Effectiveness of Counseling Using MCH Handbook 2017ed to The Knowledge and Attitudes of Mothers About Monitoring Toddler Growth

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ABSTRACT
Maternal and Child Health Handbook (MCH) is a book that integrates with maternal and child health reporting, has been introduced in Indonesia since 1993. Efforts to optimize child growth, midwives use the 2017 edition of MCH Handbooks for counseling. The MCH Handbook contains early detection information for infant growth, toddlers through the Z score growth Chart height-for-age, and weight-for-height to prevent stunting and to waste in children. The research aims to determine the effectiveness of the counseling using the MCH Handbook 2017 edition of the Book of knowledge and attitudes of mothers on the growth monitoring of toddlers. Research quasi-experiment with pre-test-post test control group design. Sampling techniques randomized assignment in the working area of Tambora District Puskesmas. Data analyzed using the Wilcoxon test, independent T-test, and Mann Whitney Test. There is a meaningful difference in the average knowledge score (P = 0,0001) and the attitude (P = 0,0001) of the mother on the measurement of the post-test-pre test between the treatment group and the control group. There is a higher score difference for the knowledge and attitude of mothers given intensive counseling using the MCH Handbook edition of 2017.
Keywords: counseling, MCH Books, growth, toddler

ABSTRAK
Buku Kesehatan Ibu dan Anak (KIA) merupakan buku yang terintegrasi dengan pelaporan kesehatan ibu dan anak, telah diperkenalkan di Indonesia sejak tahun 1993. Upaya dalam mengoptimalkan tumbuh kembang anak, bidan menggunakan Buku KIA edisi 2017 untuk penyuluhan. Buku KIA berisi informasi deteksi dini pertumbuhan bayi, balita melalui growth chart Z score TB/U dan BB/TB untuk mencegah stunting dan wasting pada anak. Tujuan penelitian untuk mengetahui efektifitas penyuluhan menggunakan Buku KIA edisi tahun 2017 terhadap pengetahuan dan sikap ibu tentang pemantauan pertumbuhan balita. Penelitian quasi eksperiment dengan *pre test-post test control group design*. Teknik pengambilan sampel secara *randomized assignment* di Wilayah Kerja Puskesmas Kecamatan Tambora. Data dianalisis menggunakan *wilcoxon test, independent t test* dan *mann whitney test*. Ada perbedaan bermakna rerata skor pengetahuan (p=0,0001) dan sikap (p=0,0001) ibu pada pengukuran post test-pre test antara kelompok perlakuan dan kelompok kontrol. Ada perbedaan skor yang lebih tinggi untuk pengetahuan dan sikap ibu yang diberikan penyuluhan intensif menggunakan Buku KIA edisi tahun 2017.
Kata kunci: penyuluhan, Buku KIA, pertumbuhan, balita

INTRODUCTION

The success indicators of the development of child growth are not only seen from the increasing health status and nutrition of children, but also mental, emotional, social, and child independence. Monitoring infant growth is significant to know the presence of growth disorder (growth faltering) early. To determine the status of the growth, each month's infant weighing is indispensable. The weighing of toddlers can be done in various places such as Posyandu, Polindes, Puskesmas, or other health care services.

Based on Indonesian Health Profile in 2016, children under five years of age (infant) age 0 – 59 months according to nutritional status with height index per age (*height-for-age*), the prevalence of toddler stunting (short) increased in 2016 to 19%, compared to the Year 2015 (18.9%). Infants, according to nutritional status with weight index per body height (*weight-for-height*) in the skinny category in 2015, amounted to 8.2% and 5.3% fat category. While the year 2016 for toddlers with a skinny nutritional status of 8%, and obese toddlers amounted to 4.3%. Nutritional Status based on weight per age (weight-for-age), the year 2015 for toddlers with poor nutrition of 3.9%, nutrition-less 14.9%, and nutrition over 1.6%.

Meanwhile, in the year 2016, a bad nutrient of 3.4%, nutrition-less 11.9%, and nutrition more 1.8% (Kemenkes RI, 2017).

Indonesia Health Profile Data in 2016, in DKI Jakarta province, toddlers aged 0 – 59 months according to nutritional status with *weight-for-height* index, the percentage of infants is very thin increased to 3.5% compared to the year 2015 (3.0%). While the toddler with a fat nutritional status, raised in the year 2016 to 8.1% compared to the year 2015 (7.5%). Nutritional Status with *height-for-age* index, the prevalence of stunting infants amounted to 13.8% in 2016.

The role of midwives in improving the ability of families, especially mothers, so mothers can do growth monitoring to help optimize child health. Midwives need to provide accurate explanations through counseling on growth monitoring, the benefits of detection of growth, and the things that can interfere with the child grows. This counseling will be very beneficial for parents, so it can perform its role and function in optimizing the growth and development of children (Permenkes RI No 28, 2017). The efforts to improve the knowledge of parents, especially mothers, in enhancing the child's life, child health, nutrition, and cognitive stimulation,

is an essential effort in optimizing child growth. The use of the MCH handbook is one of the strategies of empowering the community, especially families, to maintain their health and obtain quality child health services. The MCH handbook contains information and counseling materials on children's nutrition and health, card to healthy toddler, *weight-for-height* chart, *height-for-age* chart, and head circumference chart (Sistiarani, 2014).

METHOD

Quantitative research is quasi-experiment research with pre-test-post test control group design. In this study, the study subjects were grouped into two groups i.e., treatment groups and control groups. The treatment group and control group, both conducted pre-test, post-test of measurement of knowledge and mother attitude towards monitoring toddler growth. Only treatment groups are given intensive counseling treatment using the 2017 edition of MCH handbooks. The population in this study is all mothers who have children in the Tambora district of West Jakarta. Large research samples of 66 mothers who have toddlers consist of control groups and treatment groups.

Sampling is done by a randomized assignment sampling method of a mother who has a toddler when visiting Posyandu in the Tambora sub-district by meeting the sample inclusion criteria.

This research instrument uses a questionnaire and a checklist of toddler growth monitoring with MCH handbooks. Data analyzed using the pre-test and post-test measurements in each of the treatment groups and control groups, both the knowledge and attitude variables, as they do not qualify for the data, then do not use parametric test Independent T-test. The test used is nonparametric for both groups not paired, namely the Mann Whitney test. The difference in knowledge score change and attitude between pre-test and post Test between the two groups are not matched, to the knowledge of mothers because it qualifies the data. Using the parametric test is an Independent T-Test. As for the attitude Mother, because it is not eligible for data, then using a nonparametric test is the Mann Whitney test.

RESULTS AND DISCUSSION

The study was conducted on 66 mothers who had a toddler, consisting of a control group and a treatment group.

Table 1. Differences in the knowledge of mothers in toddler growth monitoring
between Pretest and Post-test in both groups

Group	n	*Pretest* Median (minimum-maximum)	*Post-test* Median (minimum-maximum)	*p*
Treatment	33	30 (5 – 55)	90 (80 – 95)	0,0001
Control	33	35 (5 – 55)	55 (45 – 65)	0,0001
p		0,938	0,0001	

In pre-test measurements, the median treatment group (30) was lower than the control group (35). There is an increase in knowledge scores on post-test measurements; the median treatment group (90) is higher than the control group (55). Wilcoxon's different test results, pre-test, and post-test measurements on the treatment group showed that there was a difference in the knowledge of mothers in infant growth monitoring (P = 0.0001). Similarly, in the control group, there is a difference in the knowledge of mothers during pre-test and post-test measurements (P = 0.0001). Mann Whitney test results, in pre-test measurements, there is no difference in the knowledge of mothers in the monitoring of toddler growth between treatment groups and control groups (P = 0.938). While at the end of the study, post-test measurement results show that there is a meaningful difference in knowledge of mothers in the monitoring of toddler growth in treatment groups and control groups (P = 0.0001).

Table 2. The difference in changes in the average knowledge score of mothers in infant growth monitoring between the two groups (treatment group and control group)

Group	n	Mean ± SD	*p*
Treatment	33	51,97 ± 10,89	0,0001
Control	33	20,45 ± 10,85	

The average change in the maternal knowledge score on post-test-pre test measurements in the treatment group is 51.97, with the standard deviation of 10.89, while in the average control group, the maternal knowledge score is 20.45 with the standard deviation 10.85. The T-test results found that there was a meaningful difference in the average maternal knowledge score on the post-test-pre test measurement between the treatment group and the control group. The knowledge score of mothers given intensive counseling using the MCH

handbooks is significantly higher than the one not given counseling (P = 0,0001).

The study showed that there was a meaningful difference in the average of the mothers ' scores on the post-test-pre test measurement between the treatment group and the control group. The mother's knowledge score on infant growth monitoring, given intensive counseling using the latest edition of the MCH handbook year 2017, is significantly higher than those not given intensive counseling. The results of this research are similar to those done by Nurhayati, Sistiarani, and Dardjito (2014), there is increased compliance of the toddler mother in utilizing the MCH handbook edition 2002 in Posyandu Puspitasari and Posyandu Watugede after the intervention of CIE (Communication, information, and education). Increased adherence to toddler mothers also affects the increase in the knowledge of mothers in detecting the growth and development of toddlers.

Increasing the average knowledge of respondents after getting counseling in line with some previous research results. Research conducted by Pani, Masni, and Bahar (2014), suggests that there is a significant difference in average knowledge scores and attitudes between intervention groups and control groups at the time of the pretest-posttest. There is an outreach of prenatal classes plus the knowledge and attitudes of mothers, and there are differences in the knowledge and attitudes of mothers in the antenatal and prenatal courses plus. This extension uses the 2002 edition of the MCH handbook, including pregnancy, childbirth, baby care, and monitoring of infant, toddler on the card to Healthy in the MCH handbook.

Knowledge is the result of the knowledge, and this happens after people do the sensing of a particular object. The sensing occurs through the human five senses, which is the sense of sight, hearing, smell, taste, and tactile. Most of human knowledge is obtained through the eyes and ears (Notoatmodjo, 2012). MCH handbook issued by the Ministry of Health Republic of Indonesia and JICA latest edition 2017 already contains complete information from pregnancy, childbirth, the puerperium period, contraception, newborn care, immunization, and monitoring the growth and development of children from 0 to 6 years old. This MCH handbook is very communicative in providing information and education on health workers, Kader, and communities. This MCH handbook is printed with additional images, messages, and

information that are easy to understand, interesting to read, and understand by the community (MCH handbook, 2017).

Table 3. The difference in mother attitude in monitoring toddler growth between Pretest and Post-test in both groups

Group	n	*Pretest* Median (minimum-maximum)	*Post-test* Median (minimum-maximum)	*p*
Treatment	33	57 (23 – 60)	73 (70 – 76)	0,0001
Control	33	55 (43 – 60)	61 (57 – 73)	0,0001
p		0,470	0,0001	

In pre-test measurements, the median treatment group (57) was higher than the control group (55). There is an increase in attitude scores on post-test measurements; the median treatment group (73) is higher than the control group (61). Wilcoxon test results, measurement of pre-test, and post-test in the treatment group showed that there was a difference in the attitude of mothers in infant growth monitoring (P = 0.0001).

Similarly, in the control group, there is a difference in the attitude of the mother when measuring pre-test and post-test (P =

0.0001). Mann Whitney test results, in pre-test measurements, there are no differences in the mother's stance in monitoring toddler growth between treatment groups and control groups (P = 0.470). While at the end of the study, post-test measurement results showed that there was a meaningful difference in the attitude of mothers in the monitoring of toddler growth in treatment groups and control groups (P = 0.0001).

Table 4. The difference in change of average mother attitude score in monitoring toddler growth between the two groups

Group	n	Median (Minimum-Maximum)	*p*
Treatment	33	16 (12 – 53)	0,0001
Control	33	7 (1 – 18)	

Changes in the median value of the mother Attitude score on post-test-pre test measurements in the treatment group is 16, higher than the median value of the control group, which is 7. Mann Whitney's test

results found that there was a meaningful difference in the mother's attitude score on the post-test-pre test measurement between the treatment group and the control group. The mother attitude score given intensive

counseling using the MCH handbook is higher in a meaningful manner than the one not given counseling (P = 0,0001).

The study showed that there was a meaningful difference in the average maternal attitude score on the post-test-pre test measurement between the treatment group and the control group. The mother's attitude scores on monitoring toddler growth, which is given intensive counseling using the latest MCH handbook edition year 2017, is significantly higher than those that are not given intensive counseling. The results of this research are similar to those conducted by Nurhayati, Sistiarani, and Dardjito (2014), after intervention with communication, information, and education using the MCH handbook, increased compliance of infant mothers also has an impact on knowledge of mothers in detecting toddler growth. The toddler mother whose knowledge increased, her attitude and behavior are also positive in monitoring toddler growth using the KIA book.

The results of this study are similar to the research of Franchetti and Ide (2014), indicating that there is an increase in the mother's positive attitude toward monitoring of infant nutrition to prevent obesity, after being given maternal intervention and child Health (MCH) Program Handbook. This system provides the instruction to parents and caregivers to communicate to doctors or health professionals in clinics and hospitals using MCH booklet or Boshi-Techno for toddler nutritional status based on body mass index (BMI). The Japanese government provides instruction for the growth monitoring of children born up to children in kindergarten School.

The old edition MCH handbook is for pregnant women up to children aged 0 – 23 months. This MCH handbook underwent a revision until the last edition of 2017. MCH handbooks can be used as a health promotion tool to enhance the knowledge, attitudes, and behaviors of the community, especially mothers. MCH handbooks provide health education to mothers, midwives, or healthcare professionals who will work in the community. This MCH handbook can be used as a guideline for early detection of growth monitoring for infants and toddlers (Osaki, Hattori, and Kosen, 2013). This old edition of MCH handbooks is used for a maternal continuum of care, before and after childbirth. For the monitoring of child growth, this MCH handbook is used as an immunization completeness guideline, monitoring the growth with

cards towards healthy. Toddler mothers only know monitoring growth through child weight gain each month based on Card to Healthy in the old edition of MCH handbooks. Mothers do not know whether the nutritional status of this toddler is suitable for weight-for-length, or whether the child is very thin or fat. The mother also does not know if her child's height is stunting because there is no high-quality body monitoring *(height-for-age)* (Osaki, Hattori, and Kosen, 2013).

MCH handbook issued by the Ministry of Health Republic of Indonesia and JICA latest edition year 2017, already contains complete information from pregnancy, childbirth, puerperium period, contraception, newborn care, immunization, and monitoring Child's growth and development from 0 to 6 years of age. This latest edition of MCH handbooks also has a growth monitoring chart. They are making it easier to do early detection of growth deviations. This growth graph can detect early stunting (short children), wasting (skinny children) or obesity, as well as malnutrition (MCH handbooks, 2017).

Growth monitoring in this latest edition of the MCH handbook, adapted to the WHO standard in 2005 using Z-Scores measurement graphs on nutritional status and stunting status (short) in children. Graph Z-score for nutritional status based on body weight according to height *(weight-for-height)* to detect the child is very thin, thin, normal, or obese. Besides, the latest MCH handbook edition is a *height-for-age* chart, which serves to identify child growth of height measurements based on the age of the child. This graph shows whether the child is in a very short, short, normal, or high category (MCH handbook, 2017).

As a professional, midwives must exercise their competence according to the authority given to her. Based on the third midwifery competence that provides care and counseling during pregnancy, childbirth, nifas to infants, toddlers, and children. Midwives offer guidance and counseling on health behavior during the period (Pusdiknakes dan PP IBI, 2005). Healthcare professionals, especially midwives, are expected to provide training to health cadres on how to monitor toddler growth using this latest edition of MCH handbooks. Also, health workers and health cadres that have been trained can provide intensive counseling using the MCH handbook edition year 2017 to monitoring infant growth.

CONCLUSION

The results of this study showed that the MCH handbook edition year 2017 contributes to the increased knowledge and attitude of mothers in monitoring or early detection of infant and toddler growth. The knowledge score and attitude of mothers given intensive counseling using the MCH handbooks edition year of 2017, is significantly higher than those that are not given intensive counseling.

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