



DEVELOPMENT OF UBAMA (UV AND BABY MASSAGE) METHOD USING CHEMICAL SUBSTANCES IN THE FORM OF BABY OIL AND BABY SKIN CARE

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Abstract

Background: The future of a nation depends on the success of children in achieving optimal growth and development. Baby massage and exposure to ultraviolet (UV) rays provide enormous benefits for the baby's development both physically and emotionally so that it will gain weight and prevent possible developmental problems in babies. Baby massage and UV exposure are therapies performed by parents that were once popular and are now being developed to improve the degree of health of babies. In order to get more optimal results, it is necessary to use baby oil for baby massage and baby skin care for UV exposure. The purpose of this study is to develop a UBaMa method guide. **Methods:** The research was research and development (R&D). This research began by identifying the need to conduct literature studies by studying journals and books related to infant massage, UV exposure, and baby growth and development. Compiling guidance on the UBaMa method from the results of development, expert consul continued with revisions and small-scale trials, then evaluated and implemented the UBaMa method. **Results:** The trial was conducted at the midwives' self-practice in September 2021 on 20 infant mothers and 10 midwives, the UBaMa method guide was declared reliable with a Cronbach Alfa score of 0.954. Content Validity Index (CVI) validity test is conducted on 2 experts and declared valid. **Conclusion:** The results of the UBaMa method guidance development test were valid and reliable. UBaMa method guidelines can be used by infant mothers and the public and health care institutions.

Keywords: baby massage; baby oil; baby skin care; UV exposure; growth

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1. Introduction

The future of a nation depends on the success of children in achieving optimal growth and development. Several factors that influence the process of growth and development of infants are heredity and environment. Growth and development is a continuous process that is discontinuous and growth is part of the development process. Touch is the first language for both mother and baby. As the primary means of communication, touch plays an important role in the formation of the early parent-child relationship. The touch in a gentle massage expresses the mother's affection and is able to meet the baby's need for physical contact. Every emotional change elicits a muscle reaction. By reducing muscle tension, baby massage soothes emotions and helps relieve some of the trauma and anxiety. The skin supplies continuous information to the central nervous system about the environment around the body, through skin touch which has a tremendous impact on the physical, emotional and developmental development of children. In order to get more optimal results, the implementation of baby massage needs to use baby oil [1].

Massage is a therapy that has been done by old people and is popular as a treatment art. Now it is starting to develop baby massage or baby massage which has been done a lot of research. Several studies on baby massage have reported related to the benefits of baby massage such as baby massage can increase weight body, increase growth, increase body resistance, increase baby's concentration and make babies sleep more soundly, build bonding attachments between parents and children and increase mother's milk production [2].

Baby massage that is done by excessive massage on the abdomen can cause injury and can be dangerous if it hits the ribs [3]. Likewise, with the practice of giving exposure to ultraviolet (UV) light, parents need to know the right way so that the benefits obtained from UV rays can be obtained optimally without causing harmful or even harmful things. In order to get more optimal results in providing UV exposure, it is necessary to give baby skin care lotion. To support the implementation of UV exposure and baby massage, it is expected that UBaMa (Ultraviolet and Baby Massage) method modules / guidelines are prepared to teach mothers the method of giving UV exposure and baby massage correctly, effectively and efficiently to support baby growth and development.

2. Methods

The study design was a Research and Development (R&D) approach. According to Nursalam (2020) the research steps mentioned above are by conducting

research in 2 stages [4]. Phase 1 consisted of: identifying the UBaMa method, continuing with the development of the UBaMa method, testing the validity and reliability of the UBaMa method and finalizing the preparation of the UBaMa method guide. In the second phase: socialization, implementation, revision and expert consultation as well as recommendations for the use of the UBaMa method guidance were carried out. The first stage was the need for human resources for practitioners and consultants/experts as well as the baby's mother as potential users. The second stage of the population and subjects in this study were mothers and infants aged 0-3 months in the working area of Candirejo Public Health Center, Magetan District, Magetan Regency. The research instrument was a FGD guide and a validity and reliability assessment sheet. Validity test with individual content validity index (I-CVI) score and reliability test with Cronbach alpha test.

3. Results

Material Identification UBaMa Method

At this stage, it starts from designing the product by evaluating the instruments that will be used in the preparation of the UBaMa method guide. Identification of material needs in the form of literature is used as a source in compiling the UBaMa method guide, the sources used are theories about child growth, theories about physical stimulation in the form of baby massage, and theories about exposure to ultraviolet light. Literature was obtained from various books on child growth and development as well as research journals on the provision of UV light exposure and baby massage. Other literature used to develop the UBaMa method guide is a book on the procedure for compiling a guide or module.

The needs of human resources (HR) involved in this research are: the research team as implementers, consultants as experts, practitioners or health workers/midwives, mothers as users. The infrastructure used in the preparation of the UBaMa method guide includes a room to work on the preparation of the guide, a laptop, along with a mouse, digital camera and cellphone. The applications used are software in the form of Microsoft Word, PDF, photo editing programs, and Microsoft Excel. Instruments for carrying out baby massage that have been circulating in the community are still in the form of books that are sold in special places, there is no specific guide that can be used in health services that can be used to provide education to the community, especially baby mothers so that they can carry out baby massage activities independently. While there are not many special books that discuss giving UV light exposure

to babies, there are no guidelines for giving UV light exposure either. These two activities, both baby massage and UV exposure, are a series of activities that can be carried out simultaneously or sequentially, therefore it is necessary to develop a guide to the UBaMa method so that the community,

especially mothers of babies, can carry out these activities independently at home properly and correctly.

UBaMa Method Development

Strategic issues

Table 1: Formulation of strategic issues for FGD materials

Variable		Data	Strategic issues
Content	No.		
Method	1	30% have an understanding that using video the UBaMa method is easier to understand and practice.	The community still has an understanding that by using video the UBaMa method is easier to understand and practice.
Preparation for UbaMa Implementation	1	10% have a better understanding when sunbathing in a state that is not naked.	There is still an understanding that babies who are exposed to UV rays can be risky if they are naked
Things That Are Recommended in The UBaMa Method	1	10% have an understanding that when massage is carried out on children aged more than 1 month, it should also be stimulated with brightly colored toys or toys that make sounds to stimulate the baby's motoric	Babies aged more than 1 month have good hearing and vision functions should also be stimulated with brightly colored toys or toys that sound to stimulate the baby's motoric
UBaMa Method Steps	1	60% have an understanding that baby massage should be carried out by trained health workers or traditional birth attendants	Many people are still afraid to do baby massage independently at home.
	2	40% have an understanding that the steps of providing UV exposure are risky, especially if they are carried out at the wrong time and of excessive duration	There are still many people who do not understand about the right time and duration of UV exposure
Format			
UBaMa method guide view in promotion health	1	20% have an understanding that the display of the UBaMa method guide specifically for UV exposure also needs to be given a picture	People are more interested and easier to understand baby massage guidelines and UV exposure when using pictures.
Facilities			
Ease Use of the UBaMa method	1	30% have an understanding that the UbaMa method guide needs to improve a few sentences adjusted for the general public, especially mothers who have babies as targets	There are still many ordinary people who do not understand the use of medical language
Time			
Up to date	1	20% have an understanding that the practice of baby massage and UV exposure has long been known and practiced by the community	Many people are familiar with baby massage and UV exposure, but these activities are two separate activities that are not carried out independently and no specific guidelines have been provided in health services.

Focus Group Discussion (FGD)

Characteristics of FGD participants were representatives of midwives who had PMB and carried out baby massage practices in the working area of the Magetan District Health Office, a total of

10 people. The average age of the participants is 41-50 years (70%), the majority of which are D4 Midwifery education (60%), and civil servant status (90%). Recommendations from the FGD regarding

the development of the UBaMa method guide include:

- When the baby massage is carried out by parents, massage movements in the abdomen and chest area are not carried out because it is risky. Can be done by trained health personnel.
- When doing baby massage and exposure to UV rays, the baby must be in good health and not fussy (not sick)
- Implementation of baby massage at least 2 times

- a week, but if it is done every day it is better.
- Giving exposure to UV rays should be done after the massage is complete and has been bathed.
- Giving baby lotion when exposed to UV rays does not always have to be given, only given if necessary.
- The implementation time of giving UV light exposure is at 8-10 am for 10-15 minutes.
- Exposure to UV rays is carried out every day, not directly on the eyes and the genital area is closed.

Expert Discussion

Table 2. Expert recommendations

No	Expert	Preliminary data	Initial data expert feedback/ recommendations
1	Expert 1	UBaMa physiology stated that humans also need sunlight to maintain a healthy body. In general, ultraviolet B (UV) rays in sunlight are able to convert 7-Dehydrocortisol molecules in the skin layer into active vitamin D that the body can use.	He added that in Indonesia UVBrays are obtained around 8-10 am.
		Preparation for the implementation of BaMa, especially when exposed to UV rays, it is stated that the baby is not naked	Giving UV light exposure is done every day, not directly on the eyes and the genital area is closed.
		Preparation for the implementation of UBaMa stated that the baby is in good health	Added baby in good health and not fussy.
		Preparation for the implementation of UBaMa, especially exposure to UV rays, babies are given lotion	Giving lotion when exposed to UV rays if necessary
		Implementation of the UBaMa method, both baby massage and UV light exposure 2-3 times a week	He added that the implementation of the UBaMa method, both baby massage and UV light exposure at least 2 times a week, if done every day is better.
		In the baby massage steps, there are massage steps that can be done on the stomach and chest	When carrying out baby massage, massage movements in the stomach and chest area are not carried out by parents because it is risky, it can be done by health workers
		The implementation time of giving UV light is between 7-9 am, ±15 minutes	The implementation time of giving UV light exposure is at 8-10 am for 10-15 minutes.
2	Expert 2	No knowledge evaluation yet	In the preparation of the module, it is necessary to add an evaluation of the knowledge of the use of the UBaMa method guide in the form of a questionnaire
		There is no user skill checklist yet	Need to add a checklist to assess user skills.
		The photos used in the preparation of the UBaMa method were taken from the internet	Images should use photos from personal documentation not taken from the internet.
		No bibliography yet	Add the bibliography at the end of the discussion before the attachment.

UBaMa Method Validity and Reliability Test

Table 3: Demographic Characteristics of respondents test validity and reliability

No	Demographic characteristics	Frequency	Percentage
1	Age		

	20-30 years old	18	60
	31-40 years old	6	20
	>40 years old	6	20
2	Occupation		
	Government employees	6	20
	Housewife	20	66.66
	Private	4	13.33
3	Education		
	Elementary	1	3.33
	Intermediate	19	63.33
	College	10	33.33
4	Parity	4	13.33
	Nulipara Primipara	5	16.66
	Multipara	21	70

Validity test

Table 4: UBaMa method guide validity test results

No	Rated aspect	Validity test results	Conclusion
1	<i>Content</i>	1.00	Valid
2	<i>Accuracy</i>	1.00	Valid
3	<i>Format</i>	1.00	Valid
4	<i>Ease For Use</i>	1.00	Valid
5	<i>Timeliness</i>	1.00	Valid

Reliability Test

The results of the reliability test obtained Cronbach Alpha 0.954 so that the UBaMa method guide was declared reliable.

4. Discussion

In fact, in the field there is no specific guideline that discusses the implementation of baby massage and UV exposure in health services. Therefore, it is necessary to develop a guideline for the UBaMa method to provide education to the community, especially mothers of babies, the importance of baby massage and the provision of UV light as well as things that can support the implementation of these activities. The development of the UBaMa method was developed through the preparation of guidelines by the research team from the results of the study of identification of the UBaMa method material, then an evaluation was carried out by Practitioners/midwives through the distribution of draft UBaMa guidelines and questionnaires. Focus Group Discussion (FGD) was conducted after the results of the questionnaire were obtained from practitioners/midwives. Followed by the preparation of a draft guideline for the UBaMa method from the results of the FGD, then expert consults (both child health experts/pediatricians and module experts) were conducted. The instruments resulting from the development of the UBaMa method in the form of a guidebook or module on the steps in implementing the UBaMa method are arranged according to the

results of the consults with experts. The UBaMa guide contains the introduction, objectives, methods, understanding, benefits, physiology, preparation for implementation, things that are recommended, things that need to be avoided, and the steps of the UBaMa method as well as closing. This guide is evaluated by means of testing the validity and reliability. The validity test of the UBaMa method guide is carried out by assessing the Individual Content Validity Index (I-CVI). This assessment is carried out by 2 experts who are experts in the field of child health and an expert in the preparation of modules or guidelines. This assessment is carried out to assess each question item in the guide in accordance with the standards for compiling the module. Reliability tests were also carried out on the guide to obtain reliable guidance by performing the Cronbach Alpha test. From the validity and reliability test, it was found that the UBaMa guide was valid and reliable so that it was easily understood and applied by the user, namely the baby's mother.

There are two things that need to be considered in compiling an instrument. The principle of instrument preparation according to Nursalam (2017) is validity and reliability. The principle of validity is measurement and observation which means the principle of instrument reliability in collecting data [4]. Validity refers to aspects of the accuracy and accuracy of the measurement results [5]. There are 5 sources of evidence of validity, namely content, response process, internal structure, relationships with other variables and their

consequences [6]. There are three types of validity, namely content validity (content validity), criterion validity (criteria validity), and construct validity (concept validity) [5]. Content validity is defined as the extent to which the instrument's assessment elements are relevant to and represent the target construct for a particular assessment objective [6]. Content validity is the validity that is estimated through testing the feasibility or relevance of the test content through rational analysis by a competent panel or through expert judgment [5].

Reliability is the similarity of measurement or observation results when facts are measured or observed many times at different times [4]. Tools and methods of measuring or observing play an important role at the same time. The validity and reliability of research instruments are the main things in increasing the effectiveness of the data collection process [7]. A good instrument is an instrument that has been tested for validity and reliability. Therefore, in the preparation process, it is very important to maintain the contents of the instrument whether it is able to measure what should be measured and the measurement results are able to provide accurate information. The UBaMa method guidance instrument has been prepared by researchers in accordance with research studies in the field. This instrument was developed with a guide model equipped with a checklist to make it easier for potential users to follow the guide.

The sequence of steps in the preparation of the UBaMa method guide is in accordance with the steps in the preparation of a module described by Widodo in Najuah et al (2020) [8]. The steps in the preparation of the module include: determination of competency standards and plans for teaching and learning activities, analysis of module needs, preparation of module drafts, testing, validation, revision and production.

Material identification in terms of human resources can basically be carried out well, meetings with practitioners can be carried out offline and online, while for expert researchers must adjust to the busyness of experts so that the time does not match the predetermined schedule. For mothers of babies as users of the UBaMa method, they are also constrained by the COVID-19 pandemic, so they have to wait for PPKM level 2 to be carried out offline. Infrastructure facilities can be well-supplied, while the provision of software applications in the form of photo editing has problems when taking pictures, researchers have to adjust the schedule to the model (baby) used for photo activities that will be included in the steps of the UBaMa method.

The time spent in developing the UBaMa method guide was prolonged due to the large number of activities that had to be carried out simultaneously, besides the Covid-19 pandemic, which made coordination more difficult. This causes the

completion time for the preparation of the UBaMa method guide to be narrower, but this can be overcome by the effective use of adequate infrastructure. Testing the validity of the UBaMa method guidelines was carried out with expert practitioners and consultants. This is in accordance with the theory according to Azwar (2012), which states that content validity is validity that can be carried out through testing the feasibility or relevance of test content related to certain research topics to competent respondents and informants [9].

This study is expected to enrich knowledge about the use of chemicals that can be directly applied to the human body for the purpose of improving health, in addition to other purposes such as [10].

5. Conclusion

Identification of materials for the development of the UBaMa method guide in the form of evaluation of existing instruments, namely books on baby massage and UV exposure. Most people do not understand well about the application of baby massage and UV exposure because there are no guidelines that have been socialized to the public in health care settings. The development of the UBaMa method guide has been prepared in accordance with a study of the collection of materials obtained and strategic issues analyzed, then obtained input from practitioners during the FGD implementation, consulted with child experts (pediatricians), then module preparation was also consulted with module experts to get input.

Based on the results of the I-CVI validity test, the UBaMa method guide is declared valid. The results of the reliability test obtained Cronbach Alpha 0.954 so that the UBaMa method guide was declared reliable. Evaluation of the UBaMa method guide is stated to be understandable and can be applied independently.

Ethical Considerations

Ethical issues (including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships.

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