



ERGOFEED- AN ERGONOMICALLY DEVELOPED FEEDING PILLOW FOR PRIMIPARA MOTHERS TO ENHANCE BREAST FEEDING EXPERIENCE-REVIEW ARTICLE

Nursing Science

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KEYWORDS

INTRODUCTION

Breastfeeding indeed offers a multitude of benefits for both infants and mothers, acting as a protective factor for various non-communicable diseases. Breastfeeding is defined as all mammalian species possess the process of lactation. It supplies all essential nutrients adequately to the babies from mothers for their growth and development [1]. Breast milk for six months without adding anything to it, is called as exclusive breastfeeding. It should be provided up to six months and then introduction of complementary food along with breast milk for 2 years, is ideal for infants as recommended by WHO [2]. For infants, breastfeeding provides essential nutrients and antibodies that support their immune system, helping to defend against infections and reducing the risk of developing conditions like asthma, allergies, and respiratory infections. Additionally, it is associated with a low risk of sudden infant death syndrome (SIDS) and may contribute to better cognitive development [3]. And also reduces formula expenses and medical costs [4]. Exclusive breastfeeding (EBF) is defined as feeding an infant with only human milk for the first 6 months of life without routine replacement of any meal by supplemental feeding. Globally for first six months, almost all newborns are only breastfed [2,5].

Its very important during breastfeeding to keep a eye on mother's body posture. Breastfeeding moms are advised to use several techniques, such as the cross-cradle, under-arm, side-laying, and supine postures. With premature babies, the under-arm posture, sometimes known as the football hold, is a suitable feeding position. It gives mothers greater control over their infant's head and improves their ability to observe the infant's face. Using a pillow can help to support and elevate the baby in the cross-cradle position so that it is level with the breast. When using the laying down method, the mother and child lie down face down. Using this technique, the mother bends her arm beneath her own head and places it over the baby's head. She encircles the baby with her other hand to bring it closer. When the mother is in a laying position, this is the ideal position for close feeding. [6]. The most popular breastfeeding position is known as the "cross cradle," in which the infant is held close to the mother with their head and shoulder supported, their ear, shoulder, and hip in alignment, and their nose facing the breast across from their nipple.

On the other hand, inhibiting factors for breastfeeding include use of medication, interpersonal and physical [7]. Moreover, being in a constant physical posture has been linked to chronic musculoskeletal disorders (MSDs), such as neck, back and knee disorders, which appear to have a negative impact on breastfeeding. Improvement in breastfeeding is directly related to mothers' health which is achieved by ergonomic breastfeeding. Studies that have Intervene ergonomic was conducted mostly on industrial workers and employees, and it showed that ergonomic intervention have leads to improvement in the working conditions of the women. [8].

REVIEW-

The aim of this study is to spread awareness about the ergonomic device used for breast feeding, its training, enhancement, and its influence on the people. Ergonomics is a method of combining job needs and the worker's environment to maximise effectiveness, productivity, and value of labour while minimising WMSD, drowsiness and overexertion [9]. Because of the prominent role that

close companions played in women's nursing experiences, support from partners and female relatives was mentioned in the literature as key elements determining women's breastfeeding decisions [10]. Although the health benefits of breastfeeding are widely acknowledged, opinions and recommendations are strongly divided on the optimal duration of exclusive breastfeeding. Since 2001, the World Health Organization has recommended exclusive breastfeeding for six months [11]. In the articles published in Canada, Australia, and the United Kingdom, supportive family members allowed women to share the responsibility of feeding and other childcare activities, which reduced the pressures associated with being a new mother [12]. Similarly, encouragement, breastfeeding advice, and validation from healthcare professionals were identified as positively impacting women's experiences with breastfeeding. According to the study confirmed that during breastfeeding 96% of mothers complain of discomfort in three areas of the body, namely lower abdomen, lower back and breasts [13]. Sitting too long while breastfeeding often causes back discomfort [14]. Using a breastfeeding pillow is expected to minimize maternal discomfort during the breastfeeding process.

Musculoskeletal (MS) pain and discomfort are well-known and common health problem in almost all occupations and countries, which occur as a consequence of exposure to several work-related stressors such as repetitive movements, awkward postures, overexertion, and localised mechanical stresses [15,16]. WMSD are injuries of the MS system and connective tissues resulting from an imbalance between physical capacities and work conditions [15]. Work conditions that may lead to WMSDs include the lifting of heavy objects, daily exposure to vibration in body, work with the neck flexion, and forceful tasks [17]. This problem is seen in every next part of the world. Therefore, it has become a national priority for prevention worldwide [18,19]. Workplace ergonomic interventions are one of the primary ways to avoid or control such disorders [20]. The most frequently employed ergonomic techniques can be categorised as organisational ergonomic interventions, individual worker interventions and physical ergonomic interventions [21].

Global Initiatives to Promote Breastfeeding says the Infant and young children should be focused on optimal feeding to improve their health and development. Approximately death of 9.5 million children happened before 5 years, and before one year two thirds of children died in the year 2006 as reported. It is because of many associated factors with them. Among them, at least 35% of child deaths occurred due to under nutrition. Around 32% of children are stunted and 10% are wasted before 5 years in some countries. Around 1.4 million children lost their lives and 10% of the children who were below 5 years developed 13 diseases due to lack of practice of exclusive breastfeeding in the first 6 months of an infant life. The overall rate of initiation of breast feeding is 15.8% in India and even other countries reported low rate of breastfeeding initiation [22]. Adequate and appropriate feeding up to two years age is very important for complete development of an infant physically as well as psychologically. Prevention of 13% death in children younger than 5 years can be targeted by promoting breastfeeding optimally and there can be 6% reduction in mortality rate of children under-five by complementary feeding practice [23]. An infant should avail breast milk up to six months exclusively and other types of food should be included along

with breast milk after six months. An infant should be given breast milk up to 2 years. Infant should be fed breast milk up to at least one year as recommended by AAP [24]. Globally, 35% of infants are given only breast milk up for four months as reported. The highest percentage of breastfeeding was observed at twelve months in Asia, Africa and parts of Latin America [5]. One study reported that 43 % of infants are breastfed globally. India still lacks the optimum rate of exclusive breastfeeding [25]. In India, as per the report of NFHS-4 in the year 2015-2016, exclusive breastfeeding's rate was only 55% at 6 months. It is further reported that the death of infants before one year mostly occurred due to inappropriate and inadequate practice of feeding.

Women's attitudes towards breastfeeding were addressed in 83% of the studies. Most articles revealed that women considered nursing as a pleasurable experience with several benefits [26]. The terms "breast is best" and "breastmilk is best" were often used by participants of studies included in the examined literature [27]. Breastfeeding was thought to improve the emotional relationship between the mother and the child, increase the kid's immune system, and boost the mother's feeling of self [28]. According to the research, healthcare providers' guidance influenced women's opinions of nursing and feeding choices [29]. Paradoxically, statements promoting the importance and relative simplicity of nursing may also contribute to misalignment between women's expectations and their actual experiences with breastfeeding [30].

DISCUSSION

As per AAP and WHO, breast milk should be only provided to an infant for the first one eighty days after birth. The beneficial effect of breast milk on health gets maximized if the infant is exclusively fed with breast milk for the first six months. Continuation of breastfeeding should be followed up to completion of 2 years along with addition of complementary food after 6 months. It not only helps an infant to be protected from various childhood diseases and medical conditions in life but also makes them stronger psychologically [31]. Breastfeeding has major role in developing infant's overall growth in first 2 years of infant's life. It not only provides the basic requirement to infants, but it has emotional impact on both mother and infant. Breast milk provides nutritional advantages, and it protects infants against various infections due to its bioactive components. The infants who are given formula powder differ from breast fed infants. It can be described in terms of presence of microbiome, growth, body composition, prevalence of infection which has impact on long term health outcomes and intelligence.

As per NHFS 4, 2015-16 data, approximately 54.9% of infants below 6 months are given breast milk exclusively in India and if we consider Tamil Nadu, only 48.3% infants are given breast milk and only 45.5% of infants are given breast milk exclusively in Puducherry and it is even lesser if the child is sick or lack of breastfeeding knowledge of mother [32]. To fasten the rate of breastfeeding exclusively up to 50% in early six months of an infant, the Global Nutrition 2025 is taking necessary action. Some countries have already reached at or near 50% exclusive breastfeeding and the effort should be continued to have better improvement in EBF rate as exclusive breastfeeding confers both maternal and infant health benefits. Direct breastfeeding has tremendous impact on infant's optimal growth and development. It supports to fulfil the nutrition of the infants, appropriate weight gain reduces length of hospital stay [33], fight against various infections and reduces mortality 99 rate in infants [34,35]. So, promoting and supporting breastfeeding is the priority in India where healthcare resource is very limited and to decrease financial burden on the families belong to low socioeconomic status for purchasing substitute of breast milk. Definition of Effective Breastfeeding, According to American heritage dictionary, the process of feeding breast milk to a baby from a lactating mother is called breastfeeding. It is the process of satisfaction and ability reflected on mother-infant dyad [36]. It is also defined as the process of reception of breast milk by an infant [37]. It is further defined as a process of techniques and symbolic communication exhibited by both mother-infant dyads to accomplish the task of successful milk transfer to the mouth of an infant, or it is an act of mutual interaction between mother-infant dyad [38].

Necessity of effective breastfeeding, Breastfeeding behaviours of infant such as the coordination between sucking, swallowing and breathing are required for successful feeding [39]. These behaviours of an infant are required to ensure adequate transfer of breast milk to infant's mouth, and to prevent many breastfeeding problems because

of improper latching. Infant's inappropriate positioning or latching to the breast of mother lead to nipple trauma or soreness during breastfeeding whereas proper latching or positioning of mother-infant dyads can help in reducing feeding difficulties later in life if proper practice is performed during initial feeding of an infant [40]. As per reports of NFHS-III, 29.5% children are already underweight at the age of 6 months and 45% of children below age of 3 years have been reported as malnourished in India [41]. Inappropriate feeding position of the mother due to lack of breastfeeding knowledge, incorrect latching on of the baby, lack of prenatal counselling and serious erosion of breastfeeding are some of the important causes of malnourishment. The act of breastfeeding is a natural process but sometimes it becomes complicated task for the dyads due to inappropriate positioning, inexperience of mother or medical issues associated with them. The co-occupation of breastfeeding requires active participation from both mother and infant.

Ergonomic device for breastfeeding is designed to provide comfort and support to mothers during the breastfeeding process. These devices can significantly reduce discomfort and fatigue experienced by mothers during breastfeeding. Here are some key points about ergonomic devices for breastfeeding, Breastfeeding pillows can help reduce maternal discomfort by supporting the baby's weight and preventing fatigue on the mother's arm, shoulder, and neck [42]. They can also improve the position and attachment of the mother-baby during breastfeeding, enhancing the quality of breastfeeding. Ergonomic training can be provided to mothers to improve their posture and reduce the risk of musculoskeletal disorders (MSDs) during breastfeeding. This training includes guidelines on how to sit and breastfeed correctly, such as using pillows for support and maintaining a balanced posture [3]. Breastfeeding Accessories, various accessories like breastfeeding pillows, nursing covers, and breast shields are available to support mothers during breastfeeding. The benefits of ergonomic devices and training can reduce maternal discomfort and fatigue, leading to improved breastfeeding quality and overall health. They can also help reduce the risk of musculoskeletal disorders and improve the overall breastfeeding experience [42]. It is recommended that mothers should be encouraged to pay attention to ergonomic principles during breastfeeding to minimize discomfort and fatigue. Ergonomic devices and training should be incorporated into discharge planning programs to support new mothers.

CONCLUSION

Ergonomic devices and training are essential for promoting comfortable and effective breastfeeding. These devices and techniques can significantly reduce maternal discomfort and fatigue, leading to improved breastfeeding outcomes and overall health. Furthermore, the bonding and emotional connection formed during breastfeeding can have positive effects on both the mother's and infant's mental well-being. Overall, breastfeeding plays a crucial role in promoting the health and well-being of both infants and mothers.

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