



# INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

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## The Effect of Cold Cough Massage on Cold Cough Healing Time in Toddlers

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### ABSTRACT

**Background:** ISPA ranks first as a disease suffered by children under five in Indonesia and is the highest reason for coming to health facilities such as hospitals or health centers to get treatment. This condition can start with non-pneumonia complaints such as coughing up a cold. One of the signs and symptoms of pneumonia in infants is a cough and runny nose. Cold cough is a primary infection of the nasopharynx and nose that often affects infants and children. Efforts to cure coughs and colds apart from drugs are massage therapy for colds and coughs with acupressure. This cold cough massage has never been done at the Pandanaran Health Center. This study aims to determine the effect of cold cough massage with acupressure on the healing time of cold cough in toddlers.

**Methods:** This research was conducted using a quantitative design with a quasi-experimental design and a non-equivalent control group post-test only design. The population of this study were children aged 12-59 months who had a common cold and were treated at the Pandanaran Health Center in Semarang, which were collected between April 28 and June 13, 2022, as many as 30 respondents. The participants were divided into two groups, namely the experimental group who were given therapy at the puskesmas (paracetamol, CTM, dexamethasone, and Vitamin B Complex) and cold cough massage with acupressure, and the control group who were given therapy from the puskesmas (paracetamol, CTM, dexamethasone, and vitamins B complex) without cold cough massage with acupressure. Observation of the duration of healing cold coughs in toddlers is carried out within 6 days after the cold cough massage with acupressure once a day for 3 consecutive days. **Results:** Mann-Whitney test results showed a significant difference between the healing time of the group with cold cough massage and without cold cough massage ( $p=0.005$ ;  $p<0.05$ ). **Conclusion:** A cold cough massage was found to speed up the healing time for a cold cough than without a cold cough massage. These findings can be applied in clinical practice to speed up the healing time for cold coughs so that the number of sick toddler visits due to ARI to the puskesmas can be reduced.

**Keyword:** Cold Cough Massage, Day Length



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## INTRODUCTION

Acute Respiratory Infection (ARI) is an acute infection involving the upper and lower respiratory tract which can cause a variety of illnesses from mild to severe infections. This disease can attack the respiratory tract from the nose to the alveoli including the adnexa such as sinuses, ear cavities, pleura. ARI is included in the Air Bone Disease, which transmits the disease through the air (RI Ministry of Health, 2021). ISPA defined as an acute respiratory disease caused by an infectious agent transmitted from human to human. Symptoms usually appear quickly, within a few hours to several days. Symptoms include fever, cough, and often sore throat, coryza (runny nose), shortness of breath, wheezing or difficulty breathing. ARI is a health problem that is still a global concern today. Reporting from its official website, WHO stated that as many as 5.3 million children under five years died and 740,180 (14%) Some of them are caused by pneumonia which is one of the manifestations of ARI (WHO, 2021)

ISPA ranks first as a disease suffered by children under five in Indonesia and is the highest reason for coming to health facilities such as homes hospital or puskesmas to get treatment (Risksedas, 2018)

Sustainable Program Development Goal's (SDG's) is a continuation of goals millenium development goals (MDGs) which ended in 2015. According to the Indonesian Ministry of Health in the SDGs program that there are efforts to achieve the national health system target (Bappenas, 2017). One of the efforts to realize the SDGs program is the third objective, namely by holding efforts to control cold cough in non-pneumonic ISPA focused on efforts to detect cases early and manage cases quickly and accurately through integrated management of

sick toddlers (IMCI) (City Health Office Semarang, 2020). Cold cough in non-pneumonic ARI that is not treated can become pneumonia, pneumonia is one of the causes of infant death (IDAI, 2008).

Cold cough is a primary infection of the nasopharynx and nose that often affects infants and children. Cold cough in toddlers tends to be more severe because the infection covers the paranasal sinuses, lower ear and nasopharynx accompanied by high fever. A cold cough is actually a Self Limited Disease which will heal by itself within 5-6 days if there is no invasion of other germs (Ngastiyah, 2005)

Efforts that can be made to minimize the risk of death caused by ARI are by carrying out the handling and prevention efforts that have been carried out government programs such as vitamin A administration programs, complete immunization programs, and the Integrated Management of Sick Toddlers (IMCI) programs that have been carried out in various puskesmas as well as the provision of health education on the management of ISPA (Ani, 2014)

There are methods that can be done to treat cough and cold, namely pharmacological and non-pharmacological methods. According to Hartono, non-pharmacological treatment of cold cough is safer to use because it does not use side effects such as drugs because non-pharmacological therapy uses physiological processes. One of them is using a cold cough massage with acupressure. (Hartono, 2012)

From the data obtained at the Pandanaran Health Center in Semarang throughout 2021, ISPA is a disease with the most visits at the Pandanaran health center reaching 5,278 sufferers consisting of 1279 toddlers and 3999 adults. Non-pneumonia ARI cases at the Pandanaran Health Center were divided into 5



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groups, namely nasopharyngitis (194), sinusitis (8), pharyngitis (1784), tonsillitis (31), Acute upper respiratory infections of multiple and unspecified sites (1738) with ICD code J06 which where are the number of cases in adults (1151), children 1-5 years (386), and in infants (143). Based on the results Preliminary study through interviews with midwives on duty at the MTBS poly (Integrated Management of Sick Toddlers) at the Pandanaran Health Center on November 27 2021, toddlers suffering from ISPA experienced coughs and colds. So far, acute respiratory infections have only been given drug therapy (paracetamol, dexamethasone, chlorfeniramine maleate and vitamin B Complex) and no cold cough massage therapy.

Based on this background, the formulation of the problem is "Is there effectiveness of cold cough massage and pharmacological therapy on the duration of cold cough in toddlers at the Pandanaran Health Center?"

## Methods

The research design used was a quasi-experimental (quasi experiment) with a non-equivalent control group post-test only design approach. The sampling technique used purposive sampling. With a sample of 30 respondents who had a cold cough. Divided into 2 groups, 15 respondents in the experimental group of cold cough massage and 15 respondents in the control group who only received therapy Pharmacology at Pandanaran Health Center. The data collection period is 28 April 2022 – 13 June 2022.

Cold cough massage intervention begins with basic massage (Full Body) then continues with

acupressure massage with Effleurage, Petrisage, Friction, Taponemen and Vibration techniques at the point LU 1 is located on the lateral side of the collarbone (clavicle), at the level between the 1st and 2nd intercostal bones, 6 cun from the Ren meridian (midline of the chest), Lu 5 is located on the radial side of the M. biceps tendon, elbow bend at the the position of the elbows bent slightly and the palms stretched upwards, BL 12 is located on the 2 lateral fingers of the vertebral column, as high as the lower border of the thorax II (between the second thoracic spinous process and the third thoracic spinous process) and BL 13 is located 1.5 cun beside the DU meridian as high as the bottom protrusion of the thoracic spine to III on the aiming body Curing a cold cough is done once a day and is carried out for 3 days, 45 minutes long for toddlers aged 12 months-59 months who are diagnosed with cold cough at the health center with a diagnosis code J06 and receive pharmacological therapy of paracetamol, dexamethasone, CTM and B Complex.

The assessment technique was carried out after the intervention was completed using observation sheets, this was carried out for 6 days from the first day of treatment at the puskesmas.

Data analysis used univariate and bivariate analysis, the results of the normality test using Shapiro Wilk obtained data that were not normally distributed, so that the reading the results of univariate analysis using the median and bivariate analysis using the man withney test.



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## Result

The effectiveness of cough and cold massage and pharmacological therapy on the length of days of cough and cold in toddlers at the Pandanaran Community Health Center.

Variabel	Median	Maksimal	Minimal	P value
Intervention	3	4	3	0,005
control	5	6	2	
Difference	2	2	1	

## Discussion

The results of the study showed that the duration of coughing colds in children under five after being given pharmacological therapy and massage therapy for coughs and colds at the Pandanaran Health Center was 3 days with a minimum value of 3 days and a maximum of 4 days. The treatment carried out in this experimental group was that the researcher gave a cold cough massage treatment 1x a day for 3 days for 45 minutes to the experimental group where the first massage was given on the first day of treatment at the health center in the respondent's house, the second massage was given on the second day of treatment, and the second massage was given on the second day of treatment. third given the third day of treatment.

The massage begins with a basic massage (Full Body) then continues with acupressure massage with Effleurage, Petrisage, Friction, Taponemen and Vibration techniques at the LU 1 point located on the lateral part of the collarbone (clavicle), as high as between the ribs (intercostal) 1 and 2, is 6 cun from the Ren meridian (midline of the chest), Lu 5 is located on the radial side of the M. biceps tendon, bend of the elbow in a position where the elbow is slightly bent and palm up is supine, BL 12 is located 2 fingers lateral to the vertebral column,

at the level of the lower border thoracic II (between the second thoracic spinous process and the third thoracic spinous process) and BL 13 are located 1.5 cun beside the DU meridian at the level below the protrusion of the thoracic vertebrae to the III on the body that aims to heal.

The results of the study obtained fast healing where in theory the cold cough would subside in 5-6 days, this is because acupressure or acupuncture without needles is a method of treatment/health by doing massage/pressing the fingers on the surface of the skin, where the massage or pressure will relieves tension, improves blood circulation and stimulates the body's energy forces to heal or heal. Acupressure is an effective method, especially for self-therapy, eliminating muscle tension and stress and reducing complaints of certain disorders (Helena, 2017).

Acupressure points are on the surface of the affected skin bioelectric sensitivity. Stimulation pressure on these points will stimulate the release of endorphins (hormones to reduce pain). As a result the pain is blocked and the flow of blood and oxygen to the area of the points is increased. This will relax (reduce tension) the muscles and promote healing. Acupressure blocks pain signals through the spinal nerves to the brain (Helena, 2017).



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The results of the study showed that the duration of coughing and colds in children under five after being given pharmacological therapy at the Pandanaran Health Center was 5 days with a minimum value of 2 days and a maximum of 6 days. Cold cough is a primary infection of the nasopharynx and nose that often affects infants and children. Cold cough in toddlers tends to be more severe because the infection covers the paranasal sinuses, lower ear and nasopharynx accompanied by high fever. A cold cough is actually a Self Limited Disease which will heal by itself within 5-6 days if there is no invasion of other germs (Ngastiyah, 2005).

Respondents in the control group were only given therapy pharmacology without massage so that it can be seen that the duration of a cold cough is 5 days longer than that given a cold cough massage and pharmacology. A cold cough is a viral infection that attacks the urinary tract upper respiratory tract (nose to throat) and causes symptoms of runny nose or congestion, cough often accompanied by fever and headache (Arifianto, 2018). Efforts that can be made to minimize the risk of death caused by ISPA disease, namely by carrying out the handling and prevention efforts that have been carried out government programs such as vitamin A administration programs, complete immunization programs, and the Integrated Management of Sick Toddlers (IMCI) programs that have been carried out in various health centers and the provision of health education on the management of ISPA (Ani, 2014).

There are methods that can be done to treat cough and cold, namely pharmacological and non-pharmacological methods. According to Hartono, non-pharmacological treatment of cold cough is safer to use because it does not use side effects such as drugs because non-

pharmacological therapy uses physiological processes. One of them is using a cold cough massage with acupressure. (Hartono, 2012)

The results of the study showed that there was a difference in the length of days of coughing and colds in toddlers massage and therapy pharmacology compared to children under five who only received pharmacological therapy at the Pandanaran Health Center. This can be seen from the difference in the days where the massage was done, the symptoms of cough, cold and fever disappeared faster than the group that did not do it (the control group). Massage gently and use movements certain drugs can stimulate the release of endorphins which cause the baby to feel comfortable and relaxed, so that it will increase the baby's immune system because it stimulates increased activity of the neurotin neurotransmitters. Increased activity of neurotransmitters will cause receptor cells to bind glucocorticoids which causes a decrease in the hormone adrenaline, so that it can increase immunoglobulin in infants/toddlers.

Acupressure massage along the Taiyin hand-lung meridians can treat cold coughs, because along the Taiyin hand-lung meridians there are points where flowing xue (blood) will be transported to the surface of the body. Where is the function of the taiyin meridian the lungs themselves are optimizing the spread of xue (blood) and distributing it throughout the body. Where during the massage a feeling sensation is created (comfortable, sore, hot, itchy, tingling, and so on). If the massage is done properly then the circulation of chi (energy) and xue (blood) becomes smooth, besides that acupressure massage can stimulate the release of the hormone endomorphine (a type of morphine hormone produced from within the body to



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provide a sense of calm). Acupressure massage that is done correctly on the points of a cold cough will make the muscles relax, including the lung organs, also become relaxed and blood distribution becomes smoother, so that oxygen demand becomes optimal and reduces excessive secretion production. This results in a decrease in cold cough. (Hartono, 2012)

This is supported by I Wayan Suardana et al (2016) in his research on the effect of acupressure therapy and changes in ISPA complaints in toddler patients at the Holistic Nursing Service Latu Husadha Abiansemal Bandung with a sample of 30 people, 15 people for the treatment group and 15 people for the control group. The results of data analysis obtained  $p = 0.000$  ( $p < 0.05$ ), which means that  $H_0$  is rejected. It was concluded that acupressure was effective in changing ISPA complaints in toddler patients at the Holistic Health Service Latu Husada Abiansemal Bandung.

## Conclusion

Long days of coughing colds in children under five after being given therapy cold cough massage and given pharmacological therapy at the Pandanaran Health Center for 3 days with a minimum value of 3 days and a maximum of 4 days. Long day of coughing colds toddlers after being given therapy pharmacology at Pandanaran Health Center 5 days with a minimum value of 2 days and a maximum of 6 days. There is a difference in the length of days of coughing and colds in toddlers who receive cold cough massage and pharmacological therapy with those who only receive pharmacological therapy at the Pandanaran Health Center with a median difference of 2 days. d. There is the effectiveness of cold cough massage and pharmacological therapy on the

length of days of cough and cold with a p value of 0.005.

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