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Desaign Of Audio Visual Media "SI MERAH" (Edukasi Manajemen ASI Perah) In An Effort To Increase Exlusive Breast Milk

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ABSTRACT

Background Babies who are not exclusively breastfed are at risk of experiencing infectious diseases, chronic diseases, and nutritional problems, if not handled further will result in stunting. The exclusive breastfeeding coverage of Tasikmalaya City in 2022 is 70.01% and Cibeureum Health Center is 56.07%. Indonesia sets a target of exclusive breastfeeding for 6 months of 80%. Some of the causes of low exclusive breastfeeding coverage are lack of health education, lack of maternal knowledge about exclusive breastfeeding and dairy breastfeeding, the increasingly widespread promotion of formula milk, working mothers, maternal age, and maternal and infant health, so health education media about exclusive breastfeeding and dairy breastfeeding are needed to facilitate exclusive breastfeeding coverage. Purpose Creating audio visual media SI MERAH (Edukasi Manajemen ASI Perah) is an educational media based on animated videos about dairy breastfeeding management. Methods Research using Research and Development (R&D) consists of 9 research steps, namely, potential problems, data collection, product design, design validation, design revision, product trials, product revisions, usage trials and product revisions. The sampling technique uses proportional random sampling. The number of product trial samples was 8 third trimester pregnant women and the trial use of 49 second and third trimester pregnant women. Results Final assessment of material experts 4.86 categories very feasible, media experts 4.96 categories very feasible. The value of small-scale product trials of 3.9 categories is feasible and large scale use trials of 4.74 categories are very feasible. Conclusion SI MERAH audio visual media is in the very decent category.

1. INTRODUCTION

The basic capital of quality human formation begins when the baby is in the womb accompanied by breastfeeding from an early age.[1] The United Nations Children's Fund (UNICEF) and the World

Health Organization (WHO) recommend that infants should only be breastfed for at least 6 months without being given food or other drinks called exclusive breastfeeding.[2]

Exclusive breastfeeding can help reduce morbidity and infant mortality rates.[2] The risk if the baby is not exclusively breastfed will experience infectious diseases such as diarrhea, pneumonia, meningitis, ear infections, urinary tract infections, and can cause chronic diseases such as type 1 diabetes mellitus.[2] Infants who do not get exclusive breastfeeding can also be at risk of nutritional problems, If not handled properly, it will further result in stunting.[3]

Government policy on exclusive breastfeeding is contained in Undang-Undang Nomor 36 year 2009 About health,[4] Peraturan Menteri Kesehatan Republik Indonesia Nomor 15 year 2013 About special facilities for breastfeeding and milking,[5] and Peraturan Pemerintah RI Nomor 33 year 2012 About exclusive breastfeeding.[6]

Based on performance reports Kementerian Kesehatan Republik Indonesia (Kemenkes RI) the presentation of infants less than 6 months old in 2021 as of February 4, 2022 was 69.7%.[7] Badan Pusat Statistik stated that the percentage of infants less than 6 months of age who received exclusive breastfeeding in 2020-2022 in West Java Province was 76, 11%, 76.46%, and 77.00%.[8] Based on Tasikmalaya city profile data, exclusive breastfeeding coverage in 2022 is 70.01%.[9]

Factors affecting exclusive breastfeeding in Indonesia include maternal parity (number of live births a mother has), maternal knowledge, maternal actions, husband or family support, health worker support, information exposure, education level, early breastfeeding initiation, maternal age, family income, environment, formula feeding, mother's psychological condition, mother's attitude, mother's job, availability of lactation room at work.[10]

Breast milk is breast milk that is taken by milking and then stored and later given to the baby, this can help the mother in the breastfeeding process.[11] Breast milk dairy if not stored properly can be contaminated with bacteria, viruses, or even parasites that can make the baby sick, besides that the milk can "fail" to meet the nutritional needs that the baby needs in the process of growth and development.[12]

Dairy milk storage will indeed experience lysis or decrease in nutritional levels, but with dairy breastfeeding management it is expected to minimize the lysis process but this is better than providing formula milk. Mothers must know how to milk, store, the right time to milk, and how to give it, this requires good knowledge that mothers must have. Mothers' knowledge about dairy breastfeeding management in an effort to maintain the quality of breast milk is maintained and the achievement of exclusive breastfeeding can increase, so efforts are needed through health education.[13]

Audio visual media are media that can be seen and heard, which are useful in helping to stimulate the senses of the eyes (sight) and ears (hearing) during the process of receiving messages.[14] Through health education about dairy breastfeeding, it is hoped that it can provide understanding and motivation for mothers to be able to provide exclusive breastfeeding. Health education about dairy breastfeeding is carried out with various methods and supporting media to facilitate targets to receive health information provided.[15]

In Kamila Khumairoh's research (2021), audio visual media design is needed by health workers in health promotion efforts. The use of audio visual or video media is needed by respondents, because these media can provide stimulus to the sense of hearing and vision can contribute greatly to changes in people's behavior.[16] In the research of Azizah Noor, et al (2022), lactation preparation is given during pregnancy, namely by providing education to pregnant women through the media, the purpose of this activity is expected that mothers will still strive to provide exclusive breastfeeding even by milking.[17]

Based on the results of a preliminary study conducted at the Cibeureum Health Center, it was obtained information that the achievement of exclusive breastfeeding at the Cibeureum Health Center in 2022 was 56.07%,[18] this is still far from the target set where the policy on exclusive breastfeeding is supported based on WHO Decree and Keputusan Menteri Kesehatan Republik Indonesia (Kepmenkes RI) No. 450/Menkes/IV/2004, 6 month exclusive breastfeeding target of 80%.[19]

Based on the results of interviews conducted with midwives and nutrition officers on duty at the Cibeureum Health Center, several factors caused the low achievement of exclusive breastfeeding were education, lack of knowledge of mothers about exclusive breastfeeding, the increasingly widespread promotion of formula milk, working mothers, maternal age, and maternal and infant health. Data in July 2023 shows that pregnant women in the second and third trimesters in the Cibeureum Health Center work area have an average elementary and junior high school education. The second and third trimester pregnant women aged <20 years totaled 14 people and >35 years old totaled 13 people. The number of working second and third trimester pregnant women is 23 people.

The distribution of questionnaires on exclusive breastfeeding and dairy milk management given to 10 pregnant women in the second and third trimester showed that 8 pregnant women did not know about dairy breastfeeding management. The expectations of pregnant women about health education media show that 7 out of 10 mothers want educational media in the form of video / audio visual.

Based on this background, the author is interested in conducting research on the Desaign Of Audio Visual Media "SI MERAH" (Edukasi Manajemen ASI Perah) In An Effort To Increase Exlusive Breast Milk.

2. METHODS

This research uses research and development (Research and Development / R&D) methods carried out through 9 research steps. The population in this study is pregnant women in the second and third trimesters in the working area of the Cibeureum Health Center, Tasikmalaya City in the July 2023 period with a total population of 133 people. The sampling technique uses proportional random sampling, the formula used is the Slovin formula, with a sample of 57 people. Product trial samples amounted to 8 pregnant women in the third trimester. The trial sample was 49 pregnant women in the second and third trimesters. The data analysis used in this study is using quantitative and qualitative data analysis. The data taken uses primary data by providing questionnaires for expert validation, product trials and usage trials.

3. FINDINGS AND DISCUSSION

Potential and problems

The potential and problems started from the background, then researchers conducted a preliminary study at the Cibeureum Health Center, Tasikmalaya City.

Potential is anything that when used will have added value. A problem is a deviation between expectations and incongruous expectations.[20]

Data Collection

Data collection is carried out by looking for material sources derived from books and scientific journals to be attached to product designs that will be made as material in making audio visual media "SI MERAH" (Edukasi Manajemen ASI Perah) in an effort to increase exlusive breast milk.

The material attached to the audio visual media "SI MERAH" (Edukasi Manajemen ASI Perah) consists of, understanding exclusive breastfeeding, benefits of exclusive breastfeeding for mothers and babies, understanding dairy milk, when is the right time to milk, tips before milking, steps for milking, how to store dairy milk, durability of dairy milk, recommended containers for milking, how to serve dairy milk, signs of stale or damaged milk, and tips for keeping breast milk stable.

Data collection is the range of information used for product planning materials that are expected to address a problem.[20]

Product Design

Making product designs is done by collaborating with animators who are experts in their fields. The steps in making product design are the preparation of narrative, storyboarding, dubbing, and animation preparation. The software used is Microsoft Word, Adobe Illustrator, Dolbin On, Adobe after effect and Anycorverter video. The audio visual media created has a duration of 09 minutes 02 seconds.

The effective duration of educational videos is 5-10 minutes, in addition to considering that respondents can stay focused, this time is also considered ideal so that presenters are not too fast in delivering material.[21] The length of counseling time is a determining factor for the effectiveness of counseling media in increasing target knowledge. In general, the longer the counseling, the more information the target will receive. The more information the target receives, the better the knowledge it will have.[23]

Design Validation

The design validation test in this study consists of material expert validation tests and media experts. Material expert trials are carried out three times validation tests, namely:

Table 1 Average Number of Scores by Material Experts

No	Assessed aspects	Average score	Category
1.	Aspects of Truth, Breadth and Depth of Matter	3,5	Proper
2.	Language Aspect	3,5	Proper
3.	Implementation Aspect	3,5	Proper
4.	Video Display Aspect	3,2	Pretty Decent
5.	Audio Aspect	3	Pretty Decent
	Number of Scores	**16,7**	**Pretty Decent**
	Average Score	**3,34**	

The results of table 1 show that the results of material expert evaluations on video display aspects and audio aspects have an average score of 3.2 and 3 in the category is quite feasible. Scores on aspects of truth, breadth and depth of material, aspects of language and aspects of implementation have an average score of 3.5 indicating the feasible category. The result of the overall average score was 3.34 in the moderately decent category.

Table 2 Average Number of Scores by Material Experts

No	Assessed aspects	Average score	Category
1.	Aspects of Truth, Breadth and Depth of Matter	3,83	Proper
2.	Language Aspect	4,5	Very Worth It
3.	Implementation Aspect	3,83	Proper
4.	Video Display Aspect	4,2	Very Worth It
5.	Audio Aspect	4	Proper
	Number of Scores	**20,36**	**Proper**
	Average Score	**4,072**	

The results of table 2 of the validation test assessment conducted in the 2nd revision show some improvement compared to the 1st validation test. In the aspect of truth, breadth and depth of

material, aspects of implementation, and aspects of audio have average scores of 3.83, 3.83, and 4 in the decent category. The language aspect and video display aspect have an average score of 4.5 and 4.2 in the very decent category. The overall average score amounted to 4.072 in the decent category.

Table 3 Average Number of Scores by Material Experts

No	Assessed aspects	Average score	Category
1	Aspects of Truth, Breadth and Depth of Matter	4,67	Very Worth It
2	Language Aspect	5	Very Worth It
3	Implementation Aspect	4,83	Very Worth It
4	Video Display Aspect	4,8	Very Worth It
5	Audio Aspect	5	Very Worth It
	Number of Scores	**24,3**	**Very Worth It**
	Average Score	**4,86**	

The results of table 3 in the 3rd validation test showed an increase in scores in the aspects of truth, breadth and depth of material, language aspects, aspects of implementation, aspects of video display and aspects of audio had an average score of 4.67, 5, 4.83, 4.8 and 5 overall assessment results amounted to 4.86 with very decent categories.

Media expert trials were carried out two times validation tests, namely:

Table 4 Average Number of Scores by Media Experts

No	Assessed aspects	Average score	Category
1.	Visible	3,5	Proper
2.	Interesting	4	Proper
3.	Simple	3,67	Proper
4.	Useful	3,5	Proper
5.	Accurate	3,7	Proper
6.	Legitimate	3,5	Proper
7.	Structure	4	Proper
	Number of Scores	**25,87**	**Proper**
	Average Score	**3,7**	

The results of table 4 in validation test 1 show that the evaluation of media experts on visible aspects, interesting aspects, simple aspects, useful aspects, accurate aspects, legitimate aspects, and structural aspects has an average score of 3.7 in the feasible category**.**

Table 5 Average Number of Scores by Media Experts

No	Assessed aspects	Average score	Category
1.	Visible	5	Very Worth It
2.	Interesting	5	Very Worth It
3.	Simple	5	Very Worth It
4.	Useful	5	Very Worth It
5.	Accurate	5	Very Worth It
6.	Legitimate	4,75	Very Worth It
7.	Structure	5	Very Worth It
	Number of Scores	**34,75**	**Very Worth It**
	Average Score	**4,96**	

The results of 5 tables show that the evaluation of media experts on the visible aspect, interesting aspect, simple aspect, useful aspect, accurate aspect, legitimate aspect, and structure aspect has an average score of 4.96 in the very decent category.

Design validation is carried out by presenting several experts or experienced experts to assess the new product designed. Each expert is asked to assess the design, so that its strengths and weaknesses can be known.[20]

Design Revision

Design revisions by material experts have been carried out based on validation tests I, 2, and 3. The 1st material expert design revision was carried out on the aspects of truth, breadth and depth of material, language aspects, video display aspects and audio aspects. Design revisions in the 2nd validation test were carried out on aspects of truth, breadth and depth of material, and aspects of video display. Design revisions in the 3rd validation test were not carried out because the average score of 4.96 in the category was very feasible.

Design revisions by media experts are carried out based on validation tests 1 and 2. Design revisions in the 1st validation test were carried out on the aspects of accurate, visible, and legitimate. Design revisions in the 2nd validation test were not carried out because the average score of 4.96 in the category was very feasible.

Design revision is a revision made after the product design is validated through discussion with experts and experts so that weaknesses are known. These weaknesses were later mitigated by improving the design.[20]

Product Trials

Table 6 Product Trial Evaluation Results Data

Respondents	Assessed aspect value		Number of Scores	Average Score	Category
	Display quality	Aspects Fill			
1.	23	16	39	3,9	Proper
2.	22	15	37	3,7	Proper
3.	24	16	40	4	Proper
4.	22	14	36	3,6	Proper
5.	20	14	34	3,4	Proper
6.	25	17	42	4,2	Very Worth It
7.	26	18	44	4,4	Very Worth It
8.	23	17		4	Proper
Number of Scores			**312**	**31,2**	**Proper**
Average Score			**3,9**		

Based on table 6 product trials conducted in third trimester pregnant women totaling 8 people through questionnaires, the average score on the display quality aspect was 3.85 feasible categories, the content aspect average score was 3.97 feasible categories. The final average score is 3.9 in the decent category.

Product testing is a new product design that is tested on a specific group or sample that has been determined.[20] Breastfeeding is important to be prepared since pregnancy, early preparation for breastfeeding will provide mature readiness for mothers to breastfeed their babies. The provision of health information and education about breastfeeding and breastfeeding, through various media can increase maternal knowledge, and encourage positive attitudes towards breastfeeding.[25] Lactation preparation is given during pregnancy, namely by providing education to pregnant women through

the media, the purpose of this activity is expected that mothers will still strive to provide exclusive breastfeeding even by milking.[17]

Product Revisions

Design revisions were carried out on the appearance aspect and content aspects based on the results of the questionnaire assessment on product trials. Product testing on limited samples is revised if the values obtained are not as expected where there are weaknesses, then these weaknesses must be corrected immediately. Once improved, the product design can be mass produced or used in a wider range of systems.[20]

Usage Trial

Table 7 Usage Trial Evaluation Results Data

No	Assessed aspects	Average score	Category
1.	Display quality	4,74	Very Worth It
2.	Aspects Fill	4,73	Very Worth It
	Number of Scores	**9,47**	**Very Worth It**
	Average Score	**4,74**	

Based on table 7, trial use was carried out on 49 pregnant women in the second and third trimesters. The average score on display quality is 4.74, in the content aspect the average score is 4.73, then the average score is 4.74 in the very decent category. The respondent's assessment on a large scale usage test obtained a very decent value.

Respondents wrote very good responses including, very helpful respondents in getting information about dairy milk, very useful and motivating especially for working mothers and can be practiced after having a baby, the delivery of material is very good and easy to understand, the display of animated images is interesting so that the material is easy to remember.

The advantages of audio visual / video media are that the message conveyed is packaged attractively so that it will be easily remembered by the audience, does not make participants bored, the images and colors contained in the video attract participants, more communicative information using images and animations is easier to understand, object images are more flexible and look like real, and easy to convey information.[26] Usage trials are carried out if the revision of the product is successful, then the product is applied in real conditions for a wide scope. In the operation of such products, deficiencies must be assessed for further improvement.[20]

The second trimester of pregnancy usually feels healthy, the mother's body is used to higher hormone levels and the discomfort of being pregnant has decreased. The mother accepts her pregnancy and begins to be able to use her energy and thoughts more constructively.[27] The third trimester of pregnancy is a time to prepare for the birth process and parenthood, such as focusing attention on the presence of a baby. The third trimester pregnancy is the time when pregnant women prepare to become a mother, that is, prepare for childbirth, prepare for newborn care and prepare for breastfeeding.[28]

Product Revisions

Based on the results of large-scale use trials, very feasible results were obtained in every aspect of the assessment, based on these results the revision stage was not carried out. Product revisions are carried out, if in the trial use there are shortcomings or weaknesses.[20] The design of audio visual media is needed by health workers in health promotion efforts. The use of audio visual or video media is needed by respondents, because these media can provide stimulus to the sense of hearing and vision can contribute greatly to changes in people's behavior.[16]

4. CONCLUSION

Research consists of 9 research steps, namely, potential problems, data collection, product design, design validation, design revision, product trial, product revision, usage trial and product revision. SI MERAH audio visual media is in the very decent category with a very good response, that is, it really helps respondents in getting information about dairy milk, very useful and motivating, especially for working mothers and can be practiced after having a baby, the delivery of material is very good and easy to understand, the display of animated images is interesting so that the material is easy to remember

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