

Cares (MOCA) Application Toward Knowledge And Parent's Skills In Stimulation Implementing Of Infant's Growth And Development Age 6-12 Month

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Abstract

The golden opportunity to undertake early detection and stimulation of infant's growth and development is on age 6-12 month. After that period, there is no other can be done to the infants, except to implement the infants' growth and development efforts optimally. The knowledge and competency of parents have an important role because they are able to recognize their infant's growth and development integrity. The smartphone users in Indonesia are 93%, so that smartphone applications can be functioned as media to implement the health promotion. Mother cares (MOCA) application provides information such as animation to assist the parents in detecting and implementing simulation of infant's growth. This research aimed to analysis the role of MOCA application toward parent's knowledge and skills in implementing of stimulation on infants growth age 6-12 month. The research done in June-July 2016 at Ibrahim Adjie Bandung Community Health Center area work used true experimental design, pre-posttest with control group design and the respondents were as many as 60 respondents based on proportional random sampling. Statistical analysis used in the research was T-test uncouple, Mann-Whitney test, and Wilcoxon test ($p < 0,05$). Score result of parents' knowledge and competency in implementing of stimulation between intervention groups and control, there was a significant comparative with p value was in each of them 0,002 and 0,013. The research conclusion is MOCA application has a role on increasing the parent's knowledge and competency in implementing infant's growth and development age 6-12 month.

Keywords: Application, infants, knowledge, skills, stimulation

Introduction

Republic of Indonesia Health Dept regulation number 66 in 2014, Recently it becomes a guidance of some efforts to optimize infants' growth through stimulation, detection, early growth intervention, and providing of Infant and maternal health Book (Kemenkes RI, 2014). However, in training of growth and development comprehensively and better was not so optimal. The result showed that the implementation of stimulation, detection, early growth intervention is limited to early detection irregularities growth and development that because there are still the less supportive by Community Health Center, the responsible for stimulation, detection, early growth intervention not training, un-socialized yet, facilities inadequate supporting stimulation and primary detection development. The Maternal and infant health books distributed never read by parents at home (Maritalia, 2009).

Based on Riskesdas data where there is a tendency of an increase in the proportion of infants were ages 6-59 month who never weigh in the last 3 years in Indonesia are likely to increase. The increasing occurred from 23.8% in the year 2010 became 34.3% in 2013 (Riskesdas, 2013). This data may result in an increase in the number of infants who experience developmental delay will increase, due to lack of stimulation that is commonly given to infants by health workers or cadres at the Integrated service post (Posyandu). An infant who has an nutrition well and fine would respond environmental changes more active and then accelerate a developmental children. Malnutrition at the age of 0-24 months can cause trouble are sprouting of permanent brain. There was as many as 30,8 % infants aged 6-18 months had a delayed of hard motoric development (Darwati, 2014).

The growth and development of infants need to be stimulated by parents especially maternal so the infants can growth and development optimally and according to the stage of infants' days (Palasari, 2012). The maternal knowledge about growth and development of infants integrity cause the parents can immediately recognize the developmental process the infants early as possible give stimulation on growing and development to infants who is thoroughly prepared in the physical aspects, mental, and social (Maritalia , 2009).

Based on the recent data from association of Indonesia cellular telecommunication (AICT) showed that the number of customers Smartphone in Indonesia in year 2011 reached 93 % (Nugraha, 2012). The development of cell phones currently increase productivity and communication man .Application in a Smartphone cell phone can also be used to help medical activities, like monitoring, the diagnosis and therapy, and the health promoting (Aryan , 2014).

Application of mother cares (MOCA) contains information concerning the monitoring of infant growing and development aged 0-60 months equipped with animation that move on every question the detection and stimulation of development, the The charts growth of WHO standard, the reminder as media to remind parents to perform stimulation and early detection development on appropriate time have specified as well (MOCA team, 2016)

Method

The research done in June-July 2016 at Ibrahim Adjie Bandung Community Health Center the work area used true design experiment, pre-posttest with control group design. This research involved 60 respondents by dividing became of 30 respondents the control group and 30 respondents the intervention group. Sampling techniques were used based on probability sampling in proportional random sampling. Statistical analysis used namely T- test is not paired, mann-whitney test, and test wilcoxon ($p < 0.05$)

Result

Table 1. Characteristic of Responden on Intervention and control groups

Characteristic	group		P value *)
	Intervention (n=30)	Control (n=30)	
1. Age (Year)			0,420
< 20	4	4	
20 – 35	22	18	
> 35	4	8	
2. Occupation			0,739
Unemployment/house wife worker	24	25	
	6	5	
3. Education			0,340
SD/SMP/ at the same degree	11	14	
SMA/ at the same degree	15	15	
University	4	1	
4. Parity			0,297
Primi-para	15	11	
Multi-para	15	19	
5. Age of Infants			
6 – 9 month	12	12	
9 – 12 month	18	18	

Explanation:

*) Based on *Chi- Square test*

Table 2. The Score comparative of knowledge before and after the implementing of intervention

Knowledge Score	Groups		P Value *)
	Intervention (n=30)	Control (n=30)	
- Pretest			0,738 *)
Rates (SD)	67,2 (8,1)	66,4 (10,2)	
Median	68	64	
Range	48 – 84	44 – 84	
- Posttest			0,002 **)
Rates (SD)	81,9 (11,3)	73,1 (11,6)	
Median	86	74	
Range	52 – 92	52 – 96	
The comparative Pretest vs Posttest ***)	p< 0,001	p = 0,024	
% increase (mean)	22,3%	5,7%	

Explanation:
 *) T test un-pairs
 **) Mann-Whitney test
 ***) Uji Wilcoxon

Table 3. The Score comparative of skills before and after the implementing of intervention

Competency score	Groups		P Value *)
	Intervention (n=30)	Control (n=30)	
- Pre-test			0,684 *)
Rates (SD)	53,8 (23,6)	51,1 (26,8)	
Median	53	53	
Range	6 – 88	0 – 100	
- Post-test			0,013 **)
Rates (SD)	87,5 (9,2)	78,7 (14,3)	
Median	88	82	
Range	65 – 100	41 – 94	
The comparative of Pre-test vs Post-test ***)	p< 0,001	p< 0,001	
% increase (mean)	56,6%	41,4%	

Explanation:
 *) T-test Un-pairs
 **) Uji Mann-Whitney
 ***) Wilcoxon test

Discussion

The research result on Table 1 showed confounding variable on both groups namely age, education, work, and parity has no distinction meaningful ($p_{value} > 0,05$), so the two groups deserved to be compared. The parent's group of intervention characteristic was dominated by reproductive age with range 20-35 years were as many as 22 people, housewives were 24 people, senior high school education / equivalent 15 people, and a multi-para parity and primi- para were 15 people in each.

The parent's skills to provide stimulation of growth and development was influenced by age. This is because young parents tend to have lack of knowledge of the growth and development toward their infants. Levels of education of parents was low, it was the risk of delays infant development factor. It was because of knowledge and skills to stimulation was less if it compared with the maternal who has the higher education (Sinto, 2008)

Employment and socio-economic status will also affect a person especially in providing facility required to do an activity (Fatima, 2013). As parents in giving stimulation on infants also was affected by parity. Parents often do stimulation based on what they have done on their previous first infant (Stevens, 1984).

Based on the Table 2, it was known that the pre-test results variable of knowledge in the intervention and control groups had $p_{\text{value}} = 0,738$; it means there is no difference meaningful of knowledge beginning about growth and development stimulation between the two groups. At the time post-test was obtained with $p_{\text{value}} = 0,002$; it showed that there are differences meaningful a score of knowledge in both groups. In the group of intervention, they had an average point and median higher than the control group. An increase in a score of knowledge in the intervention group was the greater than the control group (22.3% vs 5.7%). The results of statistical tests was indicated that MOCA application had a role on increase of knowledge parents about growth and development stimulation of infants aged 6-12 months.

The media application in the providing of information can improve knowledge of someone (Soetjningsih, 2013). The more in use of sensing in learning, so it will be getting better. The senses are most widely distributed of knowledge to the brain is eyes (87%) (Rohmatika, 2014). When respondents received information of MOCA application, what was remembered of the application is 50% from the sight.

Counseling done by a combination of methods and the media can change knowledge and behavior of respondents. If it was more done by the sensory modality used to receive information, more and more evident the knowledge gained someone (Prasida, 2015). Animation proved significantly able to increase knowledge about information long-term health and effective health provides information compared with pamphlets (Sheba and friends, 2013; Mark and friends, 2010). Mobile online application can increase knowledge individual (Rao et All , 2014). The application of MOCA is guide in the smartphone in that might improve the knowledge better than the other methods that using animated illustration.

Based on Table 3, it can be seen that skills score as pretest in the intervention and control groups have $p_{\text{value}} = 0,684$; it means there is no significant difference for beginning skills about growth and development stimulation of infants in the two group. At the time posttest obtained $p_{\text{value}} = 0,013$; it showed that there were significant differences for skills score in both groups. Group of intervention they have an average score and median higher than the control group. An increase in a score of skills in the intervention is the greater than the control group (56,6% vs 41,4%). The results of statistical tests is indicated that MOCA application had a role improved the skills of parents in implementing stimulation of infants growth and development on aged 6-12 months.

The increased of individual skills was started by providing the understanding. Increased of skills can be obtained through the print media, and electronic media (Notoatmodjo, 2010). The smartphone prove to make mother skills in charge of their infants. The importance of parents participation in providing stimulation of infant's growth and development can be supported by the use of online base program (Sanders and friends, 2016). MOCA application is a guide in smartphone packed in the animated interesting and equipped reminders so can increase mother's skills in providing stimulation infant's growth and development.

Conclusion

MOCA application can help the program of stimulation, detection, early growth intervention at community as a media alternative and supplements maternal and infants health books used by parents to perform stimulation of infant's growth and development age 6-12 months independently. Parents can do early detection delay or disorder of growth and development through the application of this, that initial handling can be done more quickly with continued to collaboration with the nearest health workers. The requirement further research to see the other factors that affecting the knowledge and skills of parents in stimulation of growth and development.

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References

- Arya Widodo Agas, Gibran Alif, Wisnugroho Satrio, Kurniawan Rahadian. 2014. Aplikasi Android Untuk Terapi Gangguan Bicara Pada Anak. Seminar Nasional Informatika Medis V.
- Badan Penelitian dan Pengembangan Kesehatan. 2013. Riset Kesehatan Dasar. Jakarta: Kemenkes RI. Hal. 205.
- Darwati, dkk. 2014. Pengaruh Intervensi Konseling Feeding Rules dan Stimulasi Terhadap Status Gizi dan Perkembangan Anak di Posyandu Kabupaten Jayapura.
- Fatima, Rahji, Chizoma. 2013. Factors Influencing Compliance With Immunization Regimen Among Mother In Ibadan Nigeria. IOSR Journal of Nursing and Health Science (IOSR-JNHS) e-ISSN: 2320–1959,p- ISSN: 2320–1940 Volume 2, Issue 2 (Sep. – Oct. 2013), PP 01-09
- Kementrian Kesehatan RI. 2014. Peraturan Menteri Kesehatan RI Nomor 66 Tahun 2014 Tentang Pemantauan Pertumbuhan, Perkembangan, dan Gangguan Tumbuh Kembang Anak. Jakarta : Kemenkes RI
- Maritalia, Dewi. 2009. Analisis Pelaksanaan Program Stimulasi Deteksi dan Intervensi Dini Tumbuh Kembang (SDIDTK) Balita dan Anak Pra Seolah di Puskesmas Kota Semarang. Semarang: Program Pascasarjana Universitas Diponegoro
- Notoatmodjo S. 2010. Promosi Kesehatan Teori dan Aplikasi. Edisi Revisi. Jakarta: Rineka Cipta
- Nugraha, Firman. 2012. Jumlah Pelanggan Seluler di Indonesia Hampir Mendekati Jumlah Penduduk Indonesia. Tersedia di <http://teknournal.com/jumlah-pelanggan-seluler-di-indonesia-hampir-mendekati-jumlah-penduduk-indonesia/> diakses tanggal 20 Agustus 2015.
- Palasari, Wina. 2012. Keterampilan Ibu dalam Deteksi Dini Tumbuh Kembang Terhadap Tumbuh Kembang Bayi.
- Prasida, Dita Wasthu. 2015. Pengaruh Penyuluhan tentang KPSP Terhadap Pengetahuan Guru di PAUD Taman Belia Semarang.
- Rao KP, Hanash MA, AL-Aidaros GA. 2014. Development of Mobile Phone Medical Application Software for Clinical Diagnosis. International Journal of Innovative Science and Modern Engineering (IJISME). 2(10), 5-8.
- Rohmatika, Arnusani. 2014. Aplikasi Pengetahuan Dasar HIV dan AIDS Berbasis Android. Tersedia di <http://journal.uad.ac.id/index.php/JSTIF/article/view/2723>. Diakses tanggal 2 November 2015.
- Sanders MR, Love SM, Turner KM, Maurange M, Knott T, Prinz R, Metzler C, Ainsworth AT. 2016. Social Media and Gamification : Engaging Vulnerable Parents in an Online Evidence-Based Parenting Program. Child Abuse & Neglect. Mar 31;53: 95-107. 2016
- Sheba George EM, Nelida Duran, Robert A Jenders. 2013. Using Animation as an Information tool to Advance Health Research Literacy among Minority Participants. NCBI. 2013. Pubmed Central PMCID: PMC39000192. Epub 2013 Nov 16.
- Soetjningsih. 2013. Tumbuh Kembang Anak. Jakarta: EGC.
- Stevens, Jr, J.H. 1984. Child Development Knowledge and Paenting Skills. Family relations, pp.237-244.
- Tim MOCA. 2016. User Guide Mother Cares (MOCA).

