

MJN THE EFFECT OF READING MATERNAL AND CHILD HEALTH'S HANDBOOK CAMPAIGN AT POSYANDU(CHILD HEALTH POST) IN PEKANBARU, INDONESIA

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ABSTRACT

The study is aimed to assess the effect of reading the maternal and child health's (MCH) handbook campaign to increase the understanding of mothers regarding the illness of children under the age of five and their care at home. Quasi-experimental approach with nonequivalent control group was chosen as a study design on 60 mothers who have children under the age of five in four Posyandu (Child Health Post), Pekanbaru. The sample was divided into intervention groups (n=30) and control groups (n=30), using purposive sampling techniques. Analysis of the data used was Mann Whitney test. The results showed that the majority of mothers in the intervention group had higher knowledge level about the care of sick children under the age of five at home (70.0%), compared to the mothers in the control group (23.3%). There was significant differences in the knowledge level between intervention and control group ($p < 0.05$). Respondents who got guidance through these activities assess the implementation of these activities. According to them 63.3% were very good and 96.7% of them assess these activities as very useful. All of the mothers told that their knowledge increased regarding the care of sick children under the age of five at home and the respondents suggested that this activity should be continued. It is important to expand this activity to another Posyandu in order to increase mother's knowledge and good behavior for proper care of children under the age of five at home.

Keywords: *Maternal and child health's handbook, mother's knowledge, children under the age of five, child care at home.*

INTRODUCTION

The mortality rate of children under five is an indicator reflecting the country health status, quality of health care system and socioeconomic development. Every year more than 10 million children under five in developing countries die because of some illnesses. Almost 6.9 million children in worldwide die annually before their fifth birthday, nearly 19 000 die every day. Leading causes of death among under-five children are preterm birth complications, pneumonia, birth asphyxia, diarrhoea and malaria. About 45% of all child deaths are linked to malnutrition (Murray and Lopez, 1996). Ironically, more than half of these early child deaths are due to conditions that could be prevented or treated with access to simple and affordable interventions.

Overall, substantial progress has been made by Indonesia towards achieving Millennium Development Goals (MDGS) target 4. Since 1990, under-five mortality rate worldwide has dropped from 90 deaths per 1000 live births in 1990 to 46 in 2013. But the rate of this reduction in mortality rate among under-five children is still high to reach the MDGS 4 target of a two-thirds reduction of 1990 mortality levels by the year 2015. As Indonesia has committed to reduce the Infant Mortality Rate (IMR) to 23 per 1,000 live births and child mortality tends to be 32 per 1,000 live births in 2015 (United Nations 2013). In actual fact, the Indonesia government has designed the child survival program as an effort to reduce IMR since 1985. One of the strategy is providing an integrated maternal and

children health service management approach within the child health system, including hospital, health centres, and also at community and family level by using an Maternal and Child Health (MCH) Handbook or KIA handbook. The aim of this strategy is to educate with respect to guidance in community and family to manage appropriately and seek care including preventive services and to help practice home care (JICA-Indonesia, 2005). The MCH handbook has been introduced and distributed in all of Indonesia's provinces since December 2002.

According to government's opinion, the MCH handbook is very useful for mothers who have children because of all the above activities and the book also contains information regarding child care at home. Through MCH handbook, mothers can learn all aspects related to child health in-depth. Indeed the previous study found that utilization of the MCH handbook has potential impact to improve maternal knowledge and increase the utilization of maternal health services. In this regard to achieve maximum benefits, the handbook should be actively used by both mothers and health workers (Kusumayati & Nakamura, 2007). The government efforts are expected to be implemented not only among health workers but also among Posyandu health layworkers in the community for health promotion and disease prevention. In other words, the community health centres rely on Posyandu as child health posts in the community, employed there as health volunteers. These posts provide growth monitoring, nutritional counselling, health education and immunization services (Trisnantoro *et al.*, 2010).

However, based on the results of observations from Posyandu activity, there are some mothers who do not have access to the MCH handbook. Moreover almost all mothers who were given the MCH handbook said they did not know about the contents of MCH handbooks, and some of them told that they rarely to look into the content of the MCH handbook. Many mothers are unaware of taking care of some illness like cough, cold, fever, and diarrhea in case of children under the age of five. Furthermore, eventhough posyandu layworkers were given training but Posyandu layworkers do not provide health education to mothers regarding the use of MCH's handbook in Posyandu. Consequently, the health care procedures for mothers from pregnancy time up to the care of children under the age of five have yet to be known with certainty by the mothers. Furthermore, the utilization of

MCH 's handbook by mothers to reduce the rate of morbidity and mortality among children under the age of five is still insufficient.

The purpose of this study was to assess the effectiveness of reading MCH handbook campaign as an important program in Posyandu to improve the mother's knowledge about the care of children under the age of five at their home.

METHODS

Samples

The quasi-experimental with non equivalent control group was used in this study. Samples were taken by using purposive sampling techniques. As many as 60 mothers from four Posyandu were chosen as the study group. Then, thirty mothers from two (2) Posyandu was randomly chosen as intervention group and thirty mothers from two other Posyandu was chosen as a control group. The respondents in this study were mothers who come to posyandu with their children under the age of five and who agreed to participate in this study.

Data collection

Data collection tool was a questionnaire used to determine the characteristic of respondent, the mother's knowledge to care for children under the age of five with diseases like cough, cold, fever and diarrhea based on MCH handbook. After that their feedback was taken from respondent (only for intervention group) on both group. The respondent should fill the questionnaire without any assistance without opening the book. The closed questionnaire was designed by ascertaining point 1 if the answer was true and point 0 if wrong was answer. Specifically, for intervention group, the data was collected after respondents finished reading the MCH handbook for 10 minutes with guidance from posyandu layworkers.

Data Analysis

Characteristic of respondent including, mother's age, education, number of children and child health status were represented by univariate analysis using distribution frequency. Analysis of the data was done by Mann Whitney test as a non parametric test with 95% confidence level to determine the difference in average knowledge between mothers who were guided after reading 10 minutes of MCH handbook (intervention group) to the group of mothers who were not exposed to the MCH handbook (control group).

RESULTS

The characteristics variables of age, education level, number of children and health child status of mothers between intervention and control group are presented in table 1. The study found that most of the respondents were in the productive age, the majority of them had secondary education level (junior and senior high school), most of respondent only have one child and more than half of their under five children have some diseases in the last 3 months like cough, cold and fever. It was also found that intervention group had less incidence of disease in their children than control group as evident from table 1.

Table 1. The distribution frequency of respondent characteristics (n=60)

Respondent Characteristics	Intervention group (n=30)		Control group (n=30)	
	F	%	F	%
1. Mother's Age				
- Under 35 y.o	22	73.3	24	80.0
- Over 35 y.o	38	26.7	36	20.0
2. Mother's education				
- Elementary School	4	13.3	4	13.3
- Junior&High School	23	76.7	21	70.0
- University	3	10.0	5	16.7
3. Number of Children				
- 1 child	22	73.3	28	93.3
- 2 children	7	23.3	2	6.7
- 3 children	1	3.3	0	0
4. Child health status				
- Good	10	33.3	8	27.7
- Sickness ^a	20	66.7	22	73.3

a: Child disease within 3 months later like cough, cold, fever and Diarrhea

Table 2 below indicated that the mothers in the intervention group had higher knowledge level in caring of children under the age of five at home (70.0%), than mothers in the control group with only 23.3%. The classification in knowledge level among mothers caring for children at home after reading MCH handbook activity in Posyandu showed that MCH handbook was crucial as guidance book for mothers who have children under the age of five. But at the same time proper guidance from Posyandu layworkers towards mothers is necessary for proper care of the infants under five years of age.

Table 2. Frequency distribution of maternal knowledge between the intervention and control groups on child care at home (n=60)

Mother's Knowledge	Intervention		Control	
	F	(%)	F	(%)
High	21	70.0	7	23.3
Low	9	30.0	23	76.7
Total	30	100	30	100

Based on statistical analysis result on table 3, the average knowledge of mothers in intervention group was 8.93 ± 0.91 while the average knowledge of mothers in the control group was 7.57 ± 1.38 . The Difference in mean values between intervention and control groups was 1.36, with p value 0.000. There were significant differences in the average knowledge of mothers about infant care at home who were under proper guidance compared to the mother who is not guided by posyandu layworkers using MCH handbooks in posyandu activities.

Table 3. The Mean score of mother's knowledge about child care in the home between the intervention and control groups (n=60)

Variable	Mean	SD	SE	P value	N
Reading MCH Handbook					
- Intervention	8.93	0.91	0.77	0.000	30
- Control	7.57	1.38	0.25		30

We also collected the information about respondent's opinion by filling up the questionnaire about their feedback responds. Table 4 represent about activity and feed back of the intervention group.

Table 4. Frequency distribution of feed back responds on the intervention groups about reading MCH handbook (n=30)

Feed Back Items		Frequency	Percentage (%)
1.	Activity process		
	- Very good	19	63.3
	- Good	10	46.7
	- Enough	1	3.3
2.	Activity function		
	- Excellent	29	96.7
	- Good	1	3.3
3.	Improving knowledge		
	- Yes	30	100.0
	- No	0	0
4.	Countinuitas activity		
	- Yes	30	100.0
	- No	0	0
5.	Suggestion		
	- No comment	23	76.7
	- Additional handbook number	5	16.7
	- Additional material in handbook	2	6.6

From the table above, it is evident that most of mothers assess that the implementation of these activities 63.3% were very good and 46.7% were good, 93.3% of them appreciate these campaign as very useful, and 100% of mothers said that their knowledge to care for children under the age of five have improved. One hundred percent mothers hope that these activities should be continue. However, about 73.3% of them had

no suggestion about future course of work. These data revealed that the respondents had positive response and also suggested that the intervention was very useful for the mothers with children under the age of five.

DISCUSSION

The concept of maternal and child health (MCH) handbook was developed from Japan for the improvement of mother and child health. This handbook was intended as a community empowerment tool for every family so that they get enough information to solve their health problems within family (Lee *et al.*, 2007). This book is designed not only for recording maternal and child health basic services required from pregnancy until having children under the age of five but also MCH handbook serves to educate the mothers. The book contains important information for the family to understand the health status of mothers and children under the age of five better. Although MCH handbook has been introduced by government in 1993 and distributed to 33 provinces in 2002 (Ogawa, *et al.*, 2009) but mother's knowledge regarding care of children under the age of five at home were still low.

Previous studies demonstrated that there was no significant correlation between educational and informational function of MCH handbook with mother's and child's health knowledge. But in case of efficient mothers knowledge about themselves and their child's health increased when the quality of the MCH handbook was improved along with the proper utilization of MCH (Sistiarani, Gamelia and Hariyadi, 2014). Even the presence of the MCH handbook was no guarantee that it would increase mother's knowledge. In this regard the health education program is necessary for better understanding of the ways of child care at home. The activities of reading MCH handbooks at posyandu for proper health education pattern is required to help mothers to learn the various ways of child care ranging from prevention to treatment of the diseases occurrence in a child. Reading MCH handbook can improve mother's knowledge to take care of children under the age of five. The result of this study showed that the good mother's knowledge regarding child care under the age of five in the intervention group were three times more than the control group. It was showed that reading the MCH's handbook campaign as health education programme and use of MCH's handbook in the media to increase maternal education is a good approach to increase mother's knowledge.

Through the health education program and subsequent guide by posyandu layworkes or health workers, the mothers were given the opportunity to study the content of handbook that they did not understand well. It is said that the full benefits of the MCH handbook can only be achieved if supported by the health care system under the health education program. The appropriate knowledge of the Posyandu layworkers can be utilized more if MCH handbook is used as a medium for health education (Sistiarani, *et al.*, 2013). There were significant difference of mother's knowledge after the guidance of posyandu layworkers in respect to health education with other group in this study (p value <0.001).

Furthermore health education not only can increase mother's knowledge but also can improve mother's health behavior (Tamrakar and Nagaseshamma, 2014; El-mohandes *et al.*, 2015). Even though this study did not directly demonstrated the correlation between mother's knowledge with the health status of children under the age of five, but the number of children having disease in the intervention group were fewer than the control group. It was evident that mothers try to change their behavior to prevent their children from falling sick, after participation in this posyandu program.

Utilization of MCH handbook has enhanced mother's knowledge, especially how to prevent and take care of children under the age of five. Utilization of MCH handbook can improve the knowledge and behavior of the mother so that the coverage of antenatal care (ANC) (Osaki *et al.*, 2009), TT imunization and family planning was increased (Kusumayati & Nakamura, 2007). Therefore it is necessary to motivate the mothers to read MCH handbook and assist mothers to understand about the contents of MCH handbook by posyandu layworkers. Actually, the handbook was used only when the mother brought their children under the age of five to the Posyandu for immunization records. Furthermore, the utilization of MCH handbook for health education activities at Posyandu will encourage communication between mothers and health care providers, which in turn will also help to improve the functioning of Posyandu.

The mothers are suggested not only have MCH handbook for good knowledge and behavior regarding child care under the age of five at home, but also to give attention, read, use it and bring it to Posyandu and other health care service centres. There was no relation

between reading MCH handbook with mother's understanding of child care (Destria, 2010). In order to increase the knowledge and behavior of the mother, MCH's handbook should be used appropriately not only by the mother but also by the health workers and posyandu layworkers as a reference in providing health education to mothers (Kusumayati & Nakamura, 2007; Hagiwara *et al.*, 2012).

As a result to improve the knowledge and behavior of the mother's health education programs is needed on longterm basis. However it is important to consider the mother's education background when implementing health education programs, especially when developing new materials and the type of health education programs (Kusumayati and Nakamura, 2007; Ahldén *et al.*, 2012). Education is an important factor in forming the behavior of people, especially the behavior of the health of mothers who have children. Several studies have shown that maternal education is closely related to aspects of knowledge and behavior of the mother (Nuraini & Parker, 2005; Fabian *et al.*, 2004). Low education status have limited ability to understand health messages given. This is certainly going to affect the mother's behavior in health care for under five children. Beside education, it is also helpful for mothers with more children to consider and give more attention because they lack the time to give enough attention for each of the siblings (Atiyeh & El-Mohandes, 2005).

In this study feedback was obtained from 100% and all of them concluded that this activity should be continued and all of mothers said the event was very useful to improve the knowledge and understanding of mothers. Ogawa, *et al.*, (2009) gave similar recommendation that it is important to conduct health education to improve

the understanding of mother about MCH handbook. Health education must be well prepared and organized to achieve mother's satisfaction which is similar to other study result (Spinelli *et al.*, 2003).

CONCLUSION

This research found that the intervention method related to the reading of the MCH handbook has given effect to higher knowledge level among mothers about the care of sick children under the age of five at home (70.0% of intervention group) compared to the mothers in the control group (23.3%) and statistically, there was significant differences with respect to the knowledge level (p value 0.000). All the mothers who recieved guidance through this activities assess that the implementation of this intervention were very good (63.3%). Almost all mothers assess the activities very useful (96.7%), all mothers agreed that their knowledge about the care of sick children under the age five at home increased, and 100% respondents suggested that this activity must be continued by posyandu layworkers. It is important to expand this activity to another Posyandu in order to increase mother's knowledge and spread the information regarding the good behavior related to care of children under the age of five at home.

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