

Application of Acupressure Techniques for Breastfeeding Mothers Using Multimedia Based on Computer Assisted Learning (CAL)

Dewi Wahyuni¹⁾, Rimmar Siringoringo²⁾, and Syarifah Fadillah Rezky³⁾

¹⁾ *Imelda University of Medan
dhewiqchan@gmail.com*

²⁾ *Imelda University of Medan
rimmarsiringoringo1@gmail.com*

³⁾ *Imelda University of Medan
ikic5500@gmail.com*

ABSTRACT

One of the causes of the increase in Infant Mortality Rate (IMR) is the decrease factor in exclusive breastfeeding to infants. Based on the Statistics Center (BPS) in 2016 covering 49.51% of infants in Indonesia received exclusive breastfeeding less than 6 months. In this case, multimedia technology can be used to support government programs in Increasing Exclusive ASI Coverage Rates for Indonesian children by Government Regulation No. 33 of 2012. So, the researchers conducted research using computer-based multimedia learning assistance (CAL) technology for help support the health of several posyandu, puskesmas, and mother and child clinics in promoting exclusive breastfeeding through the Acupressure Technique which can be accessed through the release of the hormone prolactin and the hormone oxytocin in drinking mothers. This multimedia application based on Computer Assisted Learning (CAL) can provide the understanding and learn about Acupressure Techniques with visuals that are interesting, easy to understand, and supported by clear audiovisuals.

Keywords: Computer Assisted Learning (CAL), Multimedia, Acupressure Massage.

INTRODUCTION

The important role of breast milk as the first source of nutrition for babies and is the best food for babies because it contains complete nutrition which can increase immunity and become a supporting factor for optimal growth and development of babies during the first six months of life (Sutomo and yanti Anggraini 2010). The nutrients contained in breast milk include carbohydrates, fats, proteins, vitamins, minerals, and other nutritional support substances. However, many breastfeeding mothers are not able to produce breast milk properly due to their lack of confidence to be able to breastfeed their babies so that it triggers a decrease in the hormone oxytocin which causes milk to not be released immediately after giving birth and in the end they choose to give formula milk to their babies. . Formula milk does not have complete nutrition like breast milk so that it cannot be fully used to meet the nutritional intake of infants. This is one of the causes of the increasing mortality rate in infants (IMR). Therefore, the government has launched a program to increase the use of breast milk (P2ASI) to reduce the Infant Mortality Rate (IMR) following Government Regulation Number 33 of 2012 articles 1 and 2 regarding "Exclusive Breastfeeding, hereinafter referred to as Exclusive Breastfeeding, is breast milk given to babies from birth for 6 (six) months, without adding and/or replacing them with other food or drinks "(Kemenkes 2012).

Klinik ayah bunda Lingkungan Medan Amplas environment participated in launching a government program in Increasing the Use of Mother's Milk (P2ASI) by disseminating exclusive breastfeeding through acupressure techniques to 28

pregnant/nursing mothers through makeshift devices assisted directly by midwife Eva (owner of the clinic) and 2 health workers. Seeing the concern of the father and mother clinic for pregnant women/nursing mothers in their environment, the researchers conducted research using multimedia technology as a means of socializing them in applying the Acupressure Technique for pregnant women/nursing mothers based on Computer Assisted Learning (CAL). Acupressure techniques function to stimulate the hormones prolactin and oxytocin in nursing mothers. Acupressure itself is a technique used as a non-pharmacological treatment and is closely related to acupuncture, which is done through pressure on certain points in the body. However, there are still many people who do not know the benefits of acupressure for breastfeeding mothers (Fendristica, Susilawati, and Armawati 2019).

Computer Assisted Learning (CAL) is a strategy in the teaching and learning process that is carried out using computer assistance, or what is commonly referred to as information technology. With this Computer Assisted Learning (CAL) based multimedia application, it is hoped that it can provide the understanding and learning about acupressure techniques with attractive visuals, easy to understand, and supported by clear visuals (Elyas 2018).

THE STAGES OF IMPLEMENTING CAL LEARNING MEDIA ON ACUPRESSURE TECHNIQUES FOR BREASTFEEDING MOTHERS

Research and Development (R&D) itself is used as a research method in this research which will later produce a learning media product for acupressure techniques for pregnant women / breastfeeding mothers based on Computer Assisted Learning (CAL), by going through several stages of the process that the researchers carry out, including potential and problems, data collection, product design, design validation, design revision, product testing, analysis, and reporting.



Figure 1. Research and Development (R&D) method based on Computer Assisted Learning (CAL)

Source: adapted from (Sugiyono 2010)

Stage 1 potential and problems

Klinik ayah bunda Lingkungan Medan Amplas environment became one of the subjects of this study with an audience of 28 pregnant women/nursing mothers. The problem faced is the inability of pregnant women/nursing mothers to produce breast milk properly due to their lack of confidence to be able to breastfeed their babies.

This trial will be carried out by presenting learning media for acupressure techniques to pregnant women/breastfeeding mothers, which will then be collected through a questionnaire on responses of pregnant women/nursing mothers.

Stage 2 data collection

Data collection was carried out by validating the media and the responses of pregnant/nursing mothers using media validation sheets, response questionnaire validation sheets, and pregnant / nursing mothers' response questionnaires. The data analysis technique on the validation sheet will be carried out by determining the size of the assessment along with the weighted value. The rating scale is shown in the following table:

Table 1. Weight of the Validation Sheet Assessment

Value	Weight Assessment
Very Satisfied	4
Satisfied	3
Not Satisfied	2
Very Dissatisfied	1

Source: adapted from (Sugiyono 2010)

Table 1 shows that there is a rating scale that will be given to pregnant women/nursing mothers as respondents to fill out the validation sheet. The total answers obtained are determined from the results of multiplying the number of respondents with the highest weighted score on the quantitative assessment, using the following formula:

$$\text{The highest value of the respondent} = n \times I_{max} \quad (1)$$

Meanwhile, the questionnaire for the response of pregnant women/breastfeeding mothers was analyzed descriptively quantitatively, namely by providing an overview and exposure of research on learning media for acupuncture techniques in pregnant women/nursing mothers based on Computer Assisted Learning (CAL). The respondent's assessment will be carried out by giving the following responses: strongly agree (SS), agree (S), disagree (TS), and strongly disagree (STS).

Table 2. Response Weight of Pregnant / Breastfeeding Women

Value	Weight Assessment
Strongly Agree	4
Agree	3
Disagree	2
Strongly Disagree	1

Source: adapted from (Sugiyono 2010)

Here's how to calculate the total number of responses from pregnant women/nursing mothers:

$$\begin{aligned} \text{SS score for } n \text{ respondents} &= n \times 4 \\ \text{S score for } n \text{ respondents} &= n \times 3 \\ \text{TS score for } n \text{ respondents} &= n \times 2 \\ \text{STS score for } n \text{ respondents} &= n \times 1 \\ \text{Total score} &= \end{aligned}$$

Source: adapted from (Sugiyono 2010)

The next step is to determine the percentage of the total respondent score using the following formula:

$$PR = \frac{\sum R}{\sum RT} \times 100\% \quad (2)$$

Information:

PR = proporsi respondent

$\sum R$ = answers from respondent

$\sum RT$ = the answer to the highest assessment from the respondent

Source: adapted from (Sugiyono 2010)

Then the percentage criteria for respondents are shown in the following table:

Table 3. Criteria for the percentage of responses of pregnant women/breastfeeding mothers

Percentage	Criteria
72% - 100%	4
53% - 71%	3
34% - 52%	2
15% - 33%	1

Source: adapted from (Caturiastitin 2016)

From the table of these criteria, it shows that a media will be responded positively and the results of the calculation of its value are $\geq 53\%$ and the media will be responded negatively if the results of the calculation of the value are $<53\%$.

Stage 3 product design

Computer Assisted Learning (CAL) based learning media for acupressure techniques are designed using multimedia software consisting of adobe illustrator, adobe photoshop, adobe flash, and adobe after effects. The application used in this acupressure technique uses multimedia presented in the form of visual infographics which will later produce acupressure technique products.

Stage 4 design validation

This stage presents a description of the research data in the form of validation results of learning media and questionnaire data from respondents, as well as the application form of learning media for acupressure techniques for pregnant women/nursing mothers based on Computer Assisted Learning (CAL). Data validation results were obtained from 3 (three) expert validators, consisting of 1 midwife clinic father and mother in the sandpaper field environment and 2 (two) health workers as instruments in the research and development of this learning media.

Stage 5 design revision

After the design validation process is complete, several weaknesses are obtained which will then be tested by reducing and improving the design. Researchers consulted the improvement of the design.

Stage 6 product trials

If the design appears, then the product is directly tested on several respondents from pregnant/nursing mothers. Product trials were carried out by practicing acupressure techniques from the presented instructional media. After the product trial is complete, the respondent fills in the questionnaire that has been provided so that it can be analyzed.

Stage 7 analysis and reporting

This stage was carried out to analyze quantitative data from the validation results of expert validators supported by the responses of pregnant women/nursing mothers through a questionnaire.

THE RESULTS OF THE ANALYSIS OF THE APPLICATION OF LEARNING MEDIA FOR CAL-BASED ACUPRESSURE TECHNIQUES FOR BREASTFEEDING MOTHERS

The results of the respondent sheet for nursing mothers are shown in the following table:

Table 4. Response Sheet Results

No	Question	A	Very satisfie d (%)	B	Satisfi ed (%)	C	Not satisfie d (%)	D	Very dissati sfied (%)	Total	Number of respond ents
1	Would make acupressure technique products for nursing mothers using multimedia based on Computer Assisted Learning (CAL) through animation be more interesting and interactive?	28	100%	0	0%	0	0%	0	0%	100%	28
2	With this multimedia product, the socialization given by health workers to the audience of breastfeeding mothers is easy to understand?	26	93%	2	7%	0	0%	0	0%	100%	28
3	How can this acupressure technique foster self-confidence for nursing mothers in breastfeeding their babies?	18	64%	2	7%	8	29%	0	0%	100%	28
4	Are page layouts, images, colors, and fonts (letters) visible and in focus?	21	75%	3	11%	4	14%	0	0%	100%	28
5	Is the message design relevant to the content?	24	86%	3	11%	1	4%	0	0%	100%	28
6	How easy is the media when running on a computer?	21	75%	7	25%	0	0%	0	0%	100%	28
7	What about the truth of the material contained in acupressure techniques?	17	61%	6	21%	0	0%	5	18%	100%	28
8	Is there any interaction between the media and the audience?	25	89%	3	11%	0	0%	0	0%	100%	28
9	Are the guidelines displayed on the media helpful before using the media?	26	93%	2	7%	0	0%	0	0%	100%	28
10	Is the delivery of the material good?	25	89%	3	11%	0	0%	0	0%	100%	28

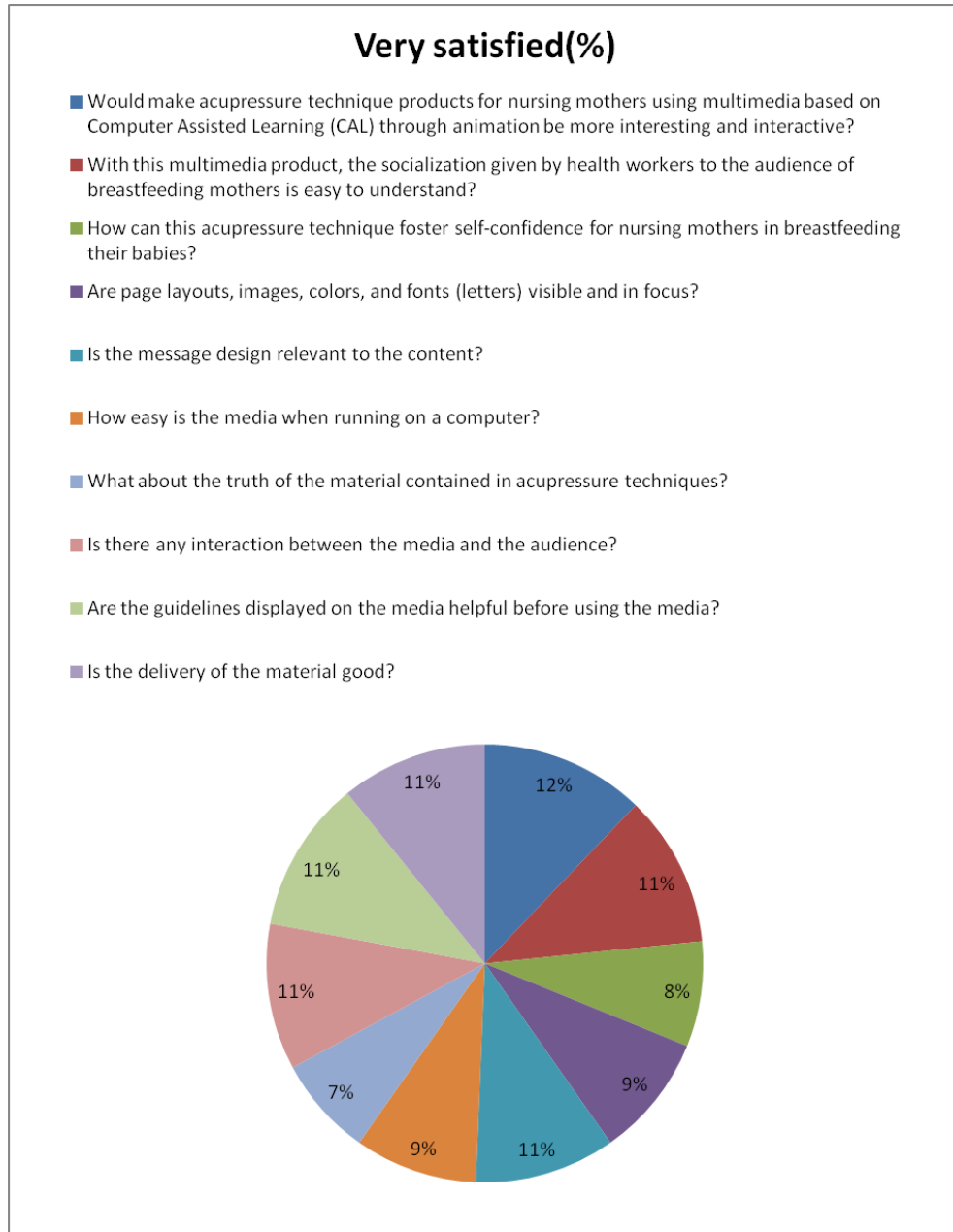


Figure 2. Diagram of the response sheet validation results

CONCLUSION

Based on the results of the above research, it can be concluded that multimedia is very effective in conveying acupressure techniques to pregnant women/nursing mothers in the father and mother clinic in the sandpaper field environment because it is equipped with visuals and animations. Multimedia plays a very important role in educating pregnant women/nursing mothers to be able to learn acupressure techniques easily.

REFERENCES

- Caturiastitin, Karina. 2016. "PENGEMBANGAN MEDIA PEMBELAJARAN BERBASIS CAL (COMPUTER ASSISTED LEARNING) PADA MATA PELAJARAN DASAR KOMPETENSI KELAS X TEKNIK ELEKTRONIKA INDUSTRI DI SMKN 2 LAMONGAN." *Jurnal Pendidikan Teknik Elektro* 6(1).

- Cholifah, Saniyati, Heni Setyowati ER, and Reni Mareta. 2015. "Akupresur Pada Ibu Menyusui Meningkatkan Kecukupan Asupan Asi Bayi Di Kecamatan Mungkid Tahun 2014." *Jurnal Keperawatan Maternitas* 3(2):111–17.
- City, P. D. M. (2011). Faktor-faktor yang Mempengaruhi Pemberian ASI Eksklusif di Kelurahan Tamamaung Kecamatan Panakkukang Kota Makassar.
- Djanah, N., & Muslihatun, W. N. (1930). Akupresur Terhadap Produksi Asi Pada Ibu Post Partum. *Jurnal Photon*, 8(01), 73-77.
- Elyas, Ananda Hadi. 2018. "Penggunaan Model Pembelajaran E-Learning Dalam Meningkatkan Kualitas Pembelajaran." *Warta Dharmawangsa* (56).
- Fendristica, Gladys Galihani, Susilawati Susilawati, and Ni Made Armawati. 2019. "Efektifitas Akupresur Pada Kenaikan Berat Badan Bayi." *Jurnal SMART Kebidanan* 5(2):43–52.
- Kemendes, R. I. 2012. "PP Peraturan Pemerintah No 33 Tahun 2012 Tentang Pemberian Air Susu Ibu Eksklusif." *Jakarta: Kementerian Kesehatan RI*.
- Kurniawati, I. D. (2018). Media Pembelajaran Berbasis Multimedia Interaktif untuk Meningkatkan Pemahaman Konsep Mahasiswa. *DOUBLECLICK: Journal of Computer and Information Technology*, 1(2), 68-75.
- Kuswanto, J., & Walusfa, Y. (2017). Pengembangan multimedia pembelajaran pada mata pelajaran teknologi informasi dan komunikasi kelas viii. *Innovative Journal of Curriculum and Educational Technology*, 6(2), 1-7.
- Massage, O. (2015). Produksi ASI Ibu dengan Intervensi Acupresure Point for Lactation dan Pijat Oksitosin. *Jurnal Ners Vol*, 10(1), 9-19.
- Peraturan Pemerintah Republik Indonesia, No 33 tahun 2012 Tentang Tentang Pemberian Air Susu Ibu Eksklusif. Jakarta: Pemerintah Republik Indonesia.
- Rachmaniah, N. (2014). *Hubungan tingkat pengetahuan ibu tentang ASI dengan tindakan ASI Eksklusif* (Doctoral dissertation, Universitas Muhammadiyah Surakarta).
- Rosadi, D. (2015). Computer Assisted Learning Menggunakan Software Open Source R : Past, Present and Future. *Seminar Nasional Matematika dan Pendidikan Matematika UNY* (pp. U1 - U8). Yogyakarta: ePrints@UNY.
- Setyarini, A., Mexitalia, M., & Margawati, A. (2015). Pengaruh Pemberian Asi Eksklusif dan Non Eksklusif terhadap Mental Emosional Anak Usia 3–4 Tahun. *Medica Hospitalia: Journal of Clinical Medicine*, 3(1).
- Sugiyono, Dr. 2010. "Metode Penelitian Kuantitatif Dan R&D." *Bandung: Alfabeta*.
- Suryono, Wiwid and Mustaji Mustaji. 2018. "The Effect of Computer Assisted Learning Strategy on Learning Outcomes of Engineering Physics Viewed From Different Learning Styles." in *2nd International Conference on Education Innovation (ICEI 2018)*.
- Sutomo, Budi and Dwi yanti Anggraini. 2010. *Menu Sehat Alami Untuk Batita & Balita*. DeMedia.
- Suwignyo, J. (2016). *Penerapan Model Pembelajaran Computer Assisted Instruction Untuk Meningkatkan Kompetensi Teknik Membuat Aplikasi Laba Rugi SMK Kristen Salatiga*. Semarang: Universitas Negeri Semarang.
- Tanduklangi, Amri and Carlina Amri. 2019. *Manajemen Sumber Daya Pembelajaran Bahasa Berbantuan Komputer: Computer Assisted Language Learning*. Deepublish.