and regular stimulation will develop faster than children who do not receive stimulation (Windiyani et al., 2021). Lack of stimulation can cause deviations in child development and even permanent disorders (Kementrian Kesehatan Republik Indonesia, 2016).

Efforts to increase the mother's knowledge and ability to stimulate is by providing health education about child growth and development. Health education aims to change the attitudes and behaviour of individuals, families, groups, and communities in the health sector as something of value and benefit in the eyes of the community and also to shape healthy behaviour and optimal health status in individuals, families, groups and communities following the concept of life. Healthy physically, mentally and socially. The media is essential in delivering information; new information about something provides a new cognitive foundation for developing behaviour towards it. One of the latest forms of health education is telehealth or health informatics. One type of telehealth is telenursing. Telenursing is defined as providing management and coordination of care and delivering health services through information technology and telecommunications. Telenursing allows the nurse to control the client, even though the client and nurse do not see each other daily. The technology used in telenursing varies widely, one of which is smartphones (Souza-Junior et al., 2016).

The use of telenursing has many benefits and advantages, but in Indonesia, it is still minimally used. This is due to the absence of standard legal rules governing the regulation of the use of telenursing (Hendriyana, 2021). In addition, there are still many face-to-face health education activities.

During the COVID-19 pandemic, digital media became more popular for the public, bearing in mind that the Pemberlakuan Pembatasan

Kegiatan Masyarakat (PPKM) policy prevented people from doing activities outside as before the pandemic. Therefore, telenursing can be used as an option to continue to be able to interact with the community in terms of conveying health information, including information about stimulating child growth and development.

METHODS

Research Design

This research uses a pre-experimental design with the type of one-group pre-post-test without a control or comparison group. The research variables consisted of the characteristics of the respondents, namely age, education, profession, and source of information about child development stimulation. The independent variable is telenursing, and the dependent variable is the mother's ability to stimulate child development.

Population and Sample

The population of this research is mothers's with a child under five years. There were 46 population of mothers who had a child under five years. The sampling technique is used purposive sampling. There were 32 respondents with the criteria of a mother in Brangkal Village who owns a smartphone, takes care of her child, and participates in the study completion.

Instrument

A checklist of the mother's ability to stimulate development based on the Stimulation Early Intervention Detection Growth and Development book published by the Indonesian Ministry of Health, which contains 20 items of child development stimulation tasks consisting of 4 development indicators, namely gross motion as much as four tasks, smooth motion as many as six tasks, speech and language as many as six tasks, and social independence as many as four tasks. The assessment is carried out by giving a score of 1 if the mother can stimulate and a score of 0 if she cannot encourage. Then it is calculated and categorized into very high, high, medium, low, and very low abilities.

Research Procedure

Respondents selected according to the criteria were asked for the contact number of the WhatsApp application and put into one group used for this study. Respondents were first explained the aims and objectives of the study, as well as a time contract for each session to provide information about growth and development stimulation. Information-sharing sessions were held three times within seven days, namely on day 1, day 4, and day 7. The rationalization of giving interventions 3 times in 1 week is to increase the mothers's knowledge and skills further. Most of the previous studies only provided 1 time of health education in increasing knowledge.

Information was provided using chat groups, pictures, and videos. The mother's ability to stimulate the child was measured before and after the provision of information. Researchers used a Google Survey Form with a link distributed to respondents via WhatsApp group messages, allowing respondents to provide responses and answers. All responses and answers from respondents are stored in a computer using a password.

Data Analysis

After the data was collected, the data were analyzed using univariate and bivariate methods. Univariate analysis was conducted to examine the respondent's characteristic data. Meanwhile, to identify the effectiveness of telenursing in increasing mother's ability to stimulate child development used paired t-test. An alpha level of <0.05 or less was used to determine statistical significance. Before the statistical test is carried out, the data normality test is first carried out and the data is normally distributed. Data analysis was performed using SPSS.

Ethical Clearance

This study obtained the research ethics from the Health Research Ethics Commission of STIKES Majapahit with the number 086/KEPK-SM/2021. All respondents had been informed and signed the consent form. Additionally, the findings

of this study are reported as grouped data. Therefore, participants identification was anonymous.

RESULT

Characteristics of Respondents

Table 1. Characteristics of Respondents in Brangkal Village in 2021

Variable	f	%
Age		
<20	4	12.5
20 – 29	22	68.8
30 – 39	6	18.8
Education		
Primary Education (Elementary and Junior High School)	8	25
Secondary Education (Senior High School)	22	68.8
Higher Education (College Student)	2	6.2
Profession		
Work	14	43.8
Unemployment	18	56.2
Source of information about child development stimulation		
Never got the information	16	50
Health Workers	0	0
Non-Health Workers	4	12.5
Mass Media	12	37.5
Book	0	0

Table 1 showed that most of the respondents aged 20-29 years (68.8%), had a secondary education level (68.8%), did not work (56.2%), and half of the respondents had never received information about stimulating children's growth and development (50%).

Mothers's Ability to Stimulate Child Development Before and After Telenursing

Table 2. Mothers's Ability to Stimulate Child Development Before and After Telenursing in Brangkal Village in 2021

Mother's Ability	Before		After	
	f	%	f	%
High	8	25	28	87.5
Moderate	20	62.5	4	12.5
Low	4	12.5	0	0
	Mean: 11.75 (SD: 1.53)		Mean: 15.88 (SD: 1.96)	
	<i>p</i> -value: 0.000			

Table 2 shows that most respondents have a moderate ability to stimulate children's development before being given telenursing (62.5%). After being given telenursing, most respondents have a high ability to stimulate children's development (87.5%).

Telenursing's Effectiveness on Mothers's Ability to Stimulate Child Development

Table 3. Telenursing's Effectiveness on Mothers's Ability to Stimulate Child Development in Brangkal Village in 2021

Treatment	Decreased	Increased	<i>p</i>
Mother's ability <i>Pre-Post</i>	0	24	0.000

The data of table 3 showed that 24 respondents experienced an increase in their ability to provide developmental stimulation to children after the telenursing intervention was given. Test results Paired t-test obtained *p*-value= 0.000 (<0.05). This indicates a significant effect of telenursing in increasing mother's ability to stimulate child development.

DISCUSSION

The results of this study indicate a significant effect of telenursing in increasing mother's ability to stimulate child development. The mother's ability to provide stimulation is influenced by age, information, knowledge, education, and work (Misniarti, 2022; Nurul Abidah & Novianti, 2020). Maternal and environmental factors influence a mother's ability to have optimal interactions with children. Environmental factors can directly affect child development, while maternal factors include maturity (age), the mother's knowledge and attitudes.

The mother's ability to stimulate development can be influenced by age. The results showed that most mothers were 20-29 years old. Middle-aged parents will find it easier to find and receive information. Parents can easily remember information obtained during their teens and young adults. Middle-aged people have a strong ability to

succeed, and they will reach their peak at this age; thus, the older a person is, the better his mental development process will be, which will peak at certain ages and will decrease the ability to accept or remember something along with advanced age (Misniarti, 2022; Nurul Abidah & Novianti, 2020). The age of parents is related to the maturity of thinking about health; mothers who are very young will tend not to be able to think logically about the development of their children and will let their children grow and develop as they are without doing stimulation.

The results of the research on mothers' education showed that most of them have secondary education. The higher a person's level of education, it will be easier to absorb information, so they tend to have high knowledge. However, not all highly educated people can support the ability to provide direct stimulation to their children, but it is also necessary to see from the point of view of a person's level of ability which consists of the levels of knowing, understanding, applying, analyzing, synthesizing and evaluating information (Misniarti, 2022; Nurul Abidah & Novianti, 2020). Higher or secondary education also does not guarantee someone has good stimulation abilities because education is related to knowledge; someone with higher education will more easily absorb information and apply it in the form of behavior, but good knowledge does not always lead to good abilities because stimulation ability in the form of practice actions that must be taken in stimulating children's development.

The results of research on mothers' work show that most mothers do not work. The time required for stimulation is quite a lot so that the mother can be stimulated. Parents who do not work can provide stimulation well because mothers have much time to care for their children, including providing stimulation with a more intensive frequency. A housewife will be able to spend more time with children because they are always at home, so they can maximize giving more stimulation and attention to children and can monitor activities carried out by children (Misniarti, 2022; Nurul Abidah & Novianti, 2020). Parents who do not work

can provide stimulation well because mothers have much time to care for their children, including providing stimulation with a more intensive frequency. However, not all working parents do not have time with their children because developmental stimulation can be done anytime; when working mothers have free time with their children, this stimulation can be done.

The research results indicate that half of the respondents have never received information about child development stimulation. The provision of growth and development education in children can increase parents' self-confidence so that they know and are aware of the importance of efforts to stimulate growth and development in children, so they can have a positive attitude and finally be able to do things according to the advice of health workers. Toddler-aged children's growth and development education contribute significantly to the mother's ability to stimulate. So that the more knowledge you have, it is hoped that an excellent stimulatory action will appear (Albers et al., 2010; dos Santos Costa et al., 2019). Information is essential in the mother's ability to stimulate child development because the basis of the mother being able to stimulate is to have knowledge where the source of knowledge is information (Lohse et al., 2022); without getting information about developmental stimulation, the mother will also not be able to stimulate the development of her child (Raut & Huy, 2022; Kim et al., 2021).

One of the latest forms of health education is telehealth or health informatics. One type of telehealth is telenursing. Telenursing is defined as providing management and coordination of care and delivering health services through information technology and telecommunications (Souza-Junior et al., 2016). Telenursing allows the nurse to control the client, even though the client and nurse do not see each other daily (Van Citters et al., 2021). The technology used in telenursing varies greatly, one of which is smartphones (Souza-Junior et al., 2016).

Telenursing focuses on providing information, support, and increasing knowledge. A good way of communicating is needed to achieve

positive results from telenursing. Good communication will impact feelings, making every word easy to hear and understand (Gholami et al., 2022). Thus the client and his family will be motivated to follow the nurse's advice. A client-centered communication is a preferred approach to fostering relationships between clients and professionals (Bahmanpour et al., 2022; Solari-Twadell et al., 2022; Van Citters et al., 2021).

In this study, respondents were given information about stimulating child growth and development through the Whatsapp application. The intervention was given in three sessions. The first day provided information about child development material according to age and disturbances that can occur. The fourth and seventh day of the information provided is an application of how to stimulate the growth and development of children according to age. The media used in implementing telenursing are leaflets, booklets, pictures, and videos which are shared via the Whatsapp group. In addition, discussions were also held via video call media.

One study stated a significant effect of booklet media interventions and SDIDTK applications on family independence in monitoring children's growth and development (Marwasariaty, Sutini, dan Sulaeman, 2019). The provision of telenursing makes it easier for mothers to obtain information related to the stimulation of the development of children (Van Cleave et al., 2022). It means that children are born and grow during the Covid-19 pandemic where social restrictions occur in almost all of Indonesia (Cahan et al., 2022; Calthorpe & Smyth, 2021), which has an impact on the implementation of Posyandu, where Posyandu cannot function optimally as it should be.

Digital media became more popular for the public, bearing in mind that the Pemberlakuan Pembatasan Kegiatan Masyarakat (PPKM) policy prevented people from doing activities outside of the pandemic. Therefore, telenursing can be used as an option to continue to be able to interact with the community in terms of conveying health information, including information about stimulating child growth and development.

CONCLUSION

Based on the results, it can be concluded that telenursing increases mothers' ability to stimulate child development. Health workers are expected to educate mothers of children under five on stimulating early development through social media and engaging media or applications. Aside from the high number of smartphone and internet users today, telenursing can also make the working hours of health workers more effective and efficient.

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