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The influence of education on increasing mothers' knowledge about acupressure for treating children with coughs and colds on increasing

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ABSTRACT

A mother's knowledge of caring for young children is influenced by information. Information can provide direct knowledge gains that contribute to behavioral change, including the use of complementary therapies such as acupressure. Mothers with young children at the primary service integration cadres “*Cut Muti*”, in Bendogerit Village, Blitar City, are a strategic group for empowerment because they play a central role in daily childcare. This study uses a one-group pretest-posttest pre-experimental design. The population consisted of 40 mothers of children under five who were registered at the the primary service integration cadres “*Cut Muti*”, using a total sampling technique. Data was collected using a questionnaire that measured mothers' knowledge of acupressure for managing coughs and colds in toddlers. The intervention consisted of health education thru lectures and counseling supported by leaflets, delivered individually, and conducted in a single 25-minute session. The data was analyzed using the Wilcoxon test. Statistical analysis shows a significant increase in mothers' knowledge after the intervention, with a p-value of 0.000 ($p < 0.05$). This finding indicates a significant difference in knowledge levels before and after health education about acupressure therapy. Health education about acupressure effectively improves mothers' knowledge and is expected to support independent and correct home management of coughs and colds in toddlers. Future community service initiatives are recommended to expand participant coverage and strengthen community-based empowerment programs to sustainably reduce respiratory complaints in children under five in Indonesia.

Keywords: Cough and Cold, Community Empowerment, Acupressure

Background

Acute Respiratory Infection (ARI) is an acute infection involving the upper and lower respiratory tract organs that can cause a wide range of illnesses, from mild to severe. This disease can affect the respiratory tract from the nose to the alveoli. ISPA includes Air Bone Diseases, which are transmitted thru the air (1). ISPA is defined as an acute respiratory tract disease caused by infectious agents transmitted from human to human. Symptoms usually appear quickly, within a few hours to a few days. Symptoms include fever, cough, and often sore throat, coryza (runny nose), shortness of breath, wheezing, or difficulty breathing. Respiratory tract infections are a health problem that remains a global concern to this day. According to its official website, the WHO states that 5.3 million children under five years of age die, and 740,180 (14%) of these deaths are caused by pneumonia, which is one of the manifestations of ARI (2). Based on the 2023 Indonesian Health Survey (SKI), the prevalence of Acute Respiratory Infections (ARI) in East Java among children under five years old was found to be 37.5% (3). Colds and coughs are the most common upper respiratory tract infections affecting toddlers. Based on an interview with the head of primary service integration

cadres “*Cut Muti*”, it was often found that children who came to the ILP had colds, and most of their mothers had not been able to overcome this problem with massage. The limited knowledge and skills of mothers in dealing with cough and cold problems in toddlers can worsen the condition (4).

The problem found is the limited knowledge of mothers of young children regarding coughs and colds. When toddlers experience coughs and colds, most mothers consider it a common and natural problem for toddlers that will eventually resolve on its own without special treatment. In fact, cough symptoms can disrupt daily activities, reduce appetite, and ultimately interfere with the growth and development process. Thru this service activity, the implementing team will provide community-based nursing solutions and complementary therapies in the form of education and acupressure demonstrations for coughs and colds. The aspect of empowering mothers of young children is emphasized to improve partners' ability to handle coughs and colds in young children. This empowerment is expected to improve the quality of life of toddlers by increasing the knowledge and skills of toddler mothers regarding acupressure for coughs and colds.

The partners in this research activity are the group of mothers with young children from the primary service integration cadres “*Cut Muti*”, as mothers are the closest and most frequent figures interacting with children, making them strategically positioned as research partners in the context of self-care acupressure to treat coughs and colds in young children. This will enable mothers to perform simple therapeutic actions at home. This service will be carried out at the primary service integration cadres “*Cut Muti*”, located in, Blitar City. This location was chosen because, based on a study conducted with cadre mothers and mothers of young children, the majority of mothers of young children still lack knowledge about acupressure for coughs and colds in young children. Primary service integration cadres “*Cut Muti*”, is a new transformation of the conventional Posyandu, which is now part of the community health service strengthening system at the village or sub-district level. Unlike the primary service integration of the past, which only served infants and toddlers, the primary service integration cadres “*Cut Muti*”, now serves the entire human life cycle in one location (5).

When toddlers start experiencing coughs and colds, mothers usually take initial steps like giving over-the-counter medication, inhaling steam, or giving a gentle massage. However, the mother's lack of knowledge about proper non-pharmacological techniques often makes home management less than optimal. Meanwhile, the use of certain medications in toddlers requires caution, so it cannot always be the primary option. Therefore, a mother's knowledge of performing massage to treat coughs and colds in toddlers, as a safe and health-principle-based self-care effort, is very important. One method that is becoming increasingly recognized and can be applied to support the reduction of cold and cough symptoms is acupressure. Acupressure can be performed gently by mothers at home, without special tools, and with minimal risk of side effects if done correctly. This method is considered suitable as a complementary approach in self-care (6). However, the application of acupressure is still rarely practiced by mothers of young children due to a lack of information, insufficient practical skills, and the absence of programs that systematically equip mothers with the correct techniques. A self-care acupressure program is needed to increase mothers' capacity to care for their toddlers, providing knowledge about acupressure points, duration, safe pressure, and the frequency of administering the treatment. Guidance thru educational activities and demonstrations allows mothers to be more confident in performing acupressure as part of their daily care (7).

Thru the self-care program of acupressure for mothers of toddlers, it is hoped that there will be an increase in mothers' knowledge and ability to independently and safely manage the symptoms of cough and cold in toddlers, and that they will be able to reduce their dependence on medication. Additionally, this program plays a role in strengthening the role of the primary service integration as a means of community empowerment in complementary health. Here, nurses play a very important role in efforts to improve the health of toddlers thru complementary therapy approaches, one of which is acupressure for coughs and colds. the primary service integration is a new transformation of the conventional the primary service

integration, which is now part of the community health service strengthening system at the village or sub-district level. Unlike the the primary service integration of the past, which was only for babies and toddlers, the primary service integration now serves the entire human life cycle in one place. In the the primary service integration environment, nurses act as educators, providing accurate and easy-to-understand explanations about the causes of colds and flu, acupressure points that can be massaged, and the benefits of this therapy for toddlers (6). Nurses also ensure that every procedure taught is safe, meets standards, and can be performed independently by mothers of young children. The education provided covers massage techniques, duration, proper pressure, and warning signs to watch out for, ensuring no errors occur in practice. Beside being educators, nurses also serve as facilitators and companions for mothers of young children in regularly applying acupressure. Nurses conducted a live demonstration at the the primary service integration, guiding mothers of young children until they were able to perform acupressure independently at home. Additionally, nurses monitor the toddler's symptom progression and evaluate whether the therapy helps alleviate the cold or cough or requires further referral to a healthcare facility. Thus, nurses also support the empowerment of mothers of young children so that they are more confident and able to perform safe, simple, and effective non-pharmacological care to reduce cough and cold complaints in young children.

Method

The design used in this study was a pre-experimental design (one-group pretest-posttest). The population in this activity consisted of 40 mothers of toddlers registered at the primary service integration "Cut Mutia" in Bendogerit Village. The sampling technique used was total sampling, so that the entire population was used as a sample. The instrument used was a questionnaire to measure the knowledge of toddler mothers about acupressure in treating coughs and colds, and the intervention instrument was in the form of counseling using leaflets as health education about acupressure for coughs and colds which were given one by one, carried out in one 25-minute session. Statistical analysis was performed using the Wilcoxon statistical test.

Results

The research activities carried out with the under-five mothers' group at the primary service integration Bendogerit in Blitar City have shown significant program achievements. This achievement is the result of the structured and collaborative program implementation between the implementing team and partners in the field. Well-established synergy supports the effective achievement of program goals. The results of this activity are presented in detail in the following section as an evaluation and reflection on the implementation of the program that has been carried out.

Demographic Data of Mothers with Young Children at the the primary service integration "Cut Mutia" Bendogerit.

Table.1 Demographic Data of Mothers with Young Children at the the primary service integration "Cut Mutia" Bendogerit

Demographics	Frequency	Percentage
Age		
Late Adolescence: 17-25 Years	4	10.0%
Early Adulthood: 26-35 Years	22	55.0%
Late Adulthood: 36-45 Years	13	32.5%
Early Old Age: 46-55 Years	1	2.5%
Occupation		
Teacher	3	7,5%

Entrepreneur	11	27,5%
ASN	6	15,0%
lecturer	2	5,0%
Doctor	1	2,0%
Housewife	17	42,5%
Last education		
Junior High School	4	10,0%
Senior high school	16	40,0%
Associate Degree	3	7,5%
bachelor	17	42,5%

Based on Table 1, it can be seen that out of 40 mothers of young children at the primary service integration "Cut Mutia", 55.0% are young adults, 32.5% are older adults, 10.0% are late adolescents, and 2.5% are early elderly. Based on Table 2, it can be seen that the most common type of work among the 40 mothers of young children at the primary service integration "Cut Mutia" is homemaker, accounting for 42.5%, followed by self-employed at 27.5%, civil servants at 15.0%, teachers at 7.5%, lecturers at 5.0%, and doctors at 2.0%. Based on Table 3, it can be seen that the highest level of education among the 40 mothers of young children at the the primary service integration "Cut Mutia" is Bachelor's degree at 42.5%, followed by High School at 40.0%, Junior High School at 10.0%, and Associate Degree at 7.5%.

Pre-test and post-test results of the Wilcoxon test for mothers' knowledge acupressure to managing cough and cold in young children

Table. 2 mothers' knowledge acupressure to managing cough and cold in young children

Knowledge level	Pretest		Posttest		Sstatistical Test
	Frekuensi	Presentase	Frekuensi	Presentase	
Good	7	17.5%	32	80%	Wilcoxon Signed Rank Test : p=0,000 (p<0,005).
Enough	18	45.0%	8	20%	
Less	15	37.5%	0	0%	
Total	40	100%	40	100%	

Based on the table above, it shows that out of 40 respondents based on knowledge level characteristics, before health education was provided, 7 people had good knowledge, 18 people had sufficient knowledge, and 15 people had poor knowledge. After health education was provided, there was an increase, with 32 people having good knowledge and 8 people having sufficient knowledge. Based on the analysis results using the Wilcoxon Signed Rank Test, a significance value of $p=0.000$ ($p<0.005$) was obtained.

Discussion

Pretest and Posttest of mother Knowledge acupressure to managing cough and cold in young children

The table above shows that most respondents experienced an increase in scores from pretest to posttest, reflecting an improvement in knowledge after the intervention was implemented. Based on the analysis results using the Wilcoxon Signed Rank Test, a significance value of $p=0.000$ ($p<0.005$) was obtained. This indicates a statistically significant difference in the knowledge levels of mothers with young children at the primary service

integration before and after receiving health education. Thus, it can be concluded that providing health education has a positive influence on increasing respondents' knowledge. This finding aligns opinion that health education is a learning process aimed at improving the health knowledge, attitudes, and behaviors of individuals and groups (8). Increased knowledge is an initial indicator of the success of a health education intervention, as knowledge forms the basis for better health attitudes and behaviors (9).

Based on the table 2. Pre-test and post-test results of the Wilcoxon test for mothers' knowledge about toddlers, the pre-test results of participants' knowledge level before health education showed that the majority, 18 people (45.0%), had a sufficient knowledge category, 15 people (37.5%) had a poor knowledge category, and 7 people (17.5%) had a good knowledge category regarding mothers' knowledge of acupressure for managing coughs and colds in toddlers. After health education, the participants' knowledge level increased, as evidenced by the post-test results, which showed 32 people (80%) with a good knowledge category and 8 people (20%) with sufficient knowledge regarding mothers' knowledge of acupressure for managing coughs and colds in toddlers. Based on the cross-tabulation results of knowledge level with education level, it shows that the higher the education level, the better the knowledge level. This aligns with previous research stating that education level is related to health knowledge level, where individuals with higher education tend to have better knowledge because of their optimal ability to receive and understand health information (6). The level of education also determines how easily someone can absorb and understand the knowledge they acquire; generally, the higher a person's education, the better their knowledge.

Health education on acupressure as an effort to manage coughs and colds in toddlers, provided to mothers of toddlers at the primary service integration in Bendogerit Village, was shown to have a significant impact on increasing knowledge about managing coughs and colds in toddlers. This proves that delivering information thru health education using leaflets is proven effective in increasing knowledge about acupressure for managing coughs and colds in toddlers (10). Partners in the self-care program for coughs and colds in toddlers showed a significant increase in knowledge after receiving interventions thru lecture methods with a counselling approach, information delivery using leaflets, and direct demonstration activities that practically supported understanding of the material

(11). This approach is proven effective because it is supported by learning theory, which states that information delivery thru mass media such as leaflets is effective (12). The implementation of health education in this activity is through counseling, so it is effective in conveying information (13)

The partners in this activity showed great enthusiasm and a very positive response to the series of events. This is due to the interactive extension methods, where the material is not only presented theoretically but is also followed by an acupressure demonstration session (14). Thru live demonstrations, partners not only learn what acupressure is but are also able to practice it independently at home (15). Thus, this activity not only increases knowledge but also develops sustainable practical skills for partners in maintaining the health of their young children, particularly for coughs and colds in toddlers (10).

Health education activities were conducted in 1 meeting. Health education was provided to 40 mother partners with young children, using lecture and counselling methods with leaflets. The topics covered were the causes of coughs and colds, risk factors if coughs and colds in young children are not properly managed, the definition of acupressure, the benefits of acupressure, and specific body points that can relieve coughs and colds in young children, all aimed at managing coughs and colds in young children.

The implementation stages of this activity are as follows: first, the preparation stage, which involves preparing pretest and posttest questionnaires, the educational materials to be used in this activity, and the tools for measuring the knowledge level of mothers of young children, namely questionnaires. The implementation stage involves educational activities using lecture and counselling methods. This activity aims to increase partners' knowledge by

educating participants about acupressure therapy for coughs and colds in young children (16). Counselling sessions on acupressure therapy to overcome coughs and colds in young children are conducted to provide partners with understanding and skills in independently managing coughs and colds in young children at home (17). Thru this counselling, partners are expected to be able to independently perform acupressure therapy for coughs and colds in young children, so that it can be applied in daily life as a treatment for coughs and colds in young children (18). This research program activity concluded with the administration of a posttest to the partners using the same questionnaire containing the same questions as the pretest. The provision of counselling education for the management of colds and flu in toddlers is presented in the following image. The benefits of acupressure massage for babies with coughs and colds, besides reducing symptoms, can also heal quickly (19)(20).



Figure 1 Provides Education on Acupressure for Coughs and Colds in Toddlers



Figure 2 Provides Counselling on Acupressure for Coughs and Colds in Toddlers

After the lecture and material presentation using leaflets, counselling was conducted on acupressure techniques for coughs and colds in toddlers. This counselling includes explanations and practice of acupressure points, such as point locations, how to press, massage direction, and duration. Mothers of young children were given the opportunity to observe and practice acupressure techniques again with the guidance of a facilitator. Observation results show that mothers of young children are beginning to understand the steps for performing acupressure and demonstrated high enthusiasm during the demonstration session.

Conclusions and Recommendations

Based on the results of the activities carried out with the primary service integration group of mothers with young children, significant program achievements have been demonstrated. This achievement is the result of the structured and collaborative program implementation between the implementing team and partners in the field. The well-established synergy supports the effective achievement of program goals. It is hoped that the partners, the mothers of toddlers, can apply acupressure therapy to treat coughs and colds in toddlers at home independently and appropriately. For future community service researchers, it is recommended to develop drupa activities by expanding the scope of participants to optimize acupressure therapy in treating coughs and colds in toddlers. In addition, for relevant institutions, strengthening community-based programs is expected to continue supporting empowerment initiatives, particularly for mothers with young children, as a strategic effort to sustainably

reduce the prevalence of coughs and colds in toddlers in Indonesia.

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