

**Meta-Analysis: Differences in the Effect of Health Education Media with Print Media and Social Media on Increasing Breastfeeding Knowledge**

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**ABSTRACT**

Print media and social media can be use to share the information of breastfeeding. In the previous study print media and social media efective to improve knowledge in the breastfeeding mothers. The purpose of the study was to explain the analysis of the effect of providing health education on exclusive breastfeeding with print media and social media on knowledge of breastfeeding mothers. This literature review design used a meta-analysis with a pre-post contrast meta-analysis design. Statistical data analysis was carried out computerized by using the metamar program to analyze standardized mean difference on the effect size. The results of the meta-analysis of literature review on the effect of providing health education on exclusive breastfeeding with printed media on changes in knowledge of breastfeeding mothers obtained a p-value of 0.0013 (< 0.005) which means that there is a significant influence between print media and knowledge of breastfeeding mothers. The results of the meta-analysis of literature review on the effect of providing health education on exclusive breastfeeding with social media on changes in knowledge of breastfeeding mothers obtained a p-value of 0.0000 (< 0.005) which means that there is a significant influence between print media and knowledge of breastfeeding mothers.

**Keywords:** print media; social media; exclusive breastfeeding

**INTRODUCTION**

According to the data of National Basic Health Research in Indonesia in 2018, 65.7 percent of children aged 0-23 months have not/never been breastfed. Meanwhile, according to data of East Kalimantan Basic Health Research in 2018, 77.9 percent of children aged 0-23 months have not/never been breastfed.<sup>(1)</sup> The risk factors for the failure of exclusive breastfeeding include breastfeeding mothers who are not supported by their husbands to do exclusive breastfeeding and the greater risk of experiencing exclusive breastfeeding failure, and breastfeeding mothers who receive incorrect information from health workers are at 8.06 times greater risk of experiencing exclusive breastfeeding failure.<sup>(2)</sup>

Knowledge can be increased by providing health education. Health education is a process of changing a dynamic behavior, the change is not just a process of transferring material or theory from one person to another and is not a set of procedures, but changes occur because there is awareness from within the individual, group and society itself. Health education requires media to maximize the information received by the recipient of the information. Media is something that has the nature of channeling messages and can stimulate the thoughts, feelings and abilities of the audience so as to encourage the learning process in him. The use of creative media allows the audience to learn better and can improve their performance in accordance with the goals to be achieved.<sup>(3)</sup>

The results of the study by Cobalt<sup>(4)</sup> show that several variables in the characteristics of mothers have a relationship with mother's knowledge, attitudes, beliefs and intentions, there is an effect of using print media and social media on mother's knowledge to give exclusive breastfeeding. Next, this study reviwed articles on the influence of health education media (print media and social media) on knowledge about exclusive breastfeeding in mothers and found that 62.24% (89 articles) stated that health education media could change mother's knowledge while 37.76% (54 articles) stated that health education media could not increase mother's knowledge.

The purpose of the study was to explain the analysis of the effect of providing health education on exclusive breastfeeding with print media and social media on knowledge of breastfeeding mothers.

**METHODS**

The study design was a meta-analysis with a pre-post contrast meta-analysis design. The form of pre-post comparative design was comparing the central tendency (mean or proportion) on the variable measured at one time with the central tendency on the same variable measured at another time. Statistical data analysis was carried out computerized by using the Meta-Mar program to perform data analysis using the Raw (standardized) mean difference test on effect size and Standardized mean difference on the effect size. This study used different measurement methods. With these very different measures, they produce different numerical values that are only meaningful in relation to the particular operation and scale used.

**RESULTS**

Based on the screening with the PRISMA diagram, several articles were obtained and then selected articles that met the criteria, namely as many as 25 articles.

**Print Media**

Table 1. Effect size standardized mean difference print media on knowledge about exclusive breastfeeding in breastfeeding mothers

	Print media	p-value
Fixed Effect Model	4.54	0.0000
Random Effect Model	11.84	0.0013

Source: Calculation of articles with the Meta-Mar application

The results of analyzed the meta-analysis articles on the effect of providing health education on exclusive breastfeeding with printed media on changes in knowledge of breastfeeding mothers obtained a p-value of 0.0013 (<0.05) which means there was a significant influence between print media and knowledge of breastfeeding mothers.

Booklets or pocket books, leaflets and flipcharts were useful media for conveying health messages in printed form in the form of sheets, both in writing and in pictures. Health education using print media was expected to increase knowledge about exclusive breastfeeding for breastfeeding mothers. The advantage of providing health education with print media had advantages because print media smaller than book and sheets can be carried anywhere so that they can be read anywhere.<sup>(5)</sup>

According of literature reviewed from Samaria in 2016, it was stated that there was an significantly effect of counseling with booklet media on breastfeeding mothers' knowledge about exclusive breastfeeding with p-value = 0.002 or <0.05. The results of a similar study from Murtiyarini in 2020 stated that there was an effect of counseling with booklet media on breastfeeding mothers' knowledge about exclusive breastfeeding with a p-value = 0.000 or <0.05.

**Social Media**

Table 2. Effect size standardized mean difference social media on knowledge about exclusive breastfeeding in breastfeeding mothers

	Social media	p-value
Fixed Effect Model	3.53	0.0000
Random Effect Model	7.24	0.0000

Source: Calculation of articles with the Meta-Mar application

The results of the meta-analysis articles on the effect of providing health education on exclusive breastfeeding with social media on changes in knowledge of breastfeeding mothers obtained a p-value of 0.0000 (< 0.05) which means that there is a significant influence between print media and knowledge of breastfeeding mothers. In the literature review of Dwi<sup>(6)</sup>, it was found that the mean percentage increase in the value of self care behavior in the group using the WhatsApp method was higher than the group using the Booklet method, namely 27% for the Booklet group and 52% for WhatsApp groups.

## DISCUSSION

Based on statistical analysis from the literature review of Utami<sup>(7)</sup> there was no significant difference in increasing effectiveness ( $p = 0.619$  or  $\geq 0.05$ ) between the use of WhatsApp and Booklet media. However, in each of the pretest and posttest groups, it can be seen that the group who was given health education using WhatsApp media had a greater average increase in attitude scores than Booklet. The mean value of increasing the attitude of the group given health education using WhatsApp media was 9.20, while the group given health education using Booklet media was 8.73. Asnidar<sup>(8)</sup> said that the effectiveness of booklets can also add advantages when applied together with other media, where in his research he combined the use of media through WhatsApp and Booklets. There are differences in children's physical activity after the intervention. The provision of health education using booklets plus re-education through the Whatsapp application media showed a greater change in physical activity compared to other media ( $p = 0.001$ ).

The mix methods are more effective to give health education because the implementation of health education using this booklet still has shortcomings, namely participants must be collected at one time and several times, meanwhile Nur Lia<sup>(9)</sup> stated that although WhatsApp provides many facilities and conveniences for its users, there are often obstacles in disseminating information through WhatsApp. Constraints that occur are dependence on signal stability and the occurrence of misunderstandings or miss communication because not everyone has the same interpretation of information due to the psychological condition of a person who differs from one individual to another.

This is in line with the Information Processing Theory proposed by Gagne which considers that the environment has an important role in learning. This theory explains that in learning activities, information processing will differ from one individual to another. This is determined by one's interpretation or interpretation of the information obtained through the learning environment. This information will ultimately influence a person's knowledge and attitudes. Attitudes are general evaluations that humans make of themselves, other people, objects or issues. This can happen because in theory it is often stated that attitude is a predisposition (determinant) that gives rise to behavior that is in accordance with the attitude.

## CONCLUSION

The result of this literature review was recommend to use print media and social media to improve knowledge of the breastfeeding mothers because using WhatsApp needs strong signals so that print media is one way to complete the health education.

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