

Moringa Oleifera: Effective in Supporting Breastfeeding

MAHWISH NAJAM, KIREN KHURSHID MALIK, MARIAM MALIK

ABSTRACT

Objective: To study the effectiveness of Moringa Oleifera (Hilacta) in increasing milk production and thereby supporting breastfeeding.

Study design: Randomized controlled double blind trial.

Place and duration of study: The Department of Obstetrics and Gynaecology, Unit II, Sir Ganga Ram Hospital, Lahore from July 2010 to October 2010.

Patients and methods: One hundred mothers in the Department of Obstetrics and Gynaecology Unit II, who had complaint of inadequate milk production in postnatal period, were included in this study. Participants were divided into two groups. Group A and Group B with fifty participants in each group. Group A was given A1 drug and Group B was given B2 drug. Dose of both drugs was two capsules twice a day for four weeks. Nature of product in both drug A1 and drug B2 was not known to the participants and researchers. Both drugs were identical in appearance and were in same packing. At regular follow-up visits results of both groups were collected and compared.

Results: In Group B participants, establishment of lactation was early as compared to Group A participants. Also in Group B mothers were more satisfied when compared to Group A.

Conclusion: Group B drug i.e. Moringa Oleifera (Hilacta) is effective in establishing and supporting breast feeding.

Key words: Hilacta, Galactogogues, Sohanjna

INTRODUCTION

Breast milk is the best food for the newborn. Human breast milk is the healthiest form of milk for human babies.¹ World Health Organization (WHO) and American Academy of Pediatrics (AAP) emphasize the value of exclusive breast feeding for six months and supplemented breast feeding for at least two years.^{2,3} Breast feeding promotes health, helps to prevent disease and reduces health care and feeding costs.^{4,5,6}

Breast milk has just the right amount of fat, sugar and protein that is needed for a baby's growth and development.⁷ Breast milk contain several anti infective factors such as bile salt stimulated lipases that protects against amebic infections, lactoferrin that binds to iron and inhibits the growth of intestinal bacteria and immunoglobulin A that protects against microorganisms.^{8,9,10} Breastfeeding protects against upper respiratory tract infections, diarrhea and middle ear infections.¹¹ Artificial feeding is associated with deaths from diarrhea and acute respiratory infections in infants in both developing and developed countries.¹² High intelligence quotients (IQ) scores have been observed in breastfed children. Imzoab, Der and colleagues did a cohort study on relationship between breast feeding and intelligence in children. They concluded that there was a direct positive

association between breastfeeding and cognitive development.¹³ Breast fed children have less atopy i.e.; tendency to develop allergic diseases, less diabetes and less childhood obesity.^{14, 15, 16}

In our culture women want to breastfeed their children. They start breastfeeding but vast majority give it up soon afterwards. Major reason for this is insufficient or inadequate milk production. Galactogogues are products which help in the establishment of lactation. Moringa Oleifera (Hilacta) is one of the herbs, used to establish the flow of breast milk.¹⁷ Moringa Oleifera, more commonly known as Sohanjna in our country. Its leaves can be harvested throughout the year. As galactogogues, dried Moringa Oleifera leaves in encapsulated form as Hilacta are available commercially. These leaves are rich in calcium, iron, phosphorous and proteins.¹⁸ Studies have shown that Hilacta by increasing the prolactin level in lactating mothers increases the volume of breast milk.¹⁷

Aim of our study was to study the effectiveness of Moringa Oleifera (Hilacta) in supporting lactation in nursing mothers.

PATIENTS AND METHOD

This study was conducted in the Department of Obstetrics and Gynaecology, Unit II, Sir Ganga Ram Hospital, Lahore from July 2010 to October

2010. All participants irrespective of their parity who complained of inadequate breast milk in their postnatal period were included in this study. Mothers, who previously did not nurse their children due to inadequate milk, were also included in this study. Purpose of study was explained to the participants. Beneficial effects of the drug were told. In addition, mothers were counseled and trained in proper latching, positioning, frequency and duration of feeding. They were also trained in noting the numbers of time neonate passed urine in twenty four hours. Informed consent was taken for participation in this study and for regular follow up visits. Participants were divided into two Groups A and B by simple randomization technique. Each Group had 50 participants.

All the relevant information regarding age, parity, education, socioeconomic status, previous history of breast feeding and past use of any galactogogues was documented. Each sealed envelope contained a week's supply of drug A1 for Group A and drug B2 for Group B. Nature of product in both drug A1 and drug B2 was not known to the participants and researchers. Participants were instructed to take two capsules two times a day from second day postpartum till four weeks. Mothers were further facilitated with a twenty four hour functional hotline i.e. through researcher telephone numbers. Regular follow up visits were done on 7th, 14th, 21st and 28th day after starting medication. Compliance of drug intake was confirmed.

At every follow up visit, mothers were questioned about their satisfaction regarding milk production. They were specifically asked about proper latching, positioning, frequency and duration of feeding, and weight gain of baby as noticed by mothers. All neonates were weighed at the last visit. Adverse effects in the form of GIT disturbance and hypersensitivity reaction were asked from mothers at every follow up visit.

Once results were compiled and compared, the nature of product in both group A and B was revealed. It was starch (placebo) in drug A1 and Moringa Oleifera (Hilacta) in drug B2. Data of both groups was compared and percentages calculated.

RESULTS

Initially one hundred and fifty two mothers with complaint of inadequate milk production were included in this study. Fifty two of them dropped out of the study, twenty seven from Group A and

twenty five from Group B. Among the dropouts 20 took drug inadequately, 4 left against medical advice from the ward, 8 refused to participate in the follow ups and 20 did not come for follow up.

Sociodemographic data of both groups was comparable. Age and parity was similar in both groups as is shown in Table 1.

Table 1: Comparison of Socio demographic data of Group A and Group B

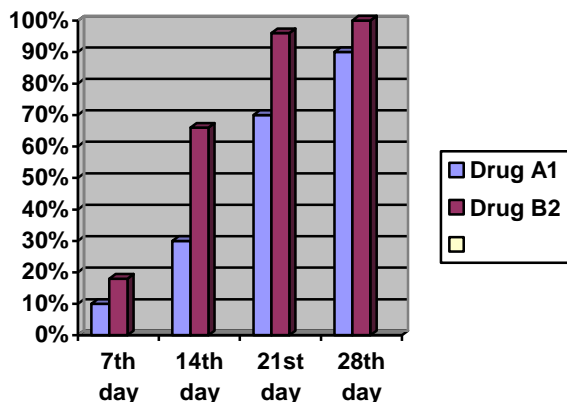
Characteristics	Group A n=50	Group B n=50
Maternal age in years	26.8	27.8
Parity		
Primpara	15 (30%)	20 (40%)
Para 2	20 (40%)	15 (30%)
Para 3	15 (30%)	15 (30%)
Education:		
Metric	20 (40%)	19 (38%)
Undermatic	20 (40%)	20 (40%)
Uneducated	10 (20%)	11 (22%)
Short history of breast feeding previously		
Para 2	20(40%)	15(30%)
Pare 3	15(30%)	15(30%)

Table 2: Comparison of Maternal Satisfaction (amount of milk, Weight gain by neonates) in both groups

	Group A n=50	Group B n=50
Maternal satisfaction regarding the amount of breast milk		
7 th day	05(10%)	09 (18%)
14 th day	15 (30%)	33 (66%)
21 st day	35 (70%)	48 (96%)
28 th day	45 (90%)	50(100%)
Maternal satisfaction in term of weight gain by babies		
7 th day	05(10%)	09 (18%)
14 th day	15 (30%)	33 (66%)
21 st day	35 (70%)	48 (96%)
28 th day	45 (90%)	50(100%)

Table 3: Comparison of frequency, duration of breastfeeding and neonatal urination

Duration of feeding		
15 minutes	20%	30%
10 minutes	5%	10%
05 minutes	20%	08%
<05minutes	05%	02%
Frequency of feeding		
Eight times a day	20%	30%
Less than 8 times	05%	15%
More than 08 times	25%	05%
Neonatal urination in 24 hours	30%	35%
More than 6 times in a day	20%	15%
Less than 6 times in a day		
Average weight gain by neonates	1%	1.2%



- Comparison of maternal satisfaction regarding amount of breast milk production between group A (Placebo) and group B (Moringa Oleifera:Hilacta)

In group A, maternal satisfaction regarding milk production on 7th day was 10%, while in Group B it was 18%. On 14th day in Group A it was seen in 30% mothers as compared in 66% mothers of Group B. On 21st day 70% mothers of Group A

and 96% mothers of Group B were satisfied with amount of milk. On 28th day maternal satisfaction in Group A was 90% as compare to Group B mothers, where it was 100%.

Maternal satisfaction regarding neonatal weight gain was directly related to increase in milk production.

DISCUSSION

Breast milk is the best food and gift that a mother can give to her child. It is safe, easily available and provides all nutrients that a baby requires for the first six months of his life. Most of the mothers with complaint of insufficient milk production shift their children to bottle feeding and stop breast feeding.¹⁹

Moringa Oleifera (Hilacta) is one of the most studied herbs used as galactogogues. It promotes and establishes the flow of mother's milk. As a galactogogue several studies have confirmed the efficacy of Moringa Oleifera (Hilacta). A study done in 1997 by Almirante and Lim documented effectiveness of malunggay leaves (Moringa Oleifera) in breast milk production by increasing maternal serum prolactin levels.¹⁷

In our study it was a mix group of primi and multipara who were not satisfied with milk production and average maternal age is 27 years so parity and maternal age were comparable with other studies as done by Glazel Briton and Estrella^{20,21} Education level of mothers was also comparable with other study. Education is a beneficial factor in breastfeeding and compliance. Educated mothers in both groups understood the importance of breastfeeding and its rationale and they were able to follow our instructions in a better way when compared to women who were illiterate.

In our study Moringa Oleifera was started from second post natal day and significant response was noted on 7th postnatal day. In the study by Estrella, drug was given three days after delivery and they noted increase in amount of milk on day 5.²¹ In the study by Glazel Moringa Oleifera was given prenatally and they noted increase in milk production immediately after delivery.²⁰ It is evident from the studies that there is a lag period of three to five days before significant increase in amount of milk production occurs. So it would be a good plan to start Moringa Oleifera in the antenatal period to establish breastfeeding effectively right from birth.

In studies by Glazel and Estrella measurement of amount of milk was done by expression through

the use of breast pumps.^{20,21} In our study we got an idea indirectly in term of maternal satisfaction by duration and frequency of feeding and number of times neonate passed urine (ideally at least six times a day).

When maternal satisfaction for milk production was studied in both Placebo and Moringa group, it was noted that maternal satisfaction was achieved earlier in mothers who took Moringa (Hilacta).

In Moringa Oleifera (Hilacta) group mothers were satisfied not only with the amount of breast milk but also satisfied with the weight gain by their neonates. All the mothers in Moringa Oleifera (Hilacta) group were quite satisfied at day 28th but in placebo group maternal satisfaction was not achieved even on day 28th regarding amount of milk production.. Weight gain of neonates in Moringa Oleifera (Hilacta) group was almost similar with neonates in Placebo group. Our results were not comparable with the study of Almirante and Lim. In their study, they noted gain in the infant's weight among mothers who took Moringa Oleifera after delivery. ¹⁷ Training of the mothers regarding proper latching, positioning, frequency and duration of feeding was done at the start of study so this training by itself may have contributed to weight gain in Placebo Group.

The data presented in our study demonstrates the beneficial effects of Moringa Oleifera (Hilacta) in supporting lactation when given in postpartum period to the mothers who had complaint of insufficient milk. Maternal satisfaction regarding amount of milk production was more in Hilacta group when compared to placebo group. Those mothers who did not nurse their babies previously were also satisfied with the amount of milk production.

No adverse drug effects were observed in all these participants. This was comparable to a study done by A.A.Adedapo and colleagues in Nigeria for safety evaluation of Moringa Oleifera in rats. One reason is that we were using leaves of Moringa Oleifera which are safe and side effects are noted with roots of the plant as in study of Adedapo.²²

CONCLUSION

All efforts should be made to promote breastfeeding. Breastfed children are healthy, active, intelligent and more resistant to infections. Moringa Oleifera (Hilacta) can be used in lactating mothers to establish adequate milk production.

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