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Trial of IMCI Algorithm in Disease Detection Card in Suku Anak Dalam in Batanghari District, Jambi

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Article Info

Abstract

Integrated Management of Childhood Illness (IMCI) is one of management strategies for sick toddlers, in the form of curative and preventive efforts in order to overcome the toddler's health problems in the Suku Anak Dalam (SAD) in Jambi Province. The study uses a quasy experiment design. The research sample consisted of 11 parents of toddlers (1-5 years old) Tribe of Children in the Village of Hajran, Batin XXIV Sub-District, Batanghari District, Jambi. Statistical analysis with the significance level of the test p is < 0.05. The results of the study revealed that the detection card for 1-5 year old children is a valid instrument (coeff: 0,564-0,814) and reliable (coeff: 0,765) in detecting the symptoms of the disease. Based on the analysis of paired samples T test it is known that there is a difference in knowledge before (Mean = 6.45) with after (Mean = 10.18) treatment, thus there is a significant influence (Mean = 3.73. t Test= 5.632, pValue= 0.000) knowledge of parents. The study concluded that the detection card for diseases of infants is a valid and reliable instrument, and there was a significant effect of treatment with the IMCI algorithm.

Introduction

The mortality children under five years old age (toodlers) rate in world is still quite high, each year 6.6 million children under five years age died, 18,000 died almost every day. Most of children under five years age deaths are in developing countries, more than half of it due to acute respiratory tract infections (pneumonia), diarrhoea, measles, malaria, and HIV/AIDS. In addition, malnutrition (54%) was a major factor of all the deaths of child. Globally, in the year 2020 these diseases will contribution main causes death of children in the world. Thus, efforts are constantly made to control it with integrated management strategies for sick toddlers (Alkema et al., 2014).

Although there is an increase in programmes to addressing the problem of disease, the number of mortality and morbidity still remain high, a variety of innovative ways to reduce mortality and morbidity rate in children starting from pregnancy continue to be developed. The strategy of Integrated Management of Childhood Illness program include curative and preventive efforts to increase improvement in health systems, case management, and health practices by families and communities (Gera et al., 2016).

Integrated Management of Childhood Illness activities have three typical components that benefit, like improving health worker skills in corporate governance children under five years age of illness case, improve health systems, and improve practices in households and communities in home care and find efforts on the case of toddlers of sick treatment (Rakha

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et al., 2013).

According to (Kiplagat et al., 2014), Integrated Management of Childhood Illness activities is an effort aimed to lowering number of morbidity and mortality rate while enhancing quality of health services in basic health outpatient units such as community health centers.

Most disease in toddlers can be done corporate governance with integrated management toddlers of sick program activities is a disease that is the leading cause of death such as pneumonia, diarrhea, malaria, measles and conditions in add by nutritional problems (malnutrition and anemia). Integrated management toddlers of sick program approach steps is to use simple algorithms used by nurses and midwives in order to overcome the problem of pain in toddlers. Integrated management of toddlers who is sick is a cost effective interventions to address mortality children under five years age problems caused by acute respiratory tract infections, diarrhoea, measles, malaria, and malnutrition which is often a combination of these circumstances (Firdaus et al., 2013) .

Acute respiratory tract infections themselves had dubbed as main killer of infant mortality as well as toddlers in Indonesia (Hidayati, 2011). According data Batanghari of District Health Office acute respiratory tract infection is most disease in 10 of biggest disease in toddlers. A case of pneumonia on toddlers was recorded as much as 24.61% in 2016, and ever experienced extraordinary occurrence of measles in 2012.

One of work areas in Durian Luncuk for Public health center is Batin village. Most of inhabitants are isolated tribes in Jambi province in name Suku Anak Dalam (SAD) or Kubu people or Rimba people. In 2016, the data recorded in Batin Subdistrict as much as 70 household, most types of diseases that plagued by Kubu people such as coughing, diarrhea, malaria and malnutrition.

Different types of disease in toddlers can be prevented by implementing one of government's programs in coping diseases at toddlers with integrated management of toddlers of illness programme. These activities include assessment, classification, and actions including advice to mothers in form of counselling and follow-up, so that does not occur in morbidity and mortality on toddlers (Gera et al., 2016).

Based on above problems then researchers interested in conducting research with title research Algorithms Tests at Integrated Management of toddlers of illness programme with Disease Detection cards on toddlers at Suku Anak Dalam at Hajran Village Batanghari sub district Jambi province.

Methods

This research is analytical research with quasy experiment two group pre and post test design Aiming research to find out influence Algorithms Tests at Integrated Management of toddlers of illness programme with Disease Detection cards on toddlers for Suku Anak Dalam at Hajran Village Batin XXIV sub district Batanghari district Jambi province. The research was carried out on Suku Anak Dalam at Hajran Village Batin XXIV sub district Batanghari district Jambi province Jambi province starting from March until October 2018.

The population in this study are parents of toddlers who are in Suku Anak Dalam (SAD) group Desa Hajran working area Durian Luncuk community health center Batin XXIV sub district Batanghari district Jambi province. Number of population is 11 people. Number of samples is 11 people. Samples are taken with total population.

Instruments used on this research are integrated management of toddlers of sick format and knowledge Questionnaire of integrated management of toddlers of illness program developed by Ministry of health of Indonesia as well as Disease Detection Cards on children under five years age (IMCI Algorithm), Detection of disease in Suku Anak Dalam (SAD) children under five years age, developed by researcher. The result showed validity coefficiet in range 0,564-0,814 and reliability coefficient with cronbach alpha method is 0,765.

Results and Discussion

The characteristics of subject shows that proportions of sex women subject more than men subject that is 7 people (63.63%), where as the characteristics of age, weight and height of subject in outline presented in following table

Table 1. Characteristics of respondents according to age, weight and Height
(N Total = 384 subject)

	Subject characteristics	Min	Max	Mean ± Up to
1	Age (years)	3	5	3.91 ± 0.83
2	Weight (kg)	12	18	12.86 ± 2.67
3	Height (cm)	70	100	82.27 ± 11.94

Source: Primary Data, 2018

Table 2. Knowledge of Parents Test results before (Pre-test) and after (Post-test) treatment

		Pre-test Knowledge	Post-test Knowledge
N	Valid	11	11
	Missing	0	0
Mean		6.45	10.18
Median		7.00	10.00
Mode		5	8
Std. Deviation		1.809	2.228
Minimum		3	7
Maximum		9	14

Source: Primary Data, 2018

1. Frequency distribution score Pre-test class experiments can be seen from following table 2.

The results of calculations with statistical analysis software note that the average score of knowledge after more increased (3.73 ± 2.23), this data shows that there is a difference between increasing parents knowledge towards early detection of illness experienced by their children.

Testing prerequisites analysis is done before performing data analysis. Prerequisites which are used in this research is homogeneity and normality test. Analysis prerequisite test results are presented in following: Normality data test results note that data pre-test and post-test results of knowledge has value sig > 0.05, it can be concluded that group data normal distribution. Test results presented in following table 3.

Table 3. Normality Test Summary

No	Knowledge	Sig.	Conclusion
1.	Pre-test	0,466	Normal
2.	Post-test	0,788	Normal

Results of homogeneity test research variables known value F of 0.588 significantly 0.452. From results of calculation of significant knowledge data (pre-test or post-test) is greater than 0.05 (sig>0.05), then it can be inferred that data in this study have a variance homogeneity. The results of analysis presented in following table 4.

Table 4. A Summary of Homogeneity Test

Variable	F	Sig.	Conclusion
Knowledge [Pre-test & Post-test]	0.588	0.452	Homogeneous

The t-test analysis before and after treatment aims to find out whether there is an increase in score. Conclusion the study revealed significant when t calculate > t tables at 5% significance level and value of $p < 0.05$. As for the summary of test t pre-test and post-test experimental class shown in following table 5.

Table 5. The paired t test results summary Pre-test with Post-test

Experiment	Mean	t	p value
Pre-test	6.45	5.632	0.000
Post-test	10.18		

Based on the results of t-test known average pre-test of 6.45 at time of post-test increase to 10.18, making its increase of 3.73. Furthermore based on a test t obtained t count of 5.632 significance with 0.000. The value of t $_{table}$ pada (df : n-k) = 10, with 5% significance level is 2.228. So value t calculate > t tables (5,632 > 2,228) and their significance value less than 0.05 (p = 0.000 < 0.05). From the data above, it can be concluded that an increase of 3.73 or there is increased significantly on the score of knowledge of respondents.

In Indonesia many areas that are hard to reach by regular medical services basic such as mountainous regions, inland and swamps, small islands, a cluster of Islands and coastal areas, border areas (Siska, 2018). Other obstacles due to condition availability of public transportation and a routine that is used both by land, sea or air (only 1 time a week), travel time round trip takes more than 6 hours, only available transportation that existed at any time and no public transportation available. This difficult areas there may be facilities health service but without professionals resource and infrastructure is very minimal or indeed location is very far from population (Davy et al., 2016)can be complex. This framework synthesis aimed to identify issues that hindered Indigenous peoples from accessing primary health care and then explore how, if at all, these were addressed by Indigenous health care services. Methods: To be included in this framework synthesis papers must have presented findings focused on access to (factors relating to Indigenous peoples, their families and their communities.

The problem of disparity is meant one of which is experienced by Remote Indigenous Communities (KAT) or previously known as the Isolated Tribes and Isolated Communities in Jambi Province known as Suku Anak Dalam (SAD). The problems experienced by SAD residents are inherent and identical to the Remote Indigenous Communities criteria or characteristics, are complex and multidimensional so that efforts need to be empowered comprehensively, holistically, integrally, and institutionalized (continuously) both by the government, business world and components of civil society.

It is limited access to social, economic and health services. As a logical consequence of remoteness, access to various socio-economic and health services available at the location or around the location is either non-existent or very limited, making it difficult for KAT residents to obtain it in order to improve their quality of life. Examination of health status in SAD is very necessary to be carried out on all age groups, especially toddlers, in order to detect health status and morbidity by implementing several health programs, one of which is to detect comprehensive and quality morbidity events through integrated management of sick toddlers (IMCI).

Organizing an integrated management of sick toddlers programme community based aims to improve access toddlers of illness programme service at community level in difficult access areas to health services. The difficult access area in question is community groups that do not get a sustainable healthcare resources, community groups with constraints of socio-cultural and community groups by geographical, transport and season constraints (Titaley et al., 2014).

Organization of health services with an integrated management toddlers of illness programme approach to community-based are applied to difficult areas access in the district/city (Pradhan et al., 2013)despite being in the late implementation phase of the strategy, continues to report high under-five mortality due to pneumonia, diarrhea, measles, and malnutrition - the main targets of the strategy. Objective: The study determines the factors influencing IMCI implementation at public-sector primary health care (PHC. With the focus of activities for health promotion behavior to search aid health, toddlers of home care and training to community members (Harerimana et al., 2014). In some parts of Indonesia number of health care personnel resources are still limited and its uneven, a comparison between the basic health care facilities with a number of health workers is still not appropriate, this led to health service cannot run continuously. Many areas that have not been estimated the operational costs as well as provision of sufficient logistics to be able to support basic health services for children and mothers are

routinely.

The implementation of IMCI in Durian Luncuk public health center in dealing with sick children still uses the conventional method so that all patients who come are treated in general regardless of their status. The clerk revealed that there was no time to use the MTBS form because there were many patients and activities that needed to be handled. If using the MTBS form, the time spent serving patients will not be enough, because 1 patient requires about 10-15 minutes. Thus the officer said that as much as possible implemented in accordance with the IMCI procedures.

In addition to this, various constraints include the limited number of personnel trained by IMCI, the transfer of trained personnel, incomplete supporting facilities and infrastructure, challenges in the location of work areas that are very far apart and in remote areas and include providing special services to remote indigenous communities namely Suku Anak Dalam (SAD) whose locations are deep in the forest. Providing services to children under five years old SAD routinely has been carried out for 3 months to join with other program health services, so that the application of IMCI procedures has not been done completely and correctly.

Based on these problems the researchers developed the MTBS algorithm format from the form of media images that are identical to the symptoms or special signs of disease problems experienced by SAD of infants with the name Disease Detection Card. The instrument is deemed relevant by the author, the instrument test results are known to be quite valid and reliable instrument. This instrument was developed bearing in mind the limitations of the ability to disclose the signs and symptoms of disease by SAD residents due to primitive language and cultural barriers and other common obstacles namely education, knowledge, information about health and disease.

The results showed have difference in knowledge of respondent before and after treatment with a mean average: 3.73. Thus the given treatment Disease Detection Cards on toddlers (1-5) are very influential towards knowledge of parents against symptoms of

disease in order to early detection of diseases. This research is not in line with other studies suggesting that there is no meaningful relationship between the variables were tested by behavior of officers in implementation of an integrated management children under five years age sick programme. Knowledge is basis for formation of one's actions. The existence of variation knowledge indicates knowledge of someone affected by a variety of factors among other levels of education, information, culture, experience and social economy. The lack of a relationship between knowledge with the implementation of integrated management children under five years age sick programme due to knowledge does not always change the mindset of person's behavior (Dalglish, 2018).

The use of media can also be used as an effort to increase the knowledge and awareness of individuals and the public about health problems and changes in healthy behavior (Boles et al., 2014). Another alternative that can be done in assessing the health status of children under five can be used with the method of using image media that facilitates increased knowledge and is able to interpret signs of a person's illness which is limited by language and cognitive abilities (Islami, 2018).

The results of other studies suggests that implementation of an integrated management of toddlers of illness programme can give impact to the level of children under five years age health, due to early parents can recognize early symptoms of onset disease. Application of integrated management of toddlers of illness programme strategy can be used as a way to make a concerted effort to prevention and disease control (Shewade et al., 2013; Odotei Adjei, 2013).

The results showed that communication factor, resources, predisposing and bureaucratic structure affects implementation of integrated management toddlers of illness programme in public health centre. The officer who served toddlers sick not yet support successful achievement of objectives integrated management children under five years age sick programme because not all officers get integrated management toddlers of illness programme training, number of officers who are not proportional to number of toddlers

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of illness visit. All health officers integrated management children under five years age sick programme had a positive attitude to support integrated management of toddlers of illness programme though already available Standard Operational Procedures (SOP) but not all officers to use them in service of integrated management of toddlers of illness program. The construction of health service is not done routinely, supervision are still common and no follow-up given (Firdaus et al., 2013).

Community groups with socio-cultural barriers and socioeconomic and sosiokultural constraints causing parents to be less knowledgeable about health services especially for of toddlers (Zulaikha et al., 2018). On community groups who live sedentary on this group much needed cross-sector engagement, anthropologist, community organizations, public figures including religious figures and customs in order to approach, education and dissemination of information about health services (Sagrim et al., 2015).

The limited knowledge of a person will have an impact on the lack of understanding of the information conveyed, the solution to good communication between health workers and *Suku Anak Dalam* (SAD) has great potential in helping patients to regulate emotions, improve understanding of medical information, perceptions and expectations, build a sense of trust the health workers who handle it so that they will comply with all suggestions and advice. But it is not easy for health workers to extract information from SAD. It is necessary to create a good relationship between the two parties to achieve success in the treatment of patients. Communication is one of the competencies that doctors must have (Kusuma, 2013).

Some communication problems in the health sector that often surface, are more due to lack of understanding of communication by both parties, both officers and the public. It is ironic that in the midst of technological and medical developments today the Indonesian people are actually still very backward in terms of health. This is reflected in the behavior of the people who, because of their ignorance, surrendered their full fate to health workers, so they often become victims of malpractice, or even act ignorant and seek shortcuts by treating

themselves (Hutagaol, E. E & Agustin, 2012).

Suku Anak Dalam is a remote traditional community that has a culture and habits that they have followed for generations, local wisdom towards the statement that illness and treatment all originate from nature, traditional medicine and belief in gods. Therefore, the change in health behavior that will be carried out requires an understanding of the importance of cultural aspects, because society and human culture everywhere are always in a state of change, including those with primitive culture that are isolated from community relations outside their own location. Changes that occur in primitive cultures occur because of causes that originate from within the community and the culture itself (Samovar et al., 2014).

According to Samovar et al, (2014) often a lot of people get informal learning that is sometimes difficult to recognize, usually occurs through interaction, observation, and imitation. Informal learning often occurs in daily life through interactions in family, friends, and the community. Likewise in the context of learning the tradition of treatment and disease. The next generation of the community of *Suku Anak Dalam* will learn through interaction, observation, and imitation, namely how parents follow changes in health behavior in everyday life is important. In the end the next generation of the community of *Suku Anak Dalam* imitates what their parents have done.

Thus changes in healthy behavior, prevention, early detection of disease events in SAD is something that is very comprehensive and sustainable with the principle of community empowerment about health. These things are influenced by several interrelated aspects of one another including knowledge, information and understanding of health, culture and communication through an instrument in the form of simple and attractive visual media so that the application of health services can be adopted, and in the context of achieving the purpose of fostering the welfare of isolated indigenous communities is to empower remote indigenous communities in all aspects of life and livelihood so that they can live naturally, physically, spiritually and socially so that they can play an active role in development, the implementation of which is carried out with

due regard to local customs.

Conclusion

The algorithm implementation of integrated management of toddlers of illness programme for *Suku Anak Dalam* (SAD) or Kubu people or Rimba people in Hajran village Batin XXIV sub-district Batanghari district Jambi Province can run well marked with Disease Detection Card instrument on of toddlers very valid and reliability. There is influence of the treatment card early detection of disease in of toddlers (integrated management of of toddlers of illness programme algorithms) to knowledge of *Suku Anak Dalam* (SAD) parents in Hajran village Batin XXIV sub-district Batanghari district Jambi Province. To a later date in order to be alert (early detection) when their children is experiencing symptoms of certain diseases.

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