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RESEARCH ARTICLE

BREASTFEEDING INITIATIVES PROGRAMME FOR PROMOTING HEALTHY FEEDING HABIT AMONG INFANTS AND GOOD HEALTH OF BREASTFEEDING MOTHERS A SYSTEMATIC REVIEW:

Hussaini Y. Anka and *Shehu Abdullahi

Federal University Gusau Zamfara, State Nigeria

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ABSTRACT

Breast feeding initiatives programme was examine for the rapid growth and protection of infants against many illness including infectious and non-infectious diseases. Other benefits associated with good health being of infants through breastfeeding were highlighted. Nutritional status of breast milk and its associated impact to the lifestyle of infants was examined by reviewing relevant articles from a global perspective. Other benefits of breast feeding mothers were compared to non-breastfeeding mothers. Health improvement programmes and intervention measures that help to improve the health being of mothers and infants as a result of breast feeding was as well examined. Ethical issues regarding breastfeeding in hospital settings were addressed. Conclusion was made in respect to the breastfeeding mode as a global concern also highlighted.

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INTRODUCTION

In providing complete nutrition for infants, breast milk has been said to be suitable for infants and plays an important part in protecting against respiratory and gastroenteritis diseases (Kramer *et al.*, 2001 and Howie *et al.*, 1990). Strong links to preventing otitis media (Aniansson *et al.*, 1994) by feeding on breast milk, urinary tract diseases (Pisacane *et al.*, 1992), and overweight (Gilman *et al.*, 2001; Virtanen *et al.*, 1999). Another benefit of breastfeeding is reduction in paediatric weight (CDC, 2007). Normally the health of children is at danger from overweight and other similar problems to it, this include increase in insulin concentrations and elevated serum lipid (Dietz, 1998) and (Freedman, 1999), also increase in blood pressure (Dietz, 1998) and type 2 diabetes (American Diabetes Association, 2000). Human breast milk has been found to contain all the necessary and complete nutrients for infants and can provide protection from some and childhood diseases. In spite of this the United Kingdom remain the lowest compared to other countries in the initiation of breastfeeding. According to 'Our healthier nation' report the government has placed as regarded as important the need to start breastfeeding promotions to help in improving health and bring about a significant reduction in health inequalities of mothers and their children (Fairbank *et al.*, 2000).

*Corresponding author: Shehu Abdullahi,
Federal University Gusau Zamfara, State Nigeria.

Infants who were breastfed were found to receive antibodies from the breast milk, and this protects against diseases in the early period following birth. It was also found to least expensive compared to other formula feeding. Mother's who breast fed were found to be healthier than those who did not. Those who do not were found to be at risk of having cancer of the ovaries (Gwinn *et al.*, 1990) also cancer that occurs just before menopause sets in (Beral, 2002 and Newcombe *et al.*, 1994). (Dewey *et al.*, 1993) found that mothers who were breastfeeding had a greater chance of shedding off weight accumulated during pregnancy. Breastfeeding has been acknowledged internationally as most appropriate way to feed infants with WHO recommending strict breastfeeding in the first six months following birth (Kramer & Kakuma, 2002). The department of Health has recommended that babies between the six months and below ought to be breastfed and it should be maintained for four months with no inclusion of solid food before then. By 6 months a mixture of foods can be included in their diet (Department of Health, 1994). A lot has been written on healthy infant feeding, with differences in and within the UK which conflicts with recommendations of the government mostly about breastfeeding (Department of Health and Social Security, 1988; DH, 1994). Although breastfeeding has been found by experts to be the best way to feed infants (Department of Health and Social Security 1988) it has not been taken with much enthusiasm by the general public. Surveys have shown that 37% of women choose not to breastfeed their infants at all while the rest that do breastfeed do not carry on until the recommended months or time periods.

Although, 63% of women started to breastfeed about 39% still remain breastfeeding up to four months and 33% up until six months (White et al, 1992). It is much lower in women of low social status like about women of about 61% joined the Supplemental Nutrition Programme for Women, Infants and Children (WIC) start breastfeeding and about 33% followed through till six months (Centres for Disease Control and Prevention breastfeeding website, 2008).

Background: A key public health issue has been that of breastfeeding. A lot of benefits of breast feeding have been attributed to health state of the child and protection against towards the health of the child has been linked to it. The interventions in place are numerous to promote breast feeding in mothers, the paper 'effective health care' volume 6, number 2 summarizes them with emphasis on the effectiveness of such programmes. Repeatedly surveys have seen the new and old rates of breast feeding not changing even in the UK even after several efforts nationally since 1980. About 62% women in 1995 started breast feeding in England and Wales, while Scotland had 48% and Northern Ireland had 41 % (Foster et al, 1995). (mother's age and age till they were through with schooling full time were standardised) Social class has been a major contributor and link with the breast feeding rates in the UK; Women of the 1st social class who had initiated breast feeding were 90% in 1995 when comparing with just half of a percentage from the 5th social class (Department of Health, 1999). An action report on how to cut down on health inequalities put together by Department of Health is seeking to put in place increase in policies rates of breast feeding in the country (White paper saving lives: our healthier nation, 1998). More than ten million children die who are less than five years internationally and each year are attributable to a number of preventable causes. Infants below the ages of twelve months of age are mostly at risk to these conditions and are the larger number of these deaths (Lawrence & Worsley, 2007). Workable prevention and intervention are underway for every cause of this deaths and if adhered to can drastically reduce more than 60% of under-fives deaths every year, these include exclusive breastfeeding, complementary feeding, vitamins intake especially zinc and vitamins supplements (Jones *et al.*, 2003).

In the UK and other parts of the world a huge amount of interventions have been looked at implemented to bring about an up rise in: initiation of breast feeding, exclusively breast feeding and the time length of breast feeding. A lot of work goes into finding and settling with the right and best intervention programme for a particular population and setting. Twenty intervention studies were evaluated and considered on breast feeding. The main work pertaining to this were done in the USA, in the UK they were five, in Australia three and in Canada one. Based on poor methods and the design of the study or the target population were largely under-represented especially in the UK, nineteen studies had to be removed.

The interventions to encourage breast feeding that were:

- To the mothers during the pre and post natal periods.
- Did not always include their partners.
- Breast feeding counsellors delivered lectures with health professionals being in attendance.
- Effectiveness of the length of time, knowledge and the start of breast feeding were reviewed.

- The starting of feeding on breast milk was said to be the most efficient and commonly used.
- Aimed to help mothers who had started breast feeding to continue and keep on breast feeding
- Educational based methods were employed. Programs with an academic setting has been linked to upsurge in the number of mothers who have started breast feeding just after birth at 23% and those who sustain breast feeding for a couple of months after by 39% (Guise *et al.*, 2003).
- No interventions were found to be aimed at just those who looked after the mothers, like health workers, hospitals or primary and community health workers.

Aims

- To increase the number and time period of breastfeeding in the general population with emphasis on those groups with low rates (Foster, 1995).
- To decrease the number of young infants who are feed baby formulas (Foster, 1995).
- To start weaning of a child not earlier than 4 months (Foster, 1995).
- To identify the best and most effective method for bringing about dietary change in infants (Alison, 1998).
- To protect and promote maternal and child mortality and morbidity by providing health care support (Naylor, 2001).

These aims have been linked to the health protection in caring for the child and mothers and health services in improving services and in other cases creating health services to support breastfeeding.

Health improvement programme design: Breast feeding in particular exclusive breast feeding (the infant feeding on only the mothers breast with no added formula) is the most efficient measure in preventing and protecting against child mortality and morbidity (Jones *et al.*, 2003). Therefore the start of the international Baby-Friendly Hospital Initiative (BFHI) started by the World Health Organisation (WHO) and United Nations Children's fund (UNICEF) in 1991 to safeguard the child health by providing a boost for feeding on breast milk in maternity, hospital and all clinics involved with children (Naylor, 2001). Since then more than 150 countries have tried to develop programmes to centre on breastfeeding initiation and have received certification from BFHI (UNICEF, 2005). Among the programmes, one that has been evaluated is the 'best start' education programme conducted in the USA (Spiby *et al.*, 2007). It was carried out from 1993 to 1994 in a women's health centre in Ohio, USA by the WellStart International, San Diego, Calif in February 1993 (Bryant C, 1990). The programme was targeted at the medical, nursing and secretarial staff in an urban area whose patients were women whose social economic status was low mainly African-Americans. The programme was done in two training sessions with the first component aimed at using an informative and educational approach to provide information about breast feeding, so that staff could enlighten the mother's about breast feeding and in answering them do so correctly. While the second part was an introduction to the programmes educational techniques based on practices that were socially beneficial and social marketing. To evaluate this programme, sample sizes were calculated to find out if there were already existing rates

of breastfeeding in order to reduce bias and be assured that education of mothers were done during antenatal appointments for those who had not made up their minds nor had no prior knowledge on breast feeding. The mothers were provided with a three-step educational session to deal with concerns about breast feeding, benefits of breastfeeding and they were told not to make up their minds quickly about the feeding method to adopt. The population being looked at were those gotten from the hospital and children's hospitals charts. Randomized controlled trials have been found to a better and surer way of evaluating health promotion interventions of this kind (Thorogood & Coombes, 2000). It was assumed that randomized trial will have been the best for this study (Hartley, 1996). The concepts of efficacy and economical cost are most important in developing new interventions especially for health (Thorogood & Coombes, 2000). Outcome of evaluated intervention programmes looks to see whether there is a link between the trial and its result at the end (Thorogood & Coombes, 2000). The outcome for this programme was successful, from the results in 1993, 13 of the 86 mothers breast feed after leaving the hospital compared with 25 out of 81 in 1994. During the 2 weeks visit in the hospital when the study was conducted, 11 of the 86 women from 1993 were still breast feeding compared to 17 out of 81 mothers in 1994. The duration and nature of the program and the number and types of patients' involved in this study were appropriate. The best type of intervention though is that done with mother and child when in hospital, support from attendants, hospital workers and family are most effective in breast feeding initiations.

Population: The targeted population were African especially within sub-sahara region, women living in the disadvantaged area of Nigeria. The mothers received a home visit from the breast feeding counsellors 72 hours after being discharged from the hospital. Collection of data was done from the hospital using the babies' chart and records of women attending the hospital's outpatient unit approximately 2 weeks after birth. Ninety mothers with their babies born from January 2 to February 28, 1993, were compared with ninety mothers with their babies born from January 2 to February 28, 1994, for their demographic status and also their ethnicity, equality and payment type for care.

Public Health Interventions

There have been found about six interventions with evidence that is effective namely:

- Post and pre natal interventions in hospital or clinic environments.
- Breastfeeding in the work place.
- Support from peers.
- Education of mothers
- Support from professionals (Health and counsellors)
- Social marketing and the media campaigns.

Post and pre natal interventions: Post and pre natal practices or interventions are series of events done before, during and after a woman delivers and it usually takes place in a health or hospital environment (CDC, 2007). A series of talks and guidance is given to the mother before and after like guidance on breast feeding, the duration, when to wean the child and other talks on the child's health in general. Drugs taken by women either during labour or caesarean have been found to

have an adverse effect on breast feeding. But when there is more contact with the baby and mother it shows a better effect on breastfeeding. This is because the care given by health officials and hospitals and midwives involved with mothers before and after birth to a large extent will have an impact on breastfeeding initiation and thus feeding of the infants later in life. The stay in hospital is very important in the commencement of breast feeding. It can either have a negative or positive effect. Usually if the first breastfeeding of a baby is deferred than within the first hours when the child was born do not end up continuing breastfeeding. When mothers are kept within reach in the same room with their babies, the opportunity to breast feed is stronger. Due to the sensitivity and relationship that comes with breastfeeding, it should be done during the stay in the hospital. An evidence of a post and pre natal practice is those from the Baby Friendly Hospital initiative designed by the World health organisation (WHO). They implemented a ten steps strategy to help in breast feeding which has been adopted by more than 19,000 maternity units. Countries that have adopted the BFHI include Brazil, Kenya and Zimbabwe to mention but a few numbering more than 14 countries (Sheryl, 2009). Intervention programmes based on pre and post natal practices abound which have been reviewed and evaluated (Alison et al, 1998).

Amongst them is an intervention work carried out: A study done by Kistin et al., 1990 in a hospital based in Chicago which was mainly for the low-income, black women attending a steady and strong prenatal class in the 24th week of their pregnancy. The mothers in this study had a 15-30 minutes (36 mothers) teaching personally when 30 weeks pregnant or a collective teaching for 50-80 minutes (38 mothers) given randomly. The authors remained on the issue of benefits, problems and delusions about breastfeeding, and telling them that working mothers could breast feed and it is the best way of feeding for infants. The control group (56 mothers) selected were women who went to this same hospital but on different dates. This set had normal information given to pregnant mothers with no emphasis on breastfeeding. There seems to be no much disparity in the number of women going to start breast feeding before the intervention programme. It shows that after the classes women were willing to change their attitudes towards breast feeding. Apparently the personal and one on one session were effective at initiation of breastfeeding above other forms of feeding while the collective sessions were good at strengthening intentions to breast feed. The authors suggested implementation of the intervention programme which is quite easy to carry out. This work was not devoid of sampling errors. The sample size was low leading to a biased answer so the need for a larger number. The control group may have been contaminated by staff of the clinic shown by their intensity in breast feeding during the trial.

Breast feeding in the Work place: A lot of benefits for the working class mother stems from the support given in her working place like implementing policies to support breastfeeding working mothers, providing spaces for breastfeeding, educating employees on breastfeeding, also giving breastfeeding mothers options to work like, part-time, maternity leave, child-care sites and even professional services from hospitals (US Department of Labour, 1999). A reasonable amount of mothers work, it is necessary and of importance to develop programmes to help them in their places of work. Hindrances to breastfeeding in the work place include no availability of space for milk extraction, or time to breast feed

(Corbett-Dick, 1997). One of the programmes to look into working mothers and their babies are The International Lactation Consultant Association (ILCA) this proffers a solution for mothers and other health professionals who need support. It comprises of a series of advice that even lactation specialist and health professionals have no idea about (Shealy, 2005).

Support from Health Care Professionals: Women can have positive impacts on the commencement, time period and experiences of breastng, if support can be gotten from experienced health care professionals (Sikorski et al, 2002). The basic education given to professionals in health work who provide care for breastfeeding mothers is very important and differs in time, scope, models being used, educational status and assessment strategy. The commencement period seems not enough and broken for training the medical personnel (Smale et al, 2006). About four interventions evaluated the effectiveness of the general health sector. They were one Randomized controlled trial and three non- randomized trial. The randomized controlled trial was taken in an urban part of Nicaragua where mothers were randomly put to early contact with child and mother added to promotions to breast feeding, after a full withdrawal till discharge or care. Staying in the same room of mothers and their babies were introduced later on (rooming in). The results after mothers stayed in the same room with their infants were higher than after the normal care. Nine studies were looked at which targeted the health professionals. Three of these were carried out in UK, in Canada and US were two and four in Europe. They examined the duration of breast feeding. The other aspects looked at from these studies were: type of sampling and time, if a priori sample was calculated or not, inclusion and exclusion criteria properly stated, similarity among the groups to eliminate co-factors, stating if they were withdrawals and properly analysed. These studies are as follows;

- Stokoe et al. (1994) with 90% of midwives involved. Participants involved 1007 mothers in all. It was carried out for 2 weeks. The outcome was that exclusive breastfeeding before the program was 55.2% and after 58.1% and not exclusive breastfeeding was 23.8% before the study and 19.1% after. Those who weren't breastfeeding before were 19% and after 14.1%.
- Cattaneo and Buzzetti (2001) in Italy, with eight hospitals and 571 health carers. Participants included a total of 2669 mother and baby pairs. It was done after mothers were discharged from the hospital after 3 to 6 months. The outcome was that after the training there was a positive difference in exclusive breastfeeding.
- Durrand et al.(2003) in France, with 73 midwives and paediatricians together with 100 mother and baby pairs. The study was carried out for 12 weeks. At the end there was found to be no difference in breastfeeding duration.
- Gainotti and Pagani (1980), Italy. With 650 mother and baby pairs. And was carried out 6 days after discharge from the hospital. There was a 90% increase in exclusive breastfeeding after compared to 48% before and the rates of bottle feeding and mixed feeding decrease to 3% and 7% respectively as to before of 15% and 37% respectively.
- Grant et al. (2000), UK. Participants numbered 1568 mothers monitored for 12 weeks. After the program it was found that the number of people who stopped

exclusive breastfeeding before 11 weeks were 40% and after 36%.

- Hartley and O'Connor (1996), USA. Recorded 180 babies who were discharged from the hospital after 2 weeks. The number increased after by 31% than before of 15%.
- Ingram et al. (2002) examined 1400 mothers of babies who were between the 35 to 43 week periods of gestation. The study was carried out for 2 and 6 weeks. It showed at the end of the study that at 2 weeks there was a high increase in exclusive breastfeeding but no major difference at 6 weeks.
- Manitoba Paediatric Society and committee on Breast Feeding (1982). They were 556 mothers in all examined for 2 to 4 months after leaving the hospital. When examined at the end of the study it was found that more babies in urban areas were breastfed than those in rural areas.
- Matilla-Mont and Rios-Jimenez (1999). They were 209 mothers and the intervention was carried out for 3 months and at the end of the program studies showed that 31.4% were exclusively breastfed before and after 50.4% and subsequently other forms of feeding dropped.

These are but a few studies that were carried out can be seen that no single approach is correct for encouraging breastfeeding. Though some of these have been effective especially in randomized controlled trials (Spiby, 2007).

Education of Mothers: To change the way mothers act towards breast feeding is the most important impact of educating mothers and not only to increase the awareness of breastfeeding to mothers. It is usually done before birth and continued immediately after. It is done in small groups or on one to one basis (Shealy, 2005).

Social marketing: Social Marketing is multi dimensional carried out in a way to target the audience intended, the general public, health professionals and carers. Increasing the number of strong and good faces of breastfeeding will help bring down the number of advertising of complimentary feeding for babies younger than six months of age (Khoury, et al). A number of campaigns have been put in place, these include the 'Babies were born to be breastfed' by the U.S. National Awareness Campaign, 'Loving support Makes Breastfeeding Work' by the U.S. Department of Agriculture WIC and other publications like 'National Breastfeeding Media Watch Campaign (Shealy, 2005).

End Points

Primary end-points: In the best start programme the pre intervention groups and the post intervention groups were compared against each other for sociodemographic data and the rate of breast feeding. Hospital and out patient records were analyzed. The intervention was cost effective and all intervention programs for breast feeding should be so.

Secondary end-points

- The women were able to identify certain hindrances to breastfeeding; shame of breastfeeding in the public,

worried about health and feeding habits of children, pressure from family and friends.

- Therefore the best start sees the hindrances and place health professionals to educate the mothers about their fears.
- Some of the women were already receiving training from women, infants and children's supplemental nutrition program.
- The programme and interventions designed are all aimed towards reducing diseases of children aged less one year of age by introducing exclusive breast feeding. Among the policies initiation by the UK is to increase the rate of breastfeeding among low-income women by 2% (Department of Health, 2003).

Ethical Issues: Ethics was certified by the university hospitals of Cleveland. The lactation professionals in the hospital were informed since it involved them. The mothers attending the hospital were consented.

Conclusion:

In the population or patients under consideration for the 'best start', patients apart from mothers and their children should also include their partners, other family members and friends and pregnant mothers. Interventions should also include HIV mothers, galactosemia and other infections that hinder breast feeding (USPSTF, 2008). It has been found that post and pre natal interventions are most successful in introducing breast feeding.

Key Words

Breastfeeding- can define as ever receiving breast milk (McDowell, 2008). Breastfeed at 6 Months- These include all children and children who had stopped receiving breast milk by the 6th month of birth.

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