

Family Protection With Breastfeeding to Against Poverty : A Literature Review

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ABSTRACT

Health cost became an economic problem. It adds the poverty people. Breastfeeding could decrease infectious morbidity, mortality maternal child and low-cost means of feeding babies. Breastfeeding hope dan helps contribute to poverty reduction. This article comprehensively summarizes and critically reviews the literature about breastfeeding's impact on social economy. A literature review was extracted from five articles by review process and electronic search. It identified breastfeeding impact for maternal child health, and economic benefit of breastfeeding. Implementation of breastfeeding can promote family social economy, and against poverty. Governments and national organizations have responsibility to ensure resources for optimal breastfeeding.

Key word: breastfeeding, health, proverty

BACKGROUND

Breastfeeding begins from the first hour of birth until the six months and continues for up to two years accompanied by a complementary diet of adequate nutrients. Infants aged 0-6 months require breast milk because it meets 100% of the nutritional, after 6 months of age the baby

needs more nutrients and breast milk only sustains 60-70% of the nutritional (Begin etc, 2016) . Breastfeeding affects the quality of infant health. The lower the number of infants who receive breastfeeding, the health quality of infants and toddlers will be worse since improper breastfeeding causes impaired digestion which further leads to growth disorders, which in turn can increase the birth rate of infants. 800,000 infant toddler deaths per year can be prevented with exclusive exclusion (WHO, 2003).

Breastfeeding is proven to provide many benefits for children, maternal health and family economic status (Begin etc, 2016). Breastfeeding has the potential to save money on parents for not buying formula milk for babies and health care costs. Seven countries in Southeast Asia the health costs of diseases associated with exclusive breastfeeding amounted to US \$ 293.55 million and an estimated 87% of Indonesia's costs [Walters etc, 2016]. Babies who get breast milk will be less often sick, so babies less frequent treatment to the doctor let alone be hospitalized. This will obviously lower the state budget for the cost of disease that can be prevented, so that funds can be used by other programs. In addition, the value of work productivity of mothers will be increasing (Victoria, 2016).

METHOD

Data were collected by electronic search engine. It was conducted of the EBSCO-CINAHL, MEDLINE, PROQUEST, and SPRINGER data bases from inception through March 28, 2018. It was limited to English-language articles with available abstract and full-text; published on 2008 until 2018; and matched the terms *breastfeeding AND social-economy OR low-income OR poverty*. The initial search identified 25 articles. The list of articles reviewed were searched for potentially content relevant, good evidence references, and no preferred study design beyond the limitations. Four articles met all inclusion criteria, and was excluded duplicate study, out of dated publication (i.e. more than 10 years old), and did not specify the connection between breastfeeding and social-economy. Reviewers additionally extracted information about authors, time, place/location, data source, period, samples, design, results, relevancy conclusion with this study. One articles were systematic review about breastfeeding impact for maternal child health and relation with social economic. Three articles were correlation and estimate economic benefit of breastfeeding.

RESULT

Breastfeeding Impact for Maternal Child Health

Victoria et.al. (2016) obtained information about the associations between breastfeeding and outcomes in children or mothers from 22 systematic reviews and meta-analyses. Children who are

breastfed for longer periods have lower infectious morbidity and mortality, fewer dental malocclusions, and higher intelligence than do those who are breastfed for shorter periods, or not breastfed. Breastfeeding can prevent mothers have breast cancer, improve birth spacing, and might reduce a woman's risk of diabetes and ovarian cancer. Even in low-income and middle-income countries, only 37% of infants younger than 6 months are exclusively breastfed. The scaling up of breastfeeding can prevent an estimated 823,000 child deaths and 20,000 breast cancer deaths every year. Findings from studies done with modern biological techniques suggest novel mechanisms that characterize breastmilk as a personalized medicine for infants.

Economic Benefit of Breastfeeding

Holla-Bhar et al. (2015) presents detailed cost estimates for implementing the Global Strategy, and outlines The World Breastfeeding Costing Initiative (WBCi) Financial Planning Tool. Estimates use demographic data from UNICEF's State of the World's Children 2013. The financial cost of a program to implement the Global Strategy in 214 countries is estimated at US \$17.5 billion (\$130 per live birth). The major recurring cost is maternity entitlements. WBCi is a policy advocacy initiative to encourage integrated actions that enable breastfeeding. WBCi will help countries plan and prioritize actions and budget them accurately. International agencies and donors can also use the tool to calculate or track investments in breastfeeding.

Lowson, Offer, Watson, McGuire, and Renfrew (2015) growing body of evidence by presenting an economic analysis of data from an actual intervention, the 'Getting It Right From the Start' programme, in the north of the UK during 2011–12. 'Getting It Right from the Start' was a pragmatic, multifaceted programme of change delivered under the auspices of the regional Health Innovation and Education Cluster, of which 17 were established in the UK in 2010. It engaged with 18 neonatal units in two Neonatal Networks with the aim of increasing kangaroo skin-to-skin care and breastfeeding rates.

They conducted an economic study comparing the overall costs and benefits of the intervention. The aim of the economic evaluation was to translate the outcomes and benefits from the programme as demonstrated in the data on outcomes, into economic benefits which could then be compared to the costs of the intervention. Increases in breastfeeding associated with the project generated between £68,486 and £582,432. The majority of the cost savings generated were associated with reductions in cases of gastroenteritis and necrotising enterocolitis. The cost reduction associated with reduction in cases of NEC is £119,084 under minimum cost assumptions and £500,696 under maximum cost assumptions, under our baseline assumptions for increases in breastfeeding rates. The reduction associated with gastroenteritis is £34,809 under minimum cost assumptions and £67,060 under maximum cost assumptions.

Siregar, Pitriyan, and Walters (2018) study costs from a provider perspective were

estimated using healthcare records and 26 interviews with healthcare workers. A cross-sectional survey with caregiver-child pairs ($n = 615$) collected data related to out of pocket costs such transportation and opportunity costs such as wage loss. Data collection took place between 2015 and 2016. This study estimates the potential economic impact of not breastfeeding according to recommendation in Indonesia based on infants suffering from attributable diarrhea and pneumonia or respiratory disease (PRD). A cost analysis examined both the healthcare system costs and non-medical costs for children ($< 24\text{mo}$) with diarrhea and PRD.

The healthcare system cost due to not breastfeeding according to recommendation was estimated at US\$118 million annually. The mean healthcare system cost and out of pocket costs was US\$11.37 and US\$3.85 respectively. This cost consists of US\$88.64 million of provider costs and US\$29.98 million of non-medical patient costs.

The mean costs from provider perspective for both diarrhea and PRD combined was US\$11.37. The cost from patient perspective was US\$3.85/treatment and included transportation and productivity loss due to seeking treatment. The highest cost per treatment was at the private hospital for both outpatient and inpatient care. For outpatient services, the highest treatment cost per patient was for inpatient PRD treatment in private hospitals. The outpatient treatment cost of diarrhea ranged from; US\$1.39 in posyandu, US\$41.33 in public hospitals and US\$146.11 in a private hospital. The costs for inpatient treatment for diarrhea

can reach US\$362.80 in a public hospital. The cost per case treated as outpatient PRD treatment ranged from US\$2.34 in posyandu, US\$45.62 in public hospitals. PRD inpatient treatment was US\$366.82 in public hospitals and US\$433.44 in private hospitals.

DISCUSSION

The benefit of breastfeeding that summarize from Victora et.al. (2016) was also the same as Ip, et.al, (2007) from The Agency for Healthcare Research and Quality (AHRQ) through its Evidence-Based Practice Centers (EPCs) who used meta-analyzes study. They screened over 9,000 abstracts. Forty-three primary studies on infant health outcomes, 43 primary studies on maternal health outcomes, and 29 systematic reviews or meta-analyses that covered approximately 400 individual studies were included.

A history of breastfeeding is associated with a reduced risk of many diseases in infants and mothers from developed countries. Breastfeeding was associated with a reduction in the risk of acute otitis media, non-specific gastroenteritis, severe lower respiratory tract infections, atopic dermatitis, asthma (young children), obesity, type 1 and 2 diabetes, childhood leukemia, sudden infant death syndrome (SIDS), and necrotizing enterocolitis (Ip, et.al., 2007; Victoria et.al., 2016).

Breastfeeding protects against many infections. It might be mediated directly or through effects on the infant microbiome. A mother's breastmilk given elements of her own microbiome and immune responses, and also provides

specific prebiotics to support growth of beneficial bacteria. Breastmilk contains a dominance of immune cells of gut-related phenotype ($\gamma\delta$ cells, $\beta7+$ cells) that have matured within the mother's intestine. Breastmilk cytokines also vary depending on the mother's immunological experiences. Human breastmilk not only important source of energy and nutrients, but also personalized medicine for baby from her/his mother.

It also contains components that disturb the attachment of pathogen to nasopharyngeal epithelial cells. The intermittent consume of milk with anti-adhesive substances into the nasopharynx may reduce the extent of colonization and protect against infection. Factors like secretory IgA, oligosaccharides, and *lactoferrin* contain in breast milk, can be a passive immunity. *Fucosylated glycans* in breast milk inhibit binding by *Campylobacter jejuni*, stable toxin of enterotoxigenic *Escherichia coli*, and major strains of *Caliciviruses* to their target host cell receptors. Glycoprotein lactadherin found in breast milk protects against rotavirus infection.

A study in Brazil including 30 years of follow-up suggested an effect of breastfeeding on intelligence, attained schooling, and adult earnings, with 72% of the effect of breastfeeding on income explained by the increase in IQ (Horta, Mola, Victora, 2016). It hapen cause of The long-chain polyunsaturated fatty acids (such as arachidonic acid and docosahexaenoic acid) in breast milk and bonding attachment from mother to baby increase growth and development.

Breastfeeding can prevent mothers from diabetes and ovarium-breast cancer.

Breastfeeding could decrease risk mother with gestational diabetes development to type 2 diabetes. Breastfeeding effect on glucose and lipid metabolism; and improved pancreatic beta-cell function in women. While breast and ovarian cancers are associated with parity, women with increased parity also have increased lifetime duration of breastfeeding. Therefore, it would be more study to examine the relationship of breastfeeding and the risk of developing breast or ovarian cancer.

Breastfeeding had positive impact to maternal child healthy. Government and organization must have global strategy or program to improve exclusive breastfeeding. Demonstration of the budgetary feasibility and sustainability and potential economic are important to its practical implementation. Breastfeeding program often through multi-sectoral action, rather than the implementation of only a few interventions. The cost of the breastfeeding program is a health investment (preventive) which, if calculated the number of less than curative disease program, which actually can prevented by breastfeeding (Holla-Bhar et al., 2015).

The study from Lawson, et.al (2015) found that economic benefits accrued from the impact of the intervention on length of stay in neonatal units for babies without infections, on rates of morbidity, and on the need for and management of babies during transfer between units. The largest contribution to cost reductions stems from reductions in gastroenteritis and necrotising enterocolitis (NEC). This is encouraging as these conditions are most directly related to the method of feeding

on the neonatal ward, and thus the cost reductions are most tangible and may even result in cash-releasing savings for services. Treatment for NEC, as reflected in the Department of Health's reference costs, can be extremely resource intensive.

The cost of not breastfeeding according to recommendation is potentially high, therefore the Indonesian government needs to invest in breastfeeding protection, promotion and support as the potential healthcare system cost savings are significant (Siregar, Pitriyan, & Walters, 2018). As suggested by other studies, the long term cost due to cognitive losses of providing not breastfeeding according to recommendation should also be taken into account to provide a complete understanding of the economic impact of not breastfeeding according to recommendation.

CONCLUSION

This study complements the existing economic models by demonstrating that a real intervention in clinical practice was both cost effective as well as clinically beneficial. Future interventions with should be supported and considered likely to generate significant cost savings compared to outlay. Economic evaluation should be more frequently included in studies of practical interventions in clinical settings to increase breastfeeding.

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