USE OF GALAKTOGOG AS THE MAIN GOAL OF SDGS IN REDUCING STUNTING

Mastina1, Siti Lestari2, Rizki Wahyu Ramadhan3

1,3Universitas Kader Bangsa Palembang, Bachelor Degree in Midwifery, faculty of midwifery and nursing, Indonesian
2 Sekolah Tinggi Ilmu Kesehatan Keluarga Bunda Jambi, Bachelor Degree in Midwifery, Indonesian

Corresponding Author: mastinajurnal@gmail.com

ABSTRACT

The first 1000 days of life are the most important and unique at the beginning of human life, from conception to two years after giving birth which have an impact on growth and development. This research aimed to determine the differences in breast milk production between the control group, the group given Torbangun leaves, and the group given fenugreek and to carry out an analysis of the zinc content of breast milk for each group. This research design uses a quasi-experiment with a control and intervention group. Purposive sampling technique. Sample Size 49 Responden The number of respondents in this study was 30 respondents, 10 in the control group, 10 respondents in the tobangun intervention group, and 10 respondents in the fenugreek capsule intervention. The analysis test used is the one-way ANOVA analysis test which is used to see the differences between each group. The results showed a significant difference between the control group and the treatment group in the laboratory test for zinc levels, namely 0.000, namely <0.05. Conclusion: Galactogues can be useful for breastfeeding mothers to increase breast milk volume. The suggestion is to use Galaglogog and Fenugreek for postpartum mothers to increase zinc levels and volume in the breast milk of nursing mothers.

Keywords: Breast milk tablets; Galaktogogue; Torbangun leaves

INTRODUCTION

The second indicator of the SDGs in 2030 is living without hunger and eliminating all forms of malnutrition, as well as achieving the agreed target by 2025, namely Stunting and Wasting. Metabolic, social, and environmental risk factors during the first 1,000 days of life (conception to the first 2 years) and beyond can cause malnutrition in children (Black et al., 2013). United Nations Children's Fund (UNICEF) dan World Health Organization (WHO) estimate that malnutrition contributes to almost half of all deaths of children aged <5 years globally (Danaei et al., 2016). Stunting is the most common form of childhood malnutrition and is identified by measuring the child's length or height (recumbent body length for children aged <2 years and standing height for children aged ≥2 years). Stunting is defined as length/height according to age, for gender, below -2 standard deviations (SD) of the median WHO child growth standard, known as LfA-z-score, meaning that the child's length/height is too low for age and gender. (Danaei et al., 2016). Stunting often begins in the womb and continues for at least the first 2 years of life (Word Health Organization (WHO), 2014). Child stunting remains a challenge, especially in low- and middle-income countries (LMICs) where children are at higher risk of experiencing malnutrition (Danaei et al., 2016). The first 1,000 days of life and beyond is a critical period to intervene and prevent stunting to achieve a linear growth trajectory and healthy body weight in the short and long term (Chowdhury et al., 2015). Therefore, it is important to fulfill nutritional intake during the first 1000 days of life.

In the fight to promote exclusive breastfeeding, midwives play a significant role. They advocate for the practice, promote it, and provide training to raise the standard of care.1. According to Kadek et al., (2019), pregnant and
nursing women’s understanding of exclusive breastfeeding needs to be improved by midwife counseling. Promoting breastfeeding exclusively by the Maternal and Child Health Book’s (MCH) recommendations should begin during pregnancy and continue through childbirth and the postpartum phase (Indonesia Ministry of Health & Cooperation Agency, n.d.).

Stunting is the main goal of the six global nutritional targets for 2025 (World Health Organization (WHO), 2014). According to WHO recommendations exclusive breastfeeding for 6 months followed by complementary feeding until 2 years of age is associated with a 0.4-SD improvement in overall child development (β: 0.38; confidence limits = 0.23 to 0.53), a 0.6-SD increase in height-for-age z scores (β: 0.55; confidence limits = 0.31 to 0.79), and a 67% reduction in the odds of stunting (odds ratio = 0.33; interval 95% confidence = 0.20 to 0.54) (JT et al., 2021).

Based on data from the National Nutrition Status Survey conducted by the Ministry of Health in 2022, the results were 21.6% (Kemenkes, 2022). The achievement of the SSGI results in 2022 is still above the WHO target which requires the percentage to be below 20% (World Health Organization (WHO), 2014). In particular, breastfeeding has been linked to a variety of maternal and child health benefits (Chowdhury et al., 2015). According to research in low- and middle-income countries (LMICs), results show a reduction in the risk of child malnutrition and a dose-response relationship between breastfeeding and a reduction in the risk of stunting. (Fan et al., 2020)(García Cruz et al., 2017)(Keino et al., 2014).

Based on an initial survey conducted on 8 respondents, 8 respondents said they had consumed vegetables and taken vitamins to increase breast milk and there were 5 of the respondents who complained that they still complained about the lack of breast milk.

The percentage of babies aged less than 6 months who receive exclusive breast milk according to Susenas, BPS, Indonesia has a percentage of 69.62% in 2020, 71.58% in 2021, and 72.04% in 2022. The results of Susenas, BPS, South Sumatra Province show an increase The percentage of breastfeeding is 76.21% in 2020, 76.43 in 2021, and 75.88 in 2022. Based on this data, there has been an increase in the number of babies breastfed exclusively, however, this has not yet reached the WHO target of less than 20%. Based on this data, there is an increase in exclusive breastfeeding coverage but it has still not reached the national target of 100%. Data from the Palembang City Health Service in 2021, the number of babies aged 0-6 months with exclusive breastfeeding was 58.2%. In 2022 there will be 57.17% of babies exclusively breastfed, based on this data, it can be seen that there will be a decrease in the percentage from 2021 and 2022.

The formulation of the problem in this research is how mothers who use torbangun extract capsules compare to breast milk production.

**METHOD**

This research design uses a quasi-experiment with a control and intervention group (A). The group that gave Torbangun leaf extract, a group that gave fenugreek extract (B), and an intervention group for 2 (C). Using random selection techniques, the number of samples taken from each group was 10 respondents. The research location is the Palembang City Health Center, South Sumatra Province. The research time was carried out on September 4 – 20 2023. The population of this study were all mothers who had babies from day 1 to day 7 at the Palembang City Health Center. Amount. 49 Responden. The respondents in this research were 30 mothers. The sampling technique uses a purposive sampling technique. Sample inclusion criteria are as follows:

1. Postpartum mothers days 1 to 7.
2. Breastfeed the baby exclusively.
3. History of normal delivery.
4. Mother’s LiLA ≥23.5 cm.
5. Babies born at term.
7. Willing to be a respondent.

Sample exclusion criteria are as follows:

1. Mothers with a history of smoking, and consuming alcohol.
2. Mother takes medicine or herbs to increase breast milk production.
3. Mother with an emergency.
4. Babies with congenital abnormalities and emergencies.

The data analysis technique uses the Anova test, which is aimed at testing differences in more than two groups. The novelty of this research is that it used Galactagogue and Fenugreek for postpartum mothers to increase zinc levels and volume in the breast milk of nursing mothers. The Ethics Test was carried out at the Palembang Health Polytechnic with Ethics Test Pass Number No: 0742/KEPK/Adm2/VII/2023.

RESULTS

Table 1 univariate analysis

Based on univariate analysis, it was found that the most dominant thing that can increase breast milk volume is Torbangun tablets, namely 100%.

<table>
<thead>
<tr>
<th>No</th>
<th>Galaktogogue</th>
<th>Group Name</th>
<th>Enhancement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Torbangun</td>
<td>A</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>Fenugreek</td>
<td>B</td>
<td>99%</td>
</tr>
<tr>
<td>3</td>
<td>Kontrol</td>
<td>C</td>
<td>57%</td>
</tr>
</tbody>
</table>

breast milk volume is Torbangun tablets, namely 100%.

Table 2 ZINC Normality Test Results

Based on Table 2 above, the results of the normality test using the Shapiro Wilk test, it was found that each group had a normal distribution.

<table>
<thead>
<tr>
<th>No</th>
<th>Group name</th>
<th>Sig value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ZINC</td>
<td>0.823</td>
</tr>
</tbody>
</table>

with a sig value > 0.05.

Tabel 3 Homogeneity Test Results

Based on the average results of the homogeneity test in Table 3, it was found that the sig value for the Zinc Lab test was 0.823. Based on these results, the significance value (sig) is > 0.05, which means that the variance of the two groups, namely the Zink laboratory results groups, is the same or homogeneous so that the assumption of homogeneity in the one-way ANOVA test is fulfilled.

Tabel 4 One Way Anova Test Results

<table>
<thead>
<tr>
<th>No</th>
<th>Group name</th>
<th>Sig value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Zinc</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Based on the results of the One Way Anova test in Table 4, the Sig value obtained in the Zinc Laboratory Test for each group, namely groups A and B, is 0.000, and in the laboratory test for each group, namely groups A and B, Fe is 0.001, these results obtained a value < 0.05, which means that the average laboratory results in each group have a significant difference.

DISCUSSION

The first 1000 days of life are the most important and unique at the beginning of human life, from conception to two years after giving birth. (Krebs et al., 2017)(Cusick & Georgieff, 2016). This phase is the phase where there is very rapid growth and expansion of the baby's central nervous system (MICHA, 2017) and influences the development of nervous sensitivity related to environmental problems (Krebs et al., 2017)(Cusick & Georgieff, 2016). The early ages of life already knew the sequence of human anatomy (Flora et al., 2013), mediated by the complex relationship between the baby's genetic framework and the surrounding environment (Cusick & Georgieff, 2016). Therefore, experiences of adversity during early infancy, such as malnutrition, have lifelong consequences for neurocognitive outcomes. (Schwarzenberg & Georgieff, 2018).

According to the World Health Organization (WHO), the American Academy of Pediatrics (AAP), and the European Society for Pediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN), breast milk is the normative food for babies during the first six months of life and thereafter, apart from complementary foods. (Bognar et al., 2020). Breast milk meets the specific nutritional needs of babies and has an impact on adequate growth and functional development.
Breastfeeding is widely known to promote lifelong health for mothers and babies (Victora et al., 2016). In Australia, it shows that only 60% breastfeed and only 16% exclusively breastfeed (Ho, 2013). Research shows that lack of lactation is one of the most common reasons for women to stop breastfeeding (McBride et al., 2021). Lactation insufficiency can be caused by several factors, including a lack of tissue in the breasts, unbalanced hormone levels, and ineffective removal of breast milk from the breasts. (Amir, 2014).

The first management of lactation insufficiency is by consuming non-pharmacological herbal medicines. Such as ensuring the correct position and attachment of the baby (Amir, 2014) This results in lactation that is not sufficient for the baby's needs. One supplement that can increase breast milk production, several drugs that contain galactogues are fenugreek and torbangun leaves. (Foong et al., 2020).

Torbangun (Coleus amboinicus Lour) is one of the food crops that has a lactagogum function, namely can increase the secretion and production of breast milk (Prahesti et al., 2020). The average breast milk production in the treatment group was greater than the control group. This is because the theory says that torbangun leaves (Coleus Amboinicus L) contain polyphenols, tannins, and alkaloids which can affect increasing milk production, and help in secreting milk (Bemj & Tahun, 2023).

Fenugreek (Trigonella foenum-graecum) contains mucilage, trigonelline, 4 – 4-hydroxy isoleucine, sotolon, diosgenin, luteolin, phenolic acid, and protodioscin (Institute for Advancement of breastfeeding & Lactation Education, 2023). Fenugreek has been used in several geographies around the world as a galactagog to increase breast milk volume and is included in various exclusive mixtures marketed to increase breast milk volume (Institute For Advancement of Breastfeeding & Lactation Education, 2023). A survey in the US found that fenugreek could increase breast milk supply (Institute For advancement of Breastfeeding & Lactation Education, 2023)

Based on research, women experience breast milk production within 24 to 72 hours after consuming fenugreek (McBride et al., 2021), of 66 breastfeeding mothers who consumed fenugreek had double the volume of breast milk pumped (S et al., 2010). Fenugreek can stimulate hormone stimulation in ruminants which can stimulate breast milk production through dopamine receptor antagonism, phyro estrogen can also stimulate breast growth. Oxytocin and its anxiolytic properties may help reflect breast milk ejection for better breastfeeding (Foong et al., 2020) This research was conducted on respondents who were postpartum mothers for 1-7 days, where respondents were given Torbangun tablets 2 times in 1 day, namely in the morning and evening after eating, the respondents taken were homogeneous, this was because the respondents were in the same area, namely in the City Area Palembang.

Zinc is a micronutrient that can influence the body’s metabolism which can help absorb other micronutrients. Zinc is needed to form the growth of the mammary glands and the output or secretion pathways in the breasts (Mustikasari et al., 2021). Breastfed babies can experience zinc deficiency, so babies can experience immune problems (Mustikasari et al., 2021).

Based on research conducted by Marlina (2022), giving torbangun leaf drink had a t-value of 17.169 and a P-value of 0.000. Wake-up leaves are given for 14 days at a dose of 150 gr/day. Data processing in this study used paired sample tests. The results of this study show that there is an increase in baby weight and breast milk production in mothers who consume breast milk. The p-value in this study was 0.000, which is less than 0.05, which means that the galactagogue content contained in the leaves of - wake - wake is believed to have a role in increasing breast milk secretion. (Oktaviya et al., 2020). Torbangun can stimulate the proliferation of secretory breast cells (Foong et al., 2020).

CONCLUSION
Breastfeeding is a very important thing in a baby's life, influencing the first 1000 in the life cycle which has an impact on growth and development. The use of galaktogok in pregnant women is very useful for increasing breast milk production so that the baby's needs are met. This research found that there were differences between the use of galaktogog (torbangun and fenugreek) to increase breast milk volume in postpartum mothers.

**REFERENCE**


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