Mansoura Nursing Journal (MNJ)

vol.1 No.2 ISSN:18235-2014

Using Of CD-Rom Breastfeeding Learning Package In Training Of Different Caregivers

By

[1]Sabah Ramadan Hussein Ahmed , [2]Hala Abd El fttah Ali

Maternal & Newborn health Nursing, Faculty of Nursing

[1]Helwan University, [2]Kafr El Sheikh University.

E-mail of the corresponding author: ramadan_sab@yahoo.com

Abstract

Midwives nurses in conjunction with other caregivers play an important role in promoting breastfeeding to women. Although many have positive breastfeeding attitudes, significant knowledge deficits often limit their capacity to effectively encourage, support and assist breastfeeding women and their infants. **Aim:** To explore the effect of using CD-ROM breastfeeding learning package in training of different caregivers **Design:** Quasi experimental. **Methods:** One hundred caregivers (30 physicians, 50 internship nursing students, and 20 nurses midwives). **Materials:** The intervention comprised a CD-ROM with accompanying information sheets on drugs for lactating women. Study setting: Departments of Obstetric and Pediatric at Obstetric and Pediatric University Hospital at El Minia University, Egypt from first of July to last of September/ 2013. **Results:** There was an increase in scores relating to knowledge about breastfeeding after training, especially for the physicians and for those who did not have children. Internship nursing students improved their scores on recognition of the symptoms of poor attachment at the breast, and physicians showed greatest improvement in resolving sore nipples and recognizing nipple thrush. Changes in practice were reported and positive comments made about involving physicians and internship nursing students together in practice-based education. **Conclusion:** There is a need for using an electronic teaching resource and it is feasible for updating the knowledge of the caregivers. It can help to improve breastfeeding expertise and advice about breastfeeding problem management. Also caregive.rs need training about breastfeeding, as well as refresher courses for trained caregivers. **Recommendation:** Larger evaluation which also explored the training in terms of women's experiences of care and measured breastfeeding outcomes.

Key wards: CD-ROM, Breastfeeding, Learning, Package, Training, Caregivers

Introduction:

This review highlighted the scarcity of good well-designed research to inform practice, particularly on the prevalence of breastfeeding mismanagement by health professionals and the need to examine training programmes to educate caregivers in the essential skills of ensuring that women experience pain-free, effective feeding. It concluded that a coordinated approach to practice and research is needed, involving the full range of professionals who work with mothers and babies [(1)].

The decision a mother makes to initiate and continue to breastfeed

is not just a life style choice but a public health issue. There is strong evidence indicating that infants who are not breastfed suffer more illness and have a greater chance of dying than those who are exclusively breastfed. Additionally, there are both short-and long-term consequences of early weaning for the mother and infant [2,3]. The National Health & Medical Research Council in Australia recommends exclusive breastfeeding for the first 6 months of life and continued breastfeeding for at least 12 months, with a target of 80% of women breastfeeding 6 months postpartum [4]. In conjunction with other health professionals, doctors believe they play an important role in promoting breastfeeding to women [5,6] Furthermore, breastfeeding initiation and duration increase when doctors provide information, support and encouragement to women.

Although studies indicate that doctors have positive attitudes to breastfeeding, significant knowledge deficits often limit their capacity to assist breastfeeding women and their infants. Training for doctors about breastfeeding is frequently described as inadequate, with many relying on personal breastfeeding experience as a main source of breastfeeding knowledge and skill development [7].The importance of breastfeeding for the health and wellbeing of infants and mother is documented in both this literature review and other published articles [8]. The Baby Friendly Hospital Initiative (BFHI), in conjunction with WHO and UNICEF, identified the need for education of health professionals and mothers who intend to breastfeed to improve breastfeeding management [9, 10].

Breastfeeding provides benefits to infants, mothers, families, and communities. The improved nutrition, immunological, psychological, economical and environmental benefits that breastfeeding provides are well documented. Breast milk provides benefits as well as protection against conditions such as gastroenteritis, respiratory infections and allergies. Extensive scientific research reports that infants who are not breastfed are predisposed to many health complications in later life, including high blood pressure, obesity, non-insulin dependent diabetes and ischemic heart disease. Benefits of breastfeeding for the mother: Protects mother's health; helps reduces risk of uterine bleeding and helps the uterus to return to its previous size reduces risk of breast and ovarian cancer, helps delay a new pregnancy and helps a mother return to pre-pregnancy weight [11, 12].

Factors which are known to be associated with successful breastfeeding include: Factors that influence breastfeeding decisions; many factors affect the initiation and duration of breastfeeding, including socio-demographic, biomedical, support and psychosocial issues. The literature suggests that improving breastfeeding initiation and duration rates not only provides maternal and infant advantages but also has environmental and economical benefits for both the health care systems and individual families [13, 14].

Stress and anxiety are factors also known to affect breastfeeding success. Mothers who are separated when the infant is admitted to special care nursery or intensive care may experience stress and anxiety that influences their breastfeeding experience. Recent studies have shown that highly motivated mothers of low birth weight or premature infants breastfeed for longer, suggesting that mothers understand the importance of breast milk for their infants. Negative attitudes, lack of experience breastfeeding previous infants, and prematurity have been seen to have detrimental effects on breastfeeding success. Mothers of healthy full term infants are more likely to initiate breastfeeding, but maternal attitude will influence breastfeeding continuation [15, 16].

A study by Meyerink and Marquis highlighted the importance of support from family and friends for breastfeeding women. Support was seen to impact on the increased probability of mothers initiating breastfeeding [17]. Face-to-face and telephone-based peer support groups show a noteworthy difference in breastfeeding initiation rates. Antenatal and postnatal education about breastfeeding issues and complications helps to address common problems in the prenatal period, providing women with strategies and tools with which to manage. Along with encouraging and supporting early skin-to skin contact for mothers and infants, early initiation of feeding and maternal support has been reported to enhance breastfeeding success [18, 19].

Common breastfeeding issues that women experience when initiating lactation such as poor attachment and positioning of the infant at the breast, along with inadequate emptying of the breast may inhibit the establishment and maintaining of adequate lactation while breastfeeding. These breastfeeding issues often lead to complications including damaged nipples, breast engorgement and mastitis. Breastfeeding issues such as these may lead to complications that hinder establishing and maintaining breastfeeding

exclusivity and duration. As with other known complications of lactation, mastitis is reported to influence a woman's breastfeeding decision. Leading authorities have recognized modifiable variables that influence breastfeeding exclusivity and duration [20, 21].

Mastitis is a significant breastfeeding complication experienced by lactating women. It is defined as an inflammatory condition of the breast, which may or may not be accompanied by infection causing a fever of > 38.5 and a red tender area in the breast. [22, 23]. There are two main causes for lactation mastitis, the first resulting from milk stasis due to inefficient milk removal, poor attachment of the infant to the breast, ineffective suckling, restricted frequency or duration of feeds, blockage in milk ducts, and overabundant milk supply. The second from direct microbial infection that due to bacterial infection from an interruption in the integrity of the nipple, caused by trauma during feeding and often a result of incorrect attachment [24, 25, 26].

One reason for the high rates of discontinuation in the UK may be that caregivers may not have sufficient knowledge to help mothers overcome these problems and women may be given conflicting advice by different members of the team, multi-professional workshops are effective in improving collaboration within primary health care teams and those which include elements that are relevant, problem based, logical, challenging and interactive, and which build on experience are likely to be more successful [27, 28].

Aim: To explore the effect of using CD-ROM breastfeeding learning package in training of different caregivers through: Assess different caregivers' knowledge and practice about breastfeeding, assess different caregivers' attitude towards breastfeeding, increase caregivers' awareness about breastfeeding using CD-ROM breastfeeding learning package, and determine the difference between caregivers' knowledge and attitude before and after using of CD-ROM.

Hypothesis: The current study will test the following hypothesis: Using CD-ROM breastfeeding learning package in training of different caregivers through: Assess different caregivers' knowledge and practice about breastfeeding, assess different caregivers' attitude towards breastfeeding, increase caregivers' awareness about breastfeeding using CD-ROM breastfeeding learning package, and determine the difference between caregivers' knowledge and attitude before and after using of CD- ROM.

Subjects and Method:

Subjects: One hundred caregivers (30 physicians, 50 internship nursing students, and 20 midwives nurses) practices were involved in a questionnaire survey of caregivers groups before and after an interactive training session. Inclusion criteria: All males and females from physicians, internship nursing students and midwives at Departments of Obstetric and Pediatric at Obstetric and Pediatric University Hospital whom may have or not have children included in the study. Other caregivers were excluded from the study.

Design : Quasi experimental.

Study setting: The data collection carried out at Departments of Obstetric and Pediatric at Obstetric and Pediatric University Hospital at El Minia University, Egypt. From First of July to last of September/ 2013.

Materials: The intervention comprised a CD-ROM with accompanying information sheets on drugs for lactating women (taken from (29, 30) produced by M Martindale, and the treatment of nipple/breast thrush and mastitis sheet (candidiasis) (modified from (31)).

The CD-ROM contains sections on:

- Ten steps to successful breastfeeding;
- Benefits of breastfeed for infant, mother, family and hospital;
- Risks of artificial feeding;
- Mechanisms of lactation and suckling (Good positioning and attachment);
- Recognizing and solving the problems of both maternal and baby particularly mastitis and thrush;
- Antenatal preparation.

Procedures:

The interactive session lasted about 40 minutes and concentrated on the section on managing and solving problems particularly mastitis and thrush. The participants also discussed management of these problems with each other and the facilitator by giving examples and responding to questions posed. All participants were given a copy of the CD-ROM and encouraged to try it out after the session to explore the sections not covered in detail at the session. Before the session all participants were asked to complete a questionnaire, which included twenty questions on attitudes to and knowledge of breastfeeding. The questions used 20 attitude items using a 5-point Likert scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree) were selected for inclusion from 33 attitude items and the questionnaire was based on a validated tool used by Scott et al. (2003) with midwives in Scotland and this shortened version took about 10 minutes to complete (32). There

were also 8 multiple choice questions on breastfeeding management covering the treatment of mastitis, breast milk insufficiency, attachment at the breast, sore nipples and nipple thrush. There was also a short section at the end of the questionnaire with demographic questions including age group, gender and whether they had children.

Three months after the training session, another questionnaire was given to all those who had completed the first questionnaire, then return to the researcher. This questionnaire included the knowledge and breastfeeding management questions from the initial questionnaire and further questions about the use of the CD-ROM and information sheets.

Sample selected by the following formula, the 13 attitude and 12 knowledge questions on breastfeeding were each scored from one (low) to five (high), with a high score reflecting positive breastfeeding attitude and a high level of knowledge. These two groups were then summed to give total attitude and total knowledge scores, which could potentially range from 13 to 65 for attitude, and 12 to 67 for knowledge. Free text comments were coded and the frequencies of the comments reported.

Statistical Analysis: Attitude and 7 knowledge scores on breastfeeding as well as number of children and number of breast feedings were presented as means ± standard deviations (SD). Categorical variables are reported as number and proportions. Data were checked for normality and equality of distribution, prior to any analysis being performed. Data were checked for normality and equality of distribution, prior to any analysis being performed. All variables did not follow a normal curve therefore Kruskal Wallis Test (non-parametric test) was used for the comparison of knowledge, attitude and number of formula among the groups. Chi-square test was used for comparison between categorical variables. Differences between genders and participants with and without children were examined using Mann-Whitney. Wilcoxon signed rank non-parametric tests were used to explore changes in total knowledge scores before and after training. All calculations were performed using SPSS 17.0 software for Windows. All analyses were 2-tailed. P values less than 0.05 were regarded as significant.

Results:

Table1 shows the characteristics by caregivers. There were 79 female and 21 male caregivers at the training sessions, 47 of whom had children. Physicians children had been breastfed more than other

groups while midwives children had been formula more than other groups.

Table 2 shows significant differences between the groups before and after training, particularly in breast-feeding knowledge, with midwives having the lowest scores (Mean ±SD before & after 38.8 ±5.5 & 42.6 ±2.1) and physicians the highest (Mean ±SD before & after 49.2 ±5.4 & 56.4 ±4.7) ($p < 0.001$). The mean knowledge scores for all caregivers increased after training but the attitudes was not statistically significant, ($p = 0.003$).

Table 3 shows that, the mean of male attitude was 49.6 ±1.7 while the mean of female was 48.1 ±3.6 which indicated that there were no significant differences between males and females in their attitude towards breastfeeding. There were significant differences between groups before sessions towards breastfeeding knowledge ($P<0.001$).

Table 4 shows that caregivers who had children showed no significantly differences in attitudes or Knowledge (before, after) towards breastfeeding as well as who had no children ($P=0.647$, 0.007) respectively.

Table 5 shows that, the follow-up questionnaire showed that since the session, {30 (100%), 7 (14%),4 (20%)} from caregivers (physicians, internship, midwives) respectively had used the CD-ROM as well as {30 (100%),18 (36%),4 (20%)} respectively had used the drugs, and {30 (100%),9 (18%),8 (40%)} respectively had used the information sheets. All physicians had found all methods useful. There were significant differences between groups related to methods used ($P<0.001$).

Table 6 shows that, qualitative comments about the session were very positive, however internship ($n = 18$, 36%) had found it informative, while 6 (20%) of physician found it very useful only 4 (20%) of midwives found it helpful. There were significant differences between groups related to comments.

Table 7 shows that, the main changes seen in the management of breastfeeding problems were insignificant between groups.

Table 1. Sample characteristics

Caregivers group	N	Gender female: male	Have children	Number of children	Number of breast feeding	Number of formula
Internship	50	41:9	5	1 ±0.3	3 ±7.1	0.6 ±1.6
Midwives	20	20:0	18	2.4 ±1.2	6.3 ±9.3	3.7 ±2.8
Physicians	30	18:12	24	1.6 ±1	7.1 ±9.1	3.1 ±4.1

Table 2. Mean scores for breastfeeding attitude and knowledge before and after training

Caregivers group	Attitude before (max=65)		Knowledge before (max=67)		Knowledge after (max=67)	
	Range	Mean ±SD	Range	Mean ±SD	Range	Mean ±SD
Internship (n=50)	42-51	48.1 ±3.5	35-57	45.4 ±6.2	39-59	48.5 ±5.3
Midwives (n=20)	41-51	46.4 ±4.2	29-46	38.8 ±5.5	40-46	42.6 ±2.1
Physicians (n=30)	47-52	50.2 ±1.7	42-53	49.2 ±5.4	47-63	56.4 ±4.7
Kruskal Wallis Test	Chi-Square=11.708, P=0.003		Chi-Square=20.611, P<0.001		Chi-Square=58.846, P<0.001	

Table 3. Mean scores for breastfeeding attitude and knowledge between males and females

Caregivers group	Attitude before (max=65)		Knowledge before (max=67)		Knowledge after (max=67)	
	Range	Mean ±SD	Range	Mean ±SD	Range	Mean ±SD
Male (n=21)	47-51	49.6 ±1.7	47-53	51.1 ±1.5	39-63	52.3 ±7.5
Female (n=79)	41-52	48.1 ±3.6	35-57	44.6 ±5.3	29-63	48 ±7.9
Mann-Whitney Test	Z=0.401, P=0.688		Z=5.853, P<0.001		Z=2.013, P=0.04	

However, there were greater increases in appropriate advice to women with mastitis to keep breastfeeding on both breasts was related to internship (16%). On the other side, greater knowledge of how to resolve sore nipples was related to midwifes (35%), and greater increases recognition of the symptoms of nipple thrush was related to physicians (20%). And a greater increase in recognition of resolve breast milk insufficiency was related to internship.

Table 4. Mean scores for breastfeeding attitude and knowledge of those having children versus having no children

Caregivers group	Attitude before (max=65)		Knowledge before (max=67)		Knowledge after (max=67)	
	Range	Mean ±SD	Range	Mean ±SD	Range	Mean ±SD
No children (n=53)	42-51	48.3 ±3.4	35-51	44.5 ±5.7	29-63	48.4 ±6.6
Children (n=47)	41-52	48.5 ±3.5	40-57	47.6 ±4.6	29-63	49.4 ±9.4
Mann-Whitney Test	Z=0.459, P=0.647		Z=2.689, P=0.007		Z=0.899, P=0.268	

Table 5. Methods used by caregivers group

Methods	Caregivers group	Used it	Useful
The Breastfeeding CD-ROM Package	Internship (n=50)	7 (14%)	7 (14%)
	Midwives (n=20)	4 (20%)	4 (20%)
	Physicians (n=30)	30 (100%)	30 (100%)
	Chi square test	X2=61.885, P<0.001	X2=61.885,P<0.001
Information sheets on drugs for lactating women	Internship (n=50)	18 (36%)	9 (18%)
	Midwives (n=20)	4 (20%)	4 (20%)
	Physicians (n=30)	30 (100%)	30 (100%)
	Chi square test	X2=41.026,P<0.001	X2=56.834,P<0.001
Treatment of nipple/ breast thrush and mastitis sheet	Internship (n=50)	9 (18%)	0
	Midwives (n=20)	8 (40%)	8 (40%)
	Physicians (n=30)	30 (100%)	30 (100%)
	Chi square test	X2=51.104,P<0.001	X2=79.626,P<0.001

Table 6. Comments about the breastfeeding management training session

Caregivers group	No answer	Informative	Useful	Appropriate	Helpful
Internship (n=50)	32 (64%)	18 (36%)	0	0	0
Midwives (n=20)	0	8 (40%)	4 (20%)	4 (20%)	4 (20%)
Physicians (n=30)	0	12 (40%)	6 (20%)	12 (40%)	0
Chi square test	X2=77.105, P<0.001				

Table 7. Changes in the management of breastfeeding problems

Management of breastfeeding problems	Internship (n=50)	Midwives (n=20)	Physicians (n=30)	Chi square test
No answer	**20 (40%)**	**0**	**8 (26.7%)**	X2=23.418 , p=0.003
Resolve breast milk insufficiency by (Increase Breast feeding frequency and seek expert help)	16 (32%)	4 (20%)	4 (20%)	
Appropriate advice for mastitis (Keep breast feeding on both breasts)	8 (16%)	5 (25%)	6 (20%)	
Know about how to resolves the sore of nipples (Check for nipple thrush, apply breast milk, seek expert help with attachment, apply lanolin to cracked nipples)	3 (6%)	7 (35%)	6 (20%)	
Increase recognition of the symptoms of nipples thrush (Pink, sensitive, tender, cracked nipples; shooting, burning pains in the breast)	3 (6%)	4 (20%)	6 (20%)	

Discussion:

Training primary care health professionals in improved breastfeeding management is an important part of a multi-faceted approach towards improving breastfeeding rates, as advocated by the UNICEF UK Baby Friendly Initiative. The opportunistic discussion about the benefits and management of breastfeeding with mothers and other family members can help to improve breastfeeding continuation rates. GPs have had a declining role in maternity and post natal care in Britain over recent years and maternity care is midwife-led in many areas [(9)]. In the UK, midwifery care continues for ten to fourteen days postpartum and then passes to health visitors, who are often only able to visit families with high health needs. However many breastfeeding problems arise after mothers have been discharged from midwifery care and they turn to health visitors or their GP for advice and treatment. It is therefore important to have an up to date and accessible resource for health professionals, who may not come across breastfeeding problem very often, to enable them to give physiologically accurate and evidence-based advice [(33)].

In previous study, the training sessions took place from June to November 2004. Eighty health professionals (50 GPs, 25 health visitors, 5 midwives) were invited to attend the practice-based breastfeeding sessions. Six sessions were delivered, at which 29 GPs, 18 health visitors and 3 midwives completed the initial questionnaires (total 50; 63% of those invited). Thirty-six replies (72%) were

received to the second questionnaire, sent four to six weeks after each training session, from 21 GPs, 13 health visitors and 2 midwives. There were 40 female and 10 male health professionals at the training sessions, 39 of whom had children. All but one of these children had been breastfed (28). The characteristics at the current study concluded that, there were 79 female and 21 male health professionals at the training sessions, 47 of whom had children. Physicians children had been breastfed more than other groups while midwifes children had been formula more than other groups. The change in the results may be due to difference in sample size and period of the study (80:100 and 6:3 months).

There were no significant differences between males and females in their attitude or knowledge (before, after session) towards breastfeeding. However those who had children showed significantly more positive attitudes towards breastfeeding and also had significantly higher knowledge scores before training. This difference was not apparent after training due to an increase in knowledge scores for those without children, which was statistically significant (28). In the agreement of current study that shows that there were no significant differences between males and females in their attitude towards breastfeeding but there were significant differences between groups before sessions towards breastfeeding knowledge. Also, those who had children showed insignificantly differences in attitudes and Knowledge towards breastfeeding as well as who had no children.

Related to knowledge and reported practice which improved after the training session and associated discussion. It is often assumed that training health professionals reduces variation in clinical practice and leads to improved patient outcomes, which will only be true if the training improves knowledge and skills [(36)]. Using a validated tool to assess knowledge and skills makes assessment of participants across professional groups more reliable. Our study was not designed to measure long term effects on knowledge or behavioral change, but the post session questionnaire did demonstrate retention of short-term information, to be reinforced when necessary with the use of a CD-ROM. Scott et al. showed by using a reliable and valid measurement scale for evaluating breastfeeding attitudes, knowledge and management practices of health professionals, that there is a positive correlation between attitude and knowledge scores, and that midwives with personal breastfeeding experience had higher attitude scores than those without [(32)]. These findings were confirmed by the current study with physicians, internships and midwives, which had higher mean attitudes and knowledge respectively using a shorter form of the validated tool. There was not a linear increase in attitude

scores with increasing breastfeeding experience [35]. Guise and Freed [34] suggesting that there is a connection between personal experiences and breastfeeding knowledge. These findings agree with the present study.

The nursing staff should be prioritised for training [14]. The majority of the nurses had positive attitudes toward BFHI principles and practices. For example, fifty-three percent of the respondents had the incorrect idea that a mother should stop breastfeeding if she developed mastitis. For the correct management of mastitis, it is important that mothers should not rest the breast, but rather remove the milk by continuing with on-demand breastfeeding [17]. This shifts the focus to improving the knowledge of the lower level spectrum of nursing staff [37].

Also, in another study, Before the training session for health professional groups, the mean attitude score was indicating very positive attitudes towards breastfeeding in these groups. The mean knowledge score was reflecting the high knowledge levels of those who attended. After training the mean knowledge score was not statistically significant. But there was a significant positive correlation between the knowledge and attitude scores before training. Comparisons were made for those individuals who completed both pre and post intervention questionnaires. There were significant differences between the groups before and after training, particularly in breastfeeding knowledge, with GPs having the lowest scores and midwives the highest. The mean knowledge scores for GPs increased after training but the increase was not statistically significant [28]. The previous study at the same line with the current study in that, there were significant differences between the groups before and after training, particularly in breast-feeding knowledge, the mean knowledge scores for all health professionals increased after training but the attitudes was not statistically significant. On the other side, this study disagreed with the current study results in that, midwifes having the lowest scores and physicians the highest. This disagreement is due to change in study setting as in Egypt hospitals do not permit midwives to accompanied their children in the work or permit accessible place for breast feeding.

Others who have used interactive multimedia interventions for breastfeeding education or internet based teaching programmes [36] have found these new models of education to be well accepted by clinicians. Hillenbrand and Larsen [38] showed that by using role-play, video and discussions, pediatric residents' breastfeeding knowledge, confidence and clinical behavior was enhanced, and the areas which showed significant improvement included breast milk insufficiency, mastitis treatment and drugs for lactating mothers. Another study showed

that, the follow-up questionnaire showed that since the session, 12 health professionals (33%) (7 GPs, 4 HVs, 1 MW) had used the CD-ROM and 17 (47%) the information sheets, but the others reported that they had not had an opportunity to use them yet. All had found them useful for their practice [28]. In the current study, the follow-up questionnaire showed that since the session, [30 (100%), 7 (14%), 4 (20%)] from health professionals (physicians, internship, midwives) respectively had used the CD-ROM; these findings depend on time accessible to use this method.

Qualitative comments (made by 16 participants) about the session were very positive and most (n = 12, 75%) had found it informative, very useful, helpful and appropriate. Others commented that "it was good to have GPs and health visitors discussing these topics together at a practice-based session "and that "it should form part of mandatory training for health professionals" [28]. There were significant differences between groups related to comments in the current study.

In the current study inconsistencies in breastfeeding management by health professionals were linked to poor understanding of the treatment of more complex breastfeeding situations, including nipple thrush, the ramifications of poor infant attachment to the breast and the resolution of sore nipples. The main changes seen in the management of breastfeeding problems were significant increases in appropriate advice to women with mastitis to keep breastfeeding on both breasts, greater recognition of the symptoms of poor attachment at the breast, greater knowledge of how to resolve sore nipples, and increased recognition of the symptoms of nipple thrush. Health visitors particularly improved their scores on recognition of the symptoms of poor attachment at the breast, and GPs showed greatest improvement in resolving sore nipples and recognizing nipple thrush [28]. In the current study, there were greater increases in appropriate advice to women with mastitis to keep breastfeeding on both breasts was related to internship. On the other side, greater knowledge of how to resolve sore nipples was related to midwifes, and greater increases recognition of the symptoms of nipple thrush was related to physicians.

Conclusion:

The findings of this study have highlighted that there is a need for Using an electronic teaching resource is feasible for updating the knowledge of the primary care team. It can help to improve breastfeeding expertise and advice about breastfeeding problem management.

Recommendation:

There is a need for there is a need for multi-professional training about breastfeeding, as well as refresher courses for trained staff. From this study for future research would include a larger evaluation which also

explored the training in terms of women's experiences of care and measured breastfeeding outcomes.

Acknowledgements:
I would like to thank all participants in this study. We wish to thank persons who distributed the questionnaire and repeatedly reminded the registrars to complete and return it. Thanks also to the registrars who took the time to answer the many items in the questionnaire.

References:

1- **Renfrew MJ, Woolridge MW, Ross McGill H(2000):** Enabling women to breastfeed. The Stationery Office, London.

2-**Chung M., Raman G., Chew P., Magula N., Devine D. et al. (2007):** Breastfeeding and maternal and infant health outcomes in developed countries. Evidence Report/Technology Assessment 153, 1-186.

3- **Horta B., Bahl R., Martines J. & Victoria C. (2007): Evidence on the Long-Term Effects of Breastfeeding.** World Health Organization: Geneva.

4-**National Health & Medical Research Council (2003):** Dietary Guidelines for Children and Adolescents in Australia Incorporating the Infant Feeding Guidelines for Health Workers. Australian Government Printing Service: Canberra.

5- **Finneran B. & Murphy K. (2004):** Breastfeeding is best for GPs – or is it? Breastfeeding attitudes and practice of general practitioners in the Mid-West of Ireland. Irish Medical Journal 97, 268–270.

6- **Nakar S., Peretz O., Hoffman R., Grossman Z., Kaplan B. & Vinker S. (2007):** Attitudes and knowledge on breastfeeding among paediatricians, family physicians, and gynaecologists in Israel. Acta Paediatrica 96, 848–851.

7- **Brodribb W.E., Jackson C., Fallon A.B. & Hegney D. (2007):** Gender and personal breastfeeding experience of rural GP registrars in Australia – a qualitative study of their effect on breastfeeding attitudes and knowledge. Rural and Remote Health 7, 737.

8- **Crepinsek M. A. (2010):** Breastfeeding in an urban population, submitted in total fulfillment of the requirements of the degree of Master of Science by Research, Bond University.

9- **United Nations International Childrens Emergency Fund (UNICEF).(2008):**Baby Friendly Health Initiative Protecting, Promoting and Supporting Breastfeeding in Australia.; Available from: http://www.bfhi.org.au/text/bfhi_what_is_baby_friendly.html.

10- **Daniels L and Jackson D (2011):** Knowledge, attitudes and practices of nursing staff regarding the Baby-Friendly Hospital Initiative in non-accredited obstetric units in Cape Town, S Afr J Clin Nutr 2011;24(1):32-38

11- **MacDonald A.(2003):**Is breast best? Is early solid feeding harmful? Journal of the Royal Society of Health. Sep;123(3):169-74.

12- **Thompson J. Breastfeeding**: benefits and implications. Part two.

Community practitioner. 2005 Jun;78(6):218-9.

13- Fallon AB, Crepinsek M, Hegney D, O'Brien M. (2005): The baby-friendly hospital initiative and breastfeeding duration: relating the evidence to the Australian context. Birth Issues.;14(3):90-5.

14- Dennis CL, Hodnett E, Gallop R, Chalmers B. (2002): The effect of peer support on breastfeeding duration among primiparous women: a randomized controlled trial. Canadian Medical Association Journal. Jan 8;166(1):21-8.

15- Ladomenou F, Kafatos A, Galanakis E., (2007): Risk factors related to intention to breastfeed, early weaning and suboptimal duration of breastfeeding. Acta Pdiatrica; 96 (10):1441-4.

16- Pinelli J, Atkinson SA, Saigal S. (2001): Randomized trial of breastfeeding support in very low birth- weight infants. Arch Pediatric Adolescence Medicine. May;155(5):548-53.

17- Meyerink RO, Marquis GS. (2002): Breastfeeding initiation and duration among low-income women in Alabama: the importance of personal and familial experiences in making infant feeding choices. Journal Human Lactation. Feb;18(1):38-45.

18- Keister D, Roberts KT, Werner SL., (2008): Strategies for breastfeeding success. American Family Physician; Jul 1578(2):225-32.

19- Hegney D, Fallon A , O'Brien M, Brodribb W, Crepinsek M, Doolan J. (2005): An Evaluation of a Telephone Based Postnatal Support Intervention for Infant Feeding in a Regional Australian City. Birth.;32(4):291-8.

20- Hegney D, Fallon A, Crepinsek M, O'Brien M, Doolan J. (2005): Against all odds: A retrospective study of women who succeeded at breastfeeding despite extraordinary difficulties. Toowoomba: University of Southern Queensland/ University of Queensland. Report No: ISBN 0 909756 83 X.

21- Hegney D, Fallon T, O'Brien M, Plank A, Doolan J, Brodribb W, et al. (2003): The Toowoomba infant feeding support service project: Report on phase 1 - A longitudinal needs analysis of breastfeeding behavious and supports in the Toowoomba region. Research report: USQ.

22- Dener C, Inan A. (2003): Breast Abscesses in Lactating Women. World Journal of Surgery.;27:130-3.

23- Kramer MS, Kakuma R. (2004): The optimal duration of exclusive breastfeeding: a systematic review. Advances in Experimental Medicine Biology;554:63-77.

24- World Health Organization (WHO). (2003): Global Strategy for Infant and Young Child feeding. In: Geneva WHO, editor.

25- Wilson-Clay B. (2006): Milk Oversupply. Journal of Human Lactation;May 1, 22(2):218-20.

26- United Nations International Children's Emergency Fund (UNICEF). (2004): Global strategy: breastfeeding critical for child survival-UNICEF and WHO

call for increased commitment to appropriate feeding practices for all infants and young children. . Indian Journal of Medical Sciences; Mar 58(3):138-9.

27- Jones RVH: (1992): Getting better: Education and the primary health care team. Br Med J, 305:506-08.

28- Ingram J. (2006): Multiprofessional training for breastfeeding management in primary care in the UK. International Breastfeeding Journal 1, 9.

29- Briggs GG, Freeman RK, Yaffe SJ. (1998): Drugs in Pregnancy and Lactation 5th edition. Williams and Wilkins, Baltimore;

30- Hale T. (2002): Medications and Mothers' Milk 10th edition. Pharmasoft, Texas;.

31- Jones W, Sachs M. (1999): Thrush and Breastfeeding The Breastfeeding Network leaflet;.

32- Scott J, McInnes R, Tappin D, Guthrie E. (2003): Breastfeeding opinions, knowledge, management practices and training of Scottish midwives Report for the Scottish Executive Health Department Chief Scientist Office;

33- Ingram J, Johnson D. (2004): A feasibility study of an intervention to enhance family support for breastfeeding in a deprived area in Bristol, UK. Midwifery, 20:367-79.

34- Guise J.-M. & Freed G.L. (2000): Resident physician's knowledge of breastfeeding and infant growth. Birth 27, 49–53.

35- Murphy E. (1999): Breast is best': infant feeding decisions and maternal deviance. Sociology of Health and Illness 21, 187–208.

36- Fritsche L, Greenhalgh T, Falck-Ytter Y, Neumayer HH, Kunz R. (2002): Do short courses in evidence based medicine improve knowledge and skills? Validation of Berlin questionnaire and before and after study of courses in evidence based medicine. BMJ, 325:1338-41.

37- Savage-King F. (1998): Helping mothers to breastfeed. Revised edition. Nairobi, Kenya: African Medical and Research Foundation.

38- Hillenbrand KM, Larsen PG. (2002): Effect of an educational intervention about breastfeeding on the knowledge, confidence and behaviors of paediatric resident physicians. *Pediatrics*, 110:159.