

Research Article

Zero-waste Pattern for Breastfeeding Mothers' Clothes According to the Style of Today's Working Women

Centaury Harjani

Duta Wacana Christian University, Jogjakarta, Indonesia

Abstract.

Today's working women must carry out double obligations when they have a family. A woman who is also a working young mother must continue to carry out her responsibilities as a mother. If she is acting as a mother running an exclusive breastfeeding program, of course, she will breastfeed and get used to pumping milk even after returning to work. The need for fashion for breastfeeding/pumping breast milk comfortably and remaining fashionable when used for work is one of the challenges for designers. Besides being comfortable for working mothers, today's fashion designs must support the eco-friendly movement. One of the fashions that seek to be environmentally friendly according to current design trends is the design principle with a zero-waste pattern. Literature study, experimentation, market research, and iteration design methods will be used in developing clothing designs for working mothers in the breastfeeding phase. The focus of nursing clothes that are currently developing uses many zippers/pull buttons and rubber to increase quick access to breastfeeding/pumping. The materials used have varied from t-shirts and polyester to cotton. In this study, we will focus on seeking development without using zippers and rubber and compare several fabrics to obtain the comfort and style that best suits today's working mothers.

Keywords: zero-waste pattern, nursing clothes, working mothers

Corresponding Author: Centaury Harjani; email: centaury_h@staff.ukdw.ac.id

Published: 8 January 2025

Publishing services provided by Knowledge E

© Centaury Harjani. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the BCM 2023: Sustainable Design Conference Committee.

1. Introduction

A mother working during breastfeeding is typical nowadays. There is a government and health movement that encourages mothers to breastfeed their children for at least six months (exclusive breastfeeding program) following Government Regulation of the Republic of Indonesia no. 33 of 2012, of course increasing the number of working mothers who need to breastfeed even though they have returned to office activities. The average leave period for mothers giving birth is three months; therefore, there are still three more months to complete the exclusive breastfeeding program.



The intensity of mothers who breastfeed pump breast milk ranges from once every 3-4 hours [1]. If a mother works 8 hours a day, a working mother needs to pump 2-3 times at work. The obstacle experienced by mothers is that there is only sometimes a particular lactation room available for pumping. The impact if the mother does not regularly pump can cause several problems, such as breast milk seeping into clothes or pain in the breasts because they are full of milk production.

One of the things working mothers need for exclusive breastfeeding is clothes that make it easy to breastfeed or pump. Clothing currently developing still uses zippers and rubber with looser cotton or less formal jersey materials used for work. If the mother is only going to focus on carrying out the exclusive breastfeeding program for six months, of course, there is a possibility that the nursing clothes will not be used again; because of that, breastfeeding clothes are needed that are formal, fashionable, comfortable to use for breastfeeding/pumping, and can still be used to go to work even though they are no longer breastfeeding.

2. Research Methods

The method used is the literature study and experimentation, which will be used in developing clothing designs for working mothers in the breastfeeding phase. This zero-waste fashion design aims to create a manipulation pattern for environmentally friendly production [2]. This method is used in several steps, including:

2.1. Literature Study

This study was conducted to collect reference data regarding research related to breastfeeding clothing and clothing tastes/trends for today's working mothers.

2.2. Experiment

Experimental studies were carried out in the ideation stage, where ideas for modeling and trying out fashion designs were developed.

2.3. Market Research

This research was conducted through interviews and questionnaires with women and working mothers to conclude breastfeeding clothing trends and styles for working mothers.

The flowchart of the research conducted is as follows:

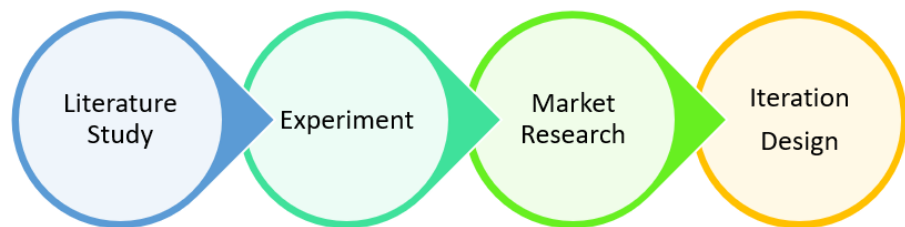


Figure 1: Research Methods (Centaury, 2022).

The achievement targets to be achieved with this method include:

1. Obtain a zero-waste pattern for nursing clothes for working mothers.
2. Obtain breastfeeding clothing designs that can still be used to work in the office even though the breastfeeding period has ended.

The stages of this research include:

1. Initial interview with the respondent to gather the user's views and perspectives.
2. Literature study to gather references about breastfeeding clothing tastes and trends.
3. Development of ideas to gather innovation development opportunities based on user needs.
4. Model experiment to gather all possible solutions.
5. Model analysis to make the finding of inconsistent and undefined needs easier.
6. Market research to gather an understanding of market trends and consumer profile.
7. Model iteration/evaluation and improvement to gather potential improvement.
8. Publication to gather feedback.

3. Result And Discussion

3.1. Initial interviews with respondents obtained several notes regarding the things that young mothers pay attention to when breastfeeding, including:

- Privacy
- Safe (low chance of opening)
- Calm (easy to tidy up Back)
- Supports baby's comfort

3.2. The study of literature obtained that work clothes have the following criteria:

- Clothing needs to show professionalism according to the profession
- Clothing must be ethical (appropriate)
- There are batik clothes/made from regional products

3.3. Development of ideas that are comfortable to wear by working women who are breastfeeding are as shown below:



Figure 2: Nursing Clothes (Bukalapak,2022).

The clothing ideas that will be developed are breastfeeding wear, a development of the pocket model (as much as possible without buttons/fits).

3.4. The model experiment being targeted is the application of a breastfeeding clothing model without buttons/zippers with a zero-waste pattern. As shown in Figure 2, the zero-waste pattern developed is based on the kimono pattern. This pattern is quite flexible and safe when used as work clothes with access to breastfeeding. Alternative decorations and materials can be customized.

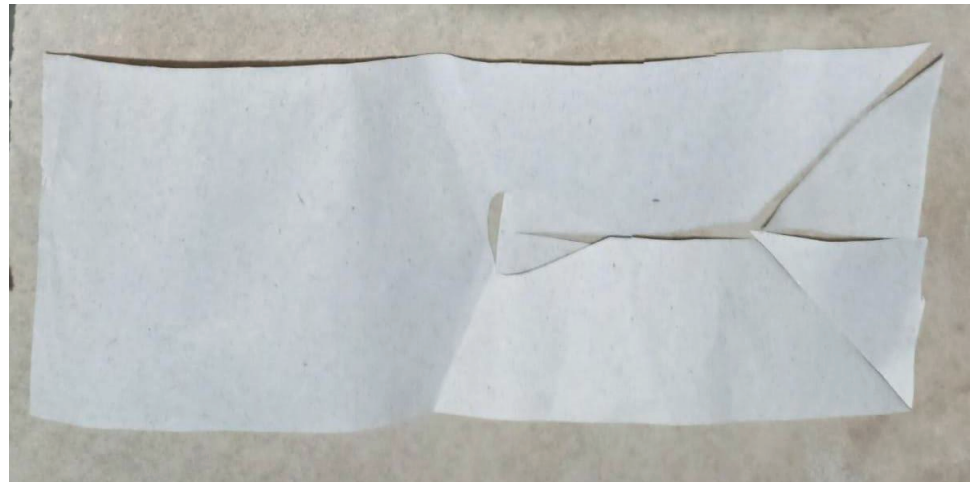


Figure 3: Zero-Waste Pattern 1(Centaury, 2022).

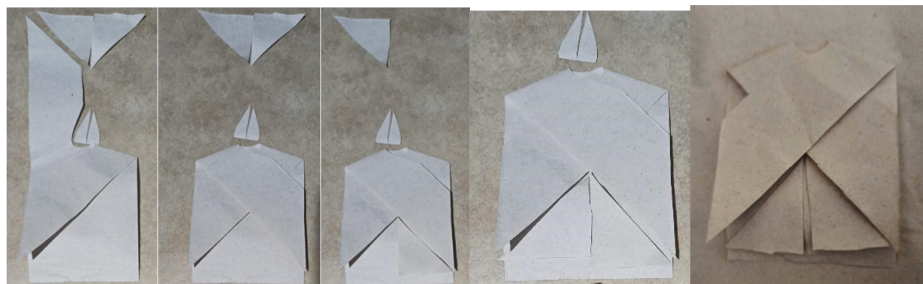


Figure 4: Zero-Waste Pattern 2(Centaury, 2022).

This pattern must be applied and developed with customized materials and adjustments to clothing decoration applications. Adjustments must be perfected to achieve comfort for working mothers who are breastfeeding.

3.5. Model analysis

The advantages of the existing model are: (1) There is an adjustment on the shoulder down (so more comfort is achieved) and (2) The model approaches the kimono pattern, which has relatively high privacy. However, the drawbacks of the existing models are: (1) Existing models do not yet have arm patterns and (2) The neck needs to be given looser access.

3.6. Market Research

“The fashion industry significantly contributes to Indonesia’s economic growth, especially from the creative sector. As an impact, it captures the interest of fashion workers and fashion enthusiasts in Indonesia.” [3]. The results of market research evaluating clothing patterns that are comfortable for breastfeeding mothers and can be used for working women are as follows: most breastfeeding mothers are over 24 months (2 years), and almost none are under six months. These results indicate that nursing clothes

will be used for quite a long time; if clothes need to be worn after breastfeeding, the clothing trend will likely have changed; therefore, a reasonably classic model is needed.

The comfort of breastfeeding clothing that is the choice of respondents includes:

- [20%] Comfortable material
- [30%] Fairly loose fit (not tight)
- [100%] There is an opening 'window' that is easy to access
- [20%] Privacy (safety) while breastfeeding

Based on the market research results above, improving the size and model (iteration) is necessary.

3.7. Model iteration/evaluation and improvement



Figure 5: Zero-Waste Pattern 3(Centaury, 2022).

The result of this iteration of improvements has been adjusted to a comfortable size for access to the breastfeeding 'window'. There is a fairly classic design pattern with a collar and sleeves (formal wear for the office). A more formal impression can be obtained by changing the fabric material (for example, replacing it with batik cloth/batik patterned). Such as the application of models to the following batik-patterned fabrics:



Figure 6: Batik Pattern (Centaury, 2022).

4. Conclusion

The criteria for comfortable clothing for breastfeeding working women must be adjusted to the criteria for good work clothes and have a zero-waste pattern. Zero-waste patterns can be created using fabric manipulation techniques to turn them into comfortable work clothes for women who need to breastfeed or do eping.

The development of the zero-waste pattern makes making clothes easier and leaves no patchwork waste. The simple zero-waste pattern is suitable for working women who are breastfeeding. The challenges in processing zero-waste patterns are the shape of the clothes on the wearer's body and the fashion design itself.

The zero-waste pattern for breastfeeding mothers can be processed based on the size of the breastfeeding mother; it is necessary to apply size grading so that various sizes are available. Wear comfort can be helped by choosing a cotton-like fabric that absorbs sweat and gives a cool/cold feeling when used. The privacy that some women desire while breastfeeding can still be developed in a zero-waste pattern.

References

- [1] Widiasih, R. Masalah-masalah dalam Menyusui. Seminar Manajemen Laktasi, 1–11. 2008
- [2] Nursari F, Nabila A. Engineered print for zero waste fashion design. In Dynamics of Industrial Revolution 4.0: Digital Technology Transformation and Cultural Evolution (pp. 172–176). 2021. Routledge. <https://doi.org/10.1201/9781003193241-32>.
- [3] Haswati SB, Ridjana SM. Branding of Muslim scuba dress: The case study of Rizka Haristi in Bandung. In Dynamics of Industrial Revolution 4.0: Digital Technology Transformation and Cultural Evolution (pp. 26–30). Routledge. 2021. <https://doi.org/10.1201/9781003193241-5>