The influences of cold compresses to pain and comfort on pre-school children who experienced the Intravenous infusion applying at Immanuel Bandung Hospital

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Abstract

Pain is a warning to the peripheral nervous system as a result of injury to the body; whereas comfort of the status of human experience is described in a measure of comfort. Non-pharmacological management in reducing pain one of them with a cold compress. It is estimated that approximately 150 million children who are hospitalized at hospitals in the United States get an intravenous infusion actions. Children's response to the actions may cause invasive anxious, and fear as a reaction to hospitalization. Implementation of cold pack has not been done by nurses in reducing hospitalization reaction child during invasive action, especially in Immanuel Bandung hospitals.

Purpose study was to determine the influence of cold compresses to pain and comfort to children who experience intravenous infusion applying. Design of research was non-equivalent control group after-only design, which used samples of 60 children in the control group and intervention. Data collection used questionnaires and instrument FLACC daisy comfort. The results of the analysis were found that there is a significant effect of cold compress on pain (p value = 0.01) and on comfort p value = 0.01. This effect was controlled by confounding variables. It is recommended for nursing services to provide a cold compress intervention as a principle of atraumatic care through the implementation of standard procedures on invasive intervention to children.

Keywords: pain, comfort, cold compresses, intravenous infusion.

Introduction

1. Background

Children are the future and young generations of a country, so that children who with their specific characteristic and attitude have significant roles to continue the future of country. Recently, Children are going to grow up and develop rapidly accordance with their growth stages in each its age (Children protection Rule, 2002).

Process that experience on children life runs continually, it consists of growth and development. In generally, genetic factor will influences a child as many as 20% and the environment will also affect their development as many as 80% so that for maintaining the sustainability of growing and developing of children, consequently the children need to give stimulations gradually accordance to their periods (Baradja, 2005). Factors that affect children's growth and developments are genetic, *neuro* endokrin factors, nutrition, disease, interpersonal relationship, social value, economy, environment affect, children stress, copying mechanism and mass media affect (Hockenberry & Wilson, 2009). Procces that its pain experience on children, it must be cared to obtain their optimal health in hospital. During their hospitalization and nursing intervention in hospital, children usually experience of fear and anxious that caused by hospitalization reaction. Hospitalization causes children experience of traumatic both short and long term (Hockenbery & Wilson, 2007).

Coyne Research (2006) in english pediatric ward about *Children's experiences of hospitalization*, It was done by semi structure interview and from 11 children were obtained that there were the fear and anxious on children toward hospital. This research describes that there are 4 categories about separation from their family and friends, on their environment where the first time they are facing it, accepting investigation and care, lost of children freedom to decide their own activites.

Salmela research (2010) Stated that more than 90 % from children who are from pre-school in Finladia stated that children feel fear toward hospitals. Most of the fear could be categorized from nursing intervention, the fear of being patient, and the fear is caused children development periods.

The proper nursing tehnique, patient accompanion, and also maintaining patient' condition, maintaining the patients' satisfaction during the care, all of that are performed to give superior service to improve the convenient and comfortable patient feel(Kolcaba, 2007). Nursing intervention done on infusion apply procedure has not already used pain reducing intervention on children whom will be applied the infusion which all the patient experience *atraumatic care after* the intervention.

The application of local cold or the heat is classical methods effective and much used for pain that is practiced in many areas medical including nursing (Fedorczyk, 1997; Palastanga, 1988; Cohn, 1989;. Lafoy & Geden, 1989 dalam Saeki, 2002).

The research was done by Ghaderi, Banakar, dan Rostami, (2012) regarding the injection of a local anesthetic is one reason the most important to the development of behavior in children to reduce perception pain child. Research naser & faharani (2009) in iraq find cooling place an injection blok nervous before granting a local anesthetic significantly relieve pain felt by patient children, This technique is more comfortable, safe, and effective. The research by ghaderi, banakar, and rostami, (2012)

Research in Indonesia is done on children aged pre-school by Sulistiyani (2009) with samples of 30 children in the control group and clusters of intervention about the influence of fomentation ice cubes to a decrease in the score pain in children aged pre-schools . The result showed there is an influence upon the decline in the score pain in children who conducted the applying of an infusion of procedure.

The measure of comfort defined as the nursing intervention which is designed to overcome a specific need the patient against the convenient covering the needs of comfortable in physiology social, financial psychology, spiritual, the environment, and intervention physical (Kolkaba & DiMarco, 2005).

The theory of comfort is an approach that is appropriate to be overcome and manage discomfort the patients for treatment. Based on observation as preliminary data conducted by researchers at hospital Immanuel Bandung on maternity clinic, nurse perform the act of applying infusion as many as 10 people children were having fear, with the face even squalling and holding hands with her mother.The act of nursing independent granting applying cold is part of the provision of intervention nursing that can be conducted on child who endured the pain. (Ria, 2014)

Methods

Design research in this research is a quasy experimental. Non equivalet control group, after only design.The population on this research is pre-school age children aged 3-6 years old. To prevent drop out when research lasting then samples of being 30 children for group of intervention and 30 children to the control group.The number of both groups are as many as 60 children.

An instrument used to gather data in this research in the form of a questionnaire and sheets of observation. To the sheet observation used to assess fear, a score of pain and comfort. Analysis of data is by analysis univariat and bivariat.

Research Result

1. Bivariate analysis

Table 1
The affects of cold compresses intervention done by family toward children pain score at Immanuel Bandung hospital in Mei - Juli tahun 2014
n = 60

Variable	Mean	SD	SE	P Value	n
Cold compresses					
a. Intervention	3,03	0,850	0,155	0,01	30
b. Control	7,00	0,830	0,152		30
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b. Control	7,00	0,830	0,152		30

Result of statistical test was found p *value score* = 0,01 mean on alpha 0.05 , it stated that there is significant affects between children pain score with cold compresses on intervention group and control group.

2. The affects Cold compresses toward the comfortable on control intervention group

Table 2
The affect of cold compresses intervention toward children comfort at at Immanuel Bandung Hospital in Mei - Juli 2014
n = 60

Variable	Mean	SD	SE	P *Value*	N
Cold Compression					
a. Intervention	3,17	0,592	0,108	0,01	30
b. Control	1,53	0,507	0,093		30

The result of statistical test was obtainned the score p *value* = 0,01, it means that alpha 0.05 stated that there is significant affect between children comfort with cold compresses on intervention and control group.

Explaination

1. Pain Score

By the experiment statistics bivariate there is significant influence between scores on children pain at a group of intervention and the control group.The provision of the act of the application of heat and cold reduce pain and promote healing (Crisp & Taylor, Ampères. 2005 in Movahedi 2006). An research result of Crisp & Ampères. ; Taylor (2005) declaring that the provision of the act of the application of heat cold reduce pain and promote healing. Besides that they were also said that the act of stimulation of the skin can be lowered perception of pain.

The application of cold considered slow down the ability of fibers pain to transmit impulses pain (ball and bindler 2003). Even though there is no agreement about the transmission theory pain, gate of the theory of control widely supported by researchers. Gate control sees sick as multidimensional leading to repairing and the progress of various interventions (Abott dan Fawler 1995).

Comfortable

The results of the test statistics obtained there is significant influence between comfort of children with the group of intervention and the control group. Research courtman, s, p, wardrugh, a, petros ' s a. j. (2003) concluded to compare the value of the index bispectral to see the level of sedation in children hospital critical by using appraisement comfort. Her research on children aged infant who are treated room pediatric ICU linear, there are positive correlation that statistically significant between the index bispectral to see sedation against comfort.

Conclusion:

1. There is significant influence by p value 0.01 on p value < 0.05 between the cold pack on the pain for child who carried out the applying of an infusion of intravenous on intervention and control group.
2. There is significant influence by p value 0.01 on p value <0.05 between the cold pack on the comfort for child who carried out the appliying of an infusion of ontravenous on intervention and control group.

Suggestion

1. Nursing service

Nurses in the maternity ward or clinic need socialized concerning the benefit cold pack through training and this seminar on granting cold pack, and granting compress warm on children have fever experience and cold compresses on children done intravenous infusion applying

2. Nursing Sciences

Hold the manufacture of books and references about intervention atraumatic care on children based on *evidence based.*

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