Review Article

Breastfeeding and Health Outcomes for the Mother and Infant: A Literature Review

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Abstract

This study looked at the effects of nursing on the mother's and baby's health. Breastfeeding benefits mothers and babies. Breast milk provides the finest nutrition and growth for a newborn. Infants receive the best nourishment from breast milk. Strong evidence suggests that newborns who are breastfed have a lower chance of becoming overweight or obese than children. According to data from a meta-analysis, up to the age of 9 months, breastfeeding lowered the chance of being overweight by 4% every month. In this study, the usual protocol for systematic literature reviews was used. It took place between November 2022 and January 2023. This was based on published content found in the e-resources Academic Search Complete, Global Health, Cumulative Index to Nursing and Allied Health (CINAHL), Scopus, and MEDLINE Web of Knowledge. In addition, this was supplemented by looking through the reference lists of the papers that were selected for evaluation. The evaluation of both the qualitative and quantitative study was carried out with the assistance of the tools provided by the effective public health practice project and the critical appraisal skills program. The search strategy produced a total of 150 studies. Twenty different studies were taken into consideration for the assessment once the selection technique was put into practice. These studies demonstrate the advantages of exclusive breastfeeding for both moms and newborns. For the mother's health as well, breastfeeding is beneficial. Numerous studies have suggested that some cancer-like illnesses do not harm mothers because they breastfeed their children. If children had received enough breast milk, their growth and development would be excellent.

Keywords: Breastfeeding, health, mother, infant

Introduction

Breastfeeding has health benefits for mothers and newborns equally. For a baby, there is no better source of nutrition than breast milk, which also facilitates healthy development and growth. Breastfeeding has been shown to protect both the mother and the infant from a variety of illnesses and ailments. The mother's breast milk changes as the kid grows to meet his or her nutritional needs. Babies who are breastfed have a lower risk of developing type 1 diabetes, asthma, sudden infant death syndrome (SIDS), or obesity. In addition, infants who are breastfed had lower rates of gastrointestinal disorders and ear infections. These antibodies protect infants from sickness and help build their immune systems. It is possible for mothers to feed their newborns without having to mix up bottles or formula. Infants whose regular schedule is disrupted may find comfort in breastfeeding when traveling. Breastfeeding has advantages for both the mother's and the baby's health. In females, breastfeeding lowers the incidence of some cancers, type 2 diabetes, and high blood pressure.[1]

The sayings "Breast is best!" and "Breastfeeding saves lives" are well-known to both doctors and women. The practice of a mother breastfeeding her infant is considered "normative" in the United States, with 75% of all women reporting having done it.[1] Unfavorably, nursing is still not seen as the preferred way to feed neonates. Women today tend to breastfeed for shorter

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periods than government and medical experts advise, which could result in a lost opportunity to make an improvement on the health of both mothers and their newborns.[2]

For the first 6 months of life, the infant's only source of nourishment should be breast milk. The introduction of complementary foods to a baby's diet should begin around 6 months of age, and nursing should continue for up to a further 2 years.[3]

Breast milk has developed over time to effectively regulate the development, growth, and metabolism of human newborns while also providing the optimum nutrition and immune defense. To prepare the newborn's immune system for maturation delays and to reduce intestinal permeability, breast milk is crucial.[4]

There is sufficient evidence to infer that nursing benefits for mothers outweigh the hazards in terms of short-term health and disease development, even if these benefits have not been the subject of as much investigation as those for babies.[5]

Continuous weight gain is linked with having children, and Retention of Weight gain following childbirth has been linked to less favorable results in a subsequent pregnancy. In contrast, breastfeeding is linked to weight loss after delivery. Baker *et al*. demonstrated in a sizable prospective cohort research that At 6 and 18 months postpartum, weight loss was associated with higher intensity (exclusivity) and length of breastfeeding in women of all body mass index groups.[6]

Although changes to the metabolism of lipids and glucose during pregnancy help to develop fetus, they might be unhealthy for the mother's health as well. In contrast, nursing has been associated with favorable metabolic changes. The "Reset Hypothesis" claims that the beneficial metabolic changes generated during lactation continue to exist after weaning and contribute to the long-term reductions in the risk of chronic illnesses in lactating women. Since observational studies provide all of the data for this, confounding and selection bias cannot be ruled out.[7]

The mother's placental hormone-induced anti-insulin effects during pregnancy cause her to become insulin-resistant. Along with increasing the possibility of getting diabetes type 2 in the future, Gestational diabetes may be the outcome of these metabolic changes. On the other hand, for every year of lifelong breastfeeding, insulin sensitivity rises during lactation and could have long-term implications. There was a 4–12% decrease in the risk of type 2 diabetes. Breastfeeding intensity may also be important because type 2 diabetes risk was 50% higher in women who did not exclusively breastfeed than those who did it for up to 3 months.[8]

Due to their lifelong exposure to fewer hormones such as estrogen, breastfeeding women have been reported to have a lower risk of developing malignancies of the reproductive system. According to a meta-analysis published in 2002. Breastfeeding duration was typically shorter and less frequent in breast cancer patients that were shorter unlike those without the illness. In addition, longer durations of breastfeeding may boost protection against BC. As with each extra year of nursing, the risk of developing the condition decreased by 4.3%. Another meta-analysis found that women who breastfed their children for at least a year had a risk of having ovarian cancer that was 28% lower than the risk for women who did not breastfeed.[9]

Need for study

Women who breastfeed have been found to reduce the chance of developing reproductive malignancies, which is possibly attributable to the fact that they are subjected to lower levels of hormones like estrogen. Breast cancer patients had a lower breastfeeding prevalence and an average lifetime nursing duration, was shorter in those with the disease than in those without it, according to a meta-analysis published in 2002. The total breast cancer rate dropped by 4.3%. Additional year of nursing, suggesting that breastfeeding for extended lengths of time may enhance protection against the illness. Another meta-analysis found As compared to women who did not breastfeed, those who did so had a 28% lower risk of developing ovarian cancer.[10]

Numerous studies have found a connection between breastfeeding and higher IQ scores in later life. As well, the physical proximity, your baby's sense of security, and bonding with you are all supported by eye contact and skin-to-skin contact. Breastfed babies mature with healthy weight gain compared to growing into overweight children. Breastfeeding helps prevent SIDS, according to the AAP. More research is required, but it may also reduce the risk of diabetes, obesity, and several malignancies.[11]

Breastfeeding burns more calories, hastening your postpartum weight loss. The hormone oxytocin is produced as a result, helping the uterus restore to its pre-pregnancy size and potentially reducing postpartum uterine hemorrhage. In particular, for the mother, breastfeeding provides benefits that continue for up to 2 years. Breastfeeding also lowers the risk of ovarian and breast cancer. As a result, you might get osteoporosis less frequently.[12]

It saves both your money and time because we do not need to buy and sterilize nipples, reheat bottles, or measure formulas. In addition to this, it enables you to have consistent time with your baby, which helps to deepen the link between the two of you. Breastmilk is a rich source of minerals, vitamins, and nutrients which promote the development of the child. Colostrum is thick and yellowish in appearance and produced by mothers shortly after giving birth, is the primary source of nutrition for infants. Colostrum provides the baby's first chance at immunity. A few of the illnesses and diseases that are known to be less prevalent in breastfed children are lower respiratory infections, childhood obesity, asthma, diarrhea and vomiting, and sudden infant death syndrome. Furthermore, breastfeeding is linked to a 3–4 point rise in a child's IQ.[13]

Infants and their moms both gain from breastfeeding. It helps mothers maintain birth spacing, lessens their risk of getting

particular types of ovarian and breast cancer, and hastens up their postpartum recovery. Breastfeeding guarantees that children have access to food even during emergencies and helps to prevent all forms of malnutrition. Breastfeeding has advantages for the family and society in addition to the mother and baby. One resource that is sustainable, renewable, and produces no contamination or waste is breast milk.[14]

Therefore, it is important to study the influence that breastfeeding has on the mother's and baby's health. The researcher made the decision to conduct this analysis after reading a selection of publications and journals on breastfeeding and its effects on mother and baby's health.

Methodology

The standard protocol of the systematic literature review was used in this study. The search was undertaken from November 2022 to January 2023. The methods and reporting were developed and conducted with systematic methodology.

Source of literature

This was based on published publications discovered in the electronic bibliographic databases Global Health, Scopus, MEDLINE Web of Knowledge, and Academic Search Complete (CINAHL), among others. Additional sources included an examination of the reference lists of the publications that were included in the review.

Search terms

Two key concepts-breastfeeding and health outcomes for the mother and breastfeeding and health outcomes for the infant were searched for using a variety of Boolean operators.

Inclusion and exclusion criteria

Studies were evaluated to determine whether or not they satisfied the inclusion and exclusion criteria for eligibility. These criteria were based on the year, nation, health outcomes for the mother, language, breastfeeding, study design, and language, as well as breastfeeding and health outcomes for the newborn.

Study selection and data extraction

Duplicate citations were deleted from studies that were exported to full review after being acquired from databases. The study's question and its location were taken into consideration when screening abstracts. The whole text of the publications was evaluated to apply all additional inclusion and exclusion criteria.

Studies that were chosen for the addition were transformed into an Excel spreadsheet so that setting, population, techniques, early breastfeeding initiation, and theme analysis data could be extracted.

Quality appraisal

The effectiveness of the included studies was evaluated using qualitative and quantitative methodologies, evaluating the study's design, methodology, and analysis. based on standards set up inside two different tools-the critical appraisal skills program (CASP) and the effective public health practice project (EPHPP) tools studies were divided into three categories: strong, moderate, and weak. The CASP tool, which consists of a checklist with ten screening questions on the study's goal, appropriateness of the research design to address the purpose, appropriateness of data collection methods, appropriateness of the qualitative methodology, appropriateness of the recruitment strategy, ethical issues, the relationship between participants and researcher, data analysis, the value of the study, statement of findings, and statement of findings, was used to evaluate qualitative studies. This tool has already undergone evaluation, revision, and review. The EPHPP tool was used to evaluate quantitative studies and assign grades based on the following criteria: Research design, selection bias, blinding, data collection techniques, confounders, withdrawals and drop-outs analysis, and intervention integrity. This tool is effective to have strong intra-class correlation coefficient value and high inter-reliability value across different domains. The CASP tool and the EPHPP tool were used in mixed-method research to address the qualitative and quantitative components, respectively.

Synthesis of results

The breastfeeding and health outcomes for the mother and child elements that were being addressed led to a synopsis of the findings. The findings related to the parameters were systematically combined based on the degree of support for maternal and fetal health outcomes. The framework for the study of breastfeeding and health outcomes for the mother and infant using a health system perspective was developed by The SURE Collaboration for systematic analyses and organization, and it served as the foundation for this strategy. Using thematic analysis, the study on breastfeeding and health outcomes for the child and mother was compiled and organized according to the conceptual framework. This analytical paradigm offered a detailed and a scientific perspective on the effects of breastfeeding on maternal and newborn health.

Results

The search method brought up 130 studies. Following the application of the selection method, 20 studies were included for evaluation.

The caliber of the papers that were picked for review reflected reference nations. The researcher concentrated more on the Indian study. 10 studies on breastfeeding and mother's health outcomes and 10 studies on breastfeeding and infant's health outcomes. While some studies chose participants at random, others focused on postpartum mothers, people who had visited immunization clinics, postpartum mothers, and people who had stopped breastfeeding.

Due to limitations in the recruitment technique, research design, and data processing, both of the qualitative studies under consideration were deemed to be of moderate quality according to the CASP criteria. None of the quantitative studies

had a high-quality ranking according to the EPHPP, as they were all cross-sectional studies with a moderately weighted design. Eight studies were a middling quality, and eight had inadequate designs, inaccurate data collection techniques, and no confounding factor control. Out of the six mixed-method studies, one was moderate and one was weak in both qualitative and quantitative design; five had weak quantitative design and moderate qualitative design.

Breastfeeding and health outcomes for the mother

According to several research, the prevalence of breastfeeding has increased in the nation as a result of its health benefits. Mothers of infants between the ages of 6 and 23 months were polled as part of a cross-sectional study by Koehn *et al*. in 2020. 3455 mothers in total were chosen using multistage cluster sampling. This study showed that breastfeeding benefits moms' overall health.[15] According to Foo *et al*., in 2005, 94.5% of the women tried to breastfeed their babies. At 1 month, 71.6% of mothers were still nursing, followed by 49.6% at 2 months and 29.8% at 4 months. By 6 months, only 21.1% of infants were still being breastfed. In comparison to earlier studies, the findings of this study indicate higher prevalence rates of breastfeeding.[16]

Only a few other research provided evidence that nursing promotes short-term fertility prevention. Future fertility is inversely connected with breastfeeding, according to Jayachandran and Kuziemko, since nursing temporarily lowers fertility and because mothers typically wean before getting pregnant again.[17] According to Chandhiok *et al*., exclusive breastfeeding for the first 6 months is thought to be good for mothers' health and well-being.[18] According to Nishimura *et al*., mothers who had transient infertility benefited from exclusive nursing.[19]

Findings by Semenic *et al*. show the health advantages for mothers and highlight the intricate interaction of factors impacting breastfeeding.[20] According to Ip *et al*., moms from industrialized nations who have a history of breastfeeding had a lower chance of developing a number of ailments.[21] According to Chowdhury *et al*., breastfeeding for more than 12 months was linked to a 26% and 37% lower risk of developing breast and ovarian cancer, respectively.[22] Research, according to Feltner *et al*., was pertinent to the efficacy of breastfeeding programs or policies, and the remaining studies were pertinent to one or more outcomes related to maternal health.[23] According to Lange *et al*., there were no significant differences in breastfeeding amongst the various categories of mental health status.[24]

Breastfeeding and health outcomes for the infant

A study by Neault *et al*. looked at the relationships between breastfeeding and child health outcomes. The connection between breastfeeding and child health status was changed by household food insecurity, and the associations were highest among food-insecure households.[25] The majority of newborn health outcomes, according to Paynter *et al*., were attributed to exclusive breastfeeding.[26] According to Matijasevich *et al*., breastfeeding exclusively lowers the risk of childhood diseases. Possible explanations for the observed correlation include the fact that human milk contains the essential nutrients a baby requires throughout the first few months of life.[27]

According to Sankar *et al*., a substantial body of research supports the World Health Organization recommendations, showing that the best breastfeeding practices are strongly linked to decreased rates of gastrointestinal and respiratory tract infections as well as child survival.[28] The guideline for 6 months of exclusive breastfeeding is supported by research by Rebhan *et al*. about health outcomes.[29] The preventive effects of exclusive breastfeeding on a few certain infants' morbidities during the first 9 months of life were validated by Diallo *et al*. in 2009. infants who were less exclusively breastfed and more infants who had ever nursed were born with birth weights under 1500 g.[30] according to Jones *et al*.[31] Heinig makes it clear that this relationship is impacted by the child's feeding practices as well as whether the youngster is breastfed.[32] According to Agho *et al*., the exclusive breastfeeding rate in Nigeria is low and much below the levels that are necessary to significantly lower child mortality.[33] According to Ware *et al*., breastfeeding was strongly related to decreases in total infant mortality in an urban region with high infant mortality and low breastfeeding rates.[34]

Conclusion

This study demonstrates the advantages of exclusive breastfeeding for both moms and newborns. For the mother's health as well as for babay breastfeeding is beneficial. Numerous studies have suggested that some cancer-like illnesses do not harm mothers because they breastfeed their children. If children had received enough breast milk, their growth and development would be excellent.

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