

Counselling on breastfeeding: assessing knowledge and skills

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Reported are the results of a randomized controlled trial to assess the effectiveness of the WHO/UNICEF 40-hour course "Breastfeeding counselling: a training course". The course was conducted in a maternity hospital which provides care to a low-income population in a metropolitan area in São Paulo, Brazil. Health workers from 60 health units were randomly assigned to be either participants (20) or controls (40), and their breastfeeding knowledge and skills were assessed before and immediately after the course, as well as 3 months later. Immediately after the course the participants' knowledge of breastfeeding had increased significantly compared to controls. Both their clinical and counselling skills also improved significantly. When assessed 3 months later, the scores remained high with only a small decrease.

The implementation of the course was also evaluated. The methods used were participatory observation, key interviews and focus group discussion. In the 33 sessions of the course, the average score was 8.43 out of 10. Scores were highest for content and methodology of the theory sessions, and lowest for "use of time", "clinical management of lactation", and "discussion of clinical practice".

"Breastfeeding counselling: a training course" therefore effectively increases health workers' knowledge and their clinical and counselling skills for the support of breastfeeding. The course can be conducted adequately using the material and methodology proposed, but could be more satisfactory if the time allocated to exercises and clinical practice sessions were increased.

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Introduction

Mothers often stop breastfeeding earlier than is desirable, even when they know that it is the ideal way to feed their infants. Low rates of breastfeeding are common in countries where average income is higher (1), and where women work outside the home, which can make breastfeeding difficult. In countries where income is sufficient for the purchase of breast-milk substitutes, they are marketed more intensely, with the result that many families come to regard them as indispensable. Health professionals have an extremely important role to play in supporting women to enable them to breastfeed and in convincing them that breast-milk substitutes are unnecessary.

Unfortunately, health professionals often have negative attitudes towards breastfeeding. Also during their training, few health professionals receive much up-to-date information on the subject and many are exposed to advertisements for infant formula. For generations, both health professionals and mothers have been instructed to follow fixed schedules for both breastfeeding and formula feeding, and to give

water or teas between feeds. This can result in diminished breast-milk production and early cessation of breastfeeding, and has frequently led to the development of a "bottle-feeding culture". The use of dummies to "pacify" a crying infant has also become an integral part of such cultures (2).

In the past, schools of medicine, nutrition, nursing and public health failed to include breastfeeding in their curricula, though students were usually instructed on the preparation and handling of breast-milk substitutes. Textbooks were also inadequate. In 1993, WHO and the International Baby Food Action Network (IBFAN) (3) evaluated the coverage of breastfeeding by 180 textbooks used in medical schools in over 90 countries, scoring the books on a scale of 0 to 1.00. The results ranged from 0.04 to 0.76, with only four books receiving a score of 0.5 or more. Practical management of breastfeeding received much less attention than theoretical aspects of lactation and its problems. Thus, although those who have read the books may be convinced of the value of human milk, they are unlikely to have learned the skills necessary to help mothers breastfeed, or to be able to teach others to do so.

How can health professionals acquire appropriate training on breastfeeding? The long-term strategy must be to make appropriate changes to their basic training; however, it has proved necessary to start with in-service training, to change existing practices and routines (4). This has led WHO and UNICEF to develop several courses on breastfeed-

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ing, of different lengths and aimed at different target groups.

Breastfeeding counselling: a training course (BFC) (5) differs from other courses because in addition to theoretical and clinical aspects of breastfeeding, it includes training on specific counselling skills. The word “counselling” is new to many people, and it signifies a different approach to giving advice. A counsellor does not tell a mother what to do: she/he gives appropriate information and helps the mother to decide what is best for her. A counsellor listens and tries to understand how a mother feels, and also tries to increase her confidence, so that the mother feels she is in control of the situation. Use of these skills has been effective in increasing the proportion of mothers who breastfeed exclusively (6). During a BFC course, there are four 2-hour practical sessions in which participants work with mothers and infants and practise clearly defined skills. These include six “listening and learning skills”: using helpful non-verbal communication; asking open questions; using responses and gestures to show interest; reflecting back what the mother says; empathizing — showing understanding of how the mother feels; and avoiding words which imply judgement. There is another set of six skills for “building confidence and giving support”: accepting what a mother thinks or feels; recognizing and praising what the mother and the baby are doing right; giving practical help; giving information that is of immediate relevance; using simple language; and making suggestions instead of giving commands.

The rationale for this approach can be related to basic physiological principles. The flow of milk from the breast is stimulated by the oxytocin reflex, which can be affected by the woman’s emotions and can be conditioned. Seeing and hearing her infant can facilitate the reflex, while doubt and anxiety may temporarily inhibit it (7). One of the commonest reasons for early introduction of supplements or premature discontinuation of breastfeeding is the mother’s perception that her breast milk is insufficient (8), which is often associated with lack of confidence and support.

During the course, clinical skills are also practised. These include observation and assessment of breastfeeding, helping mothers to position and attach their infants at the breast, expression of breast milk, and clinical management of common difficulties such as sore nipples, mastitis and apparent insufficiency of milk.

The course is provided to 20–24 mid-level health workers over a period of 5–6 days (40 hours) in a hospital which provides maternity and paediatric care. The training material consists of a *Director’s guide*, which provides detailed instruction on how to plan and conduct a course; a *Trainer’s guide*, which explains in detail how to teach the 33 sessions of the course; 50 overhead transparencies also available as a flipchart; 50 slides; and a *Participants’ manual*, which includes summaries of each session, written exercises, and copies of all the checklists and forms

needed in the course. In addition, there are printed answer sheets for the exercises, basic reference documents, and a video on the clinical management of breastfeeding.

There have been few evaluations of materials and methods used in training courses on breastfeeding for health professionals. Armstrong admits that a single course may not have been the only factor leading to the changes in practice that she observed, but it may have acted as a catalyst (9). Short courses might be effective if given as part of a comprehensive educational programme (10). An evaluation of a 15-day course offered by the Santos Lactation Center (11) in Brazil found that the health units in which staff had attended a course had changed their practice to promote breastfeeding, but this had not happened in units where staff had not been so exposed.

This article presents the results a study to evaluate the BFC course, including its methodology, and its effect on knowledge of breastfeeding and the clinical management and counselling skills of participants.

Materials and methods

A randomized controlled trial was conducted in a maternity hospital which provides care to a low-income population in a metropolitan area in São Paulo, Brazil. A total of 60 potential participants, all health professionals, were randomly allocated to two groups of unequal size: 20 to an “exposed” group (participants) and 40 to a control group. Each potential participant belonged to a different health unit. Because it was likely that there might be a greater drop-out rate among the controls, we selected six extra professionals to compensate. Potential participants and controls all had a minimum of 8 years’ schooling and currently worked in an area dealing with the care of mothers and children.

The sample size was calculated to detect differences of 40% in knowledge scores between the “exposed” and control groups with a significance level of 95%. To ensure baseline comparability of the two groups, we matched potential participants in groups of three on the basis of their pre-test performance (i.e. previous knowledge of breastfeeding), schooling (mid-level or university level), and function in the health service (maternity/rooming-in ward or outpatient units). One member of each group of three was randomly allocated to participate in the course, the other two acting as controls.

The implementation of the course, and the suitability of the materials and the methodologies that it proposes, were evaluated as outlined below.

- By participatory observation conducted by a project team researcher and a trained research assistant: both filled in their forms independently, with the results being compared and discussed later.
- By a semi-structured (recorded) interview with the course directors.

- By focus groups together with trainers at the end of the course.
- By focus group sessions with participants immediately after the course and three months later.

We observed the sessions covering the theory elements of the course (i.e. everything except the clinical practice) in order to assess achievement of the objectives. Content, methodology, use of time, and trainers' and participants' performance were evaluated. Evaluation of the clinical practice included preparation of the class, management and discussion of practical activity, use of time, and trainers' and participants' performance.

The content and methodology items were each worth a maximum of three points, according to the percentage fulfilment of objectives: <60% = 1, 60–80% = 2, and >80% = 3. For the use of time, one point was awarded if the achievement for assessed items was >80%, allowing the time limit to be exceeded by up to 10 minutes. Classes where fulfilment was <80% were rated zero. A maximum score of 1.5 was given for the performance of the trainer and for the participants according to the following criteria: <60% = 0.5, 60–80% = 1, and >80% = 1.5.

For the four sessions of clinical practice, the preparation, clinical management, and discussion were worth a maximum score of two points each. The following criteria were adopted, according to the percentage of each item fulfilled: <60% = 0, 60–80% = 1, and >80% = 2. Use of time, and trainers' and participants' performance were scored in the same way as for the theory classes.

Thus, both theory and practice classes could each score a maximum of 10 points if awarded a maximum score for each of the items assessed.

Impact of the course on knowledge, skills and attitudes of participants

The impact of the course on the participants' knowledge of breastfeeding was evaluated by means of a test containing 13 multiple-choice questions on the topics covered in the course. All 60 professionals were tested before and immediately after the course.

Changes in the participants' skills and attitudes were evaluated by observing their behaviour in clinical consultations before and immediately after the course. All professionals were observed by two researchers (*M.F.R., S.I.V.*) during consultations with mothers in the rooming-in ward (to "standardize" the type of consultation, since all these mothers had a similar range of problems). The results were analysed after grouping the skills into blocks.

Three months later, a further clinical evaluation and post-test assessment of knowledge on breastfeeding were made using the participants only, to determine whether the effects of the course persisted in the medium term.

Results

Implementation of the course

Table 1 shows the mean scores obtained for each of the items analysed. Analysis of the theory sessions indicated that the average score for content was 2.95 (maximum = 3). For the application of the methodology, the average score for the 29 theory sessions was 2.60 (maximum = 3). Scores for use of time were low (0.23 out of a maximum of 1) mainly because sessions continued for longer than planned. Scores for the clinical practice items clinical management (1.38 out of 2) and discussion (1.00 out of 2) were also relatively low, apparently because trainers sometimes taught from their own experience rather than following the suggested procedure in the course manual. This may be why some sessions continued longer than recommended, and therefore may not have covered the planned topics adequately.

Over the full 33 sessions the course as a whole received an average score of 8.43 (SD = 0.98) out of a maximum of 10. The trainers' performance received quite favourable evaluations (average: 1.8 out of a total 2 points), as did participants' involvement (average: 1.43 out of a total 2 points).

Assessment of breastfeeding knowledge of participants

In the pre-test assessment, the exposed group (participants) averaged 6.23 out of 10 points, while the control group averaged 6.06 ($P = 0.95$). This is evidence that the process of dividing the potential participants into threes resulted in groups that were initially homogeneous in terms of their knowledge of breastfeeding. In the post-test assessment held immediately after completion of the course, the exposed group averaged 8.35 and the control group 5.54 ($P > 0.001$). Three months after the course, the average score of the 20 participants was 7.80. Thus although performance had declined slightly in relation to that immediately post-test (Fig. 1), participants maintained a statistically significant increase in knowledge skills compared to the pre-test.

Assessment of clinical and counselling skills

Table 2 shows the average scores obtained for each skill item by the professionals in the exposed and control groups.

Comparison of the average achieved by each of the two groups before and after the course reveals that the averages of all items improved for the exposed group, as assessed by both observers. In the control group, the scores for some items remained constant or even declined.

Using the Kruskal–Wallis variance test, we found that there were no statistically significant differences between the average pre-course scores of the exposed or control groups for any of the items considered. The post-test assessment revealed

statistically significant differences between the exposed and control groups for all items analysed.

Table 3 shows the percentage changes in counselling skills at pre- and post-testing, calculated by dividing the averages of the exposed and control groups for each of the variables by the total score that could be obtained for each item. Even taking into account the differences between the two researchers, the indicators show the course significantly improved breastfeeding clinical management and acquisition of counselling skills.

Late post-test assessment of skills

Table 4 shows participants' skills 3 months after the course. Although average scores were slightly lower in the late post-test assessment than immediately after the course, the differences between pre-test and late post-test results were still statistically significant for all items analysed ($P < 0.05$). Performance declined least for non-verbal communication and most for breastfeeding history.

Discussion

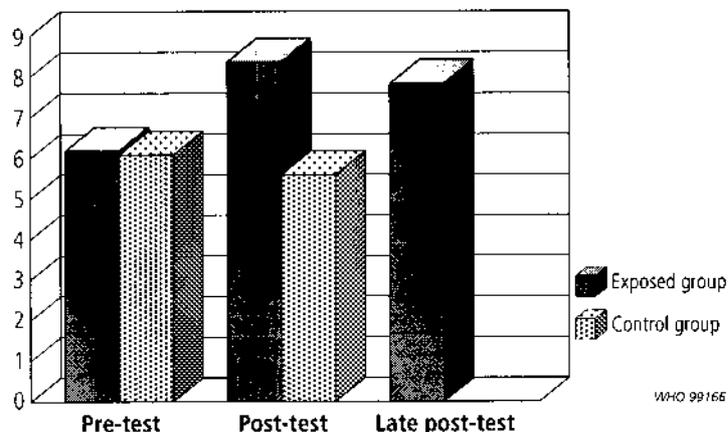
The assessment of the BFC course indicated that it was well received by the trainers. Most of the sessions covered 100% of the proposed content. However, the content was not entirely new to either coordinators or trainers. In fact, one of the criteria for their selection was prior knowledge and even experience of teaching courses on breastfeeding. Trainers placed particular emphasis on the development of counselling skills, the area that seemed to be the most unfamiliar and challenging. None of them referred to the development of clinical skills, such as assessment of a breastfeed, as an essential feature of the course. This suggests that this area received less emphasis, which seems to be reflected in participants' somewhat lower scores for clinical management in the

Table 1. Scores according to items analysed in WHO/UNICEF breastfeeding counselling course

Item	Mean score
Content (3) ^a	2.95
Methodology (3)	2.60
Preparation of the practice (2)	1.75
Handling of the practice (2)	1.38
Discussion of the practice (2)	1.00
Trainers' performance (1.5)	1.48
Participants' performance (1.5)	1.43
Use of time (1.0)	0.23

^a Figures in parentheses are the maximum values for each item.

Fig. 1. Performance of exposed and control groups on knowledge of breastfeeding in the pre-test, immediate post-test and late post-test, São Paulo, 1996



evaluation. Clearly more attention should be given to this in future courses.

In all sessions the greatest problem in following the course guidelines was lack of time. This might have been because the course was held for 4 hours

Table 2. Average scores (\pm SD), before and after the course, for each item of the clinical consultation for professionals in the exposed and control groups

Skill	Pre-course		Post-course	
	Exposed group	Control group	Exposed group	Control group
Clinical history (10 points) ^a	3.70 \pm 1.03	3.63 \pm 1.62	5.23 \pm 1.47 ^b	3.76 \pm 1.27
Assessment of a breastfeed (14 points)	6.75 \pm 2.77	6.74 \pm 3.36	9.90 \pm 1.37 ^b	8.59 \pm 2.40
Non-verbal communication (25 points)	17.25 \pm 2.69	15.95 \pm 3.78	22.15 \pm 2.1 ^b	17.70 \pm 3.70
Listening and learning (25 points)	12.80 \pm 3.16	12.91 \pm 3.36	19.35 \pm 3.69 ^b	12.18 \pm 3.35
Building confidence and giving support (45 points)	26.55 \pm 4.92	25.43 \pm 5.26	36.00 \pm 4.87 ^b	24.33 \pm 5.91

^a Figures in parentheses are the maximum number of points for the skill concerned.

^b P -value < 0.05 .

Table 3. Average percentage achievement of counselling skills in clinical practice, by participants in the exposed and control groups at pre- and post-testing

Item	% achievement in					
	Exposed group			Control group		
	Pre-test	Post-test	Δ^a	Pre-test	Post-test	Δ^a
Keep head at same level	70.4	93.0	22.6	65.0	82.2	17.2
Pay attention	80.0	94.4	14.4	72.2	83.0	10.8
Remove barriers	74.6	91.0	16.4	66.6	83.2	16.6
Take time	74.0	90.0	16.0	66.2	76.2	10.0
Touch appropriately	52.0	80.6	28.6	52.2	64.4	12.2
Ask open questions	61.6	81.6	20.0	55.2	58.6	3.4
Show interest	41.6	81.6	40.0	48.0	58.4	10.4
Reflect on what mother says	64.6	87.6	23.0	62.8	73.0	10.2
Empathize	42.0	66.0	24.0	45.4	47.0	1.6
Avoid judging	50.0	73.4	23.4	50.2	57.6	7.4
Accept what mother thinks and feels	58.4	80.6	22.2	55.0	64.2	9.2
Praise	59.0	86.6	27.6	51.6	59.2	7.6
Give practical help	47.6	77.0	29.4	47.8	59.8	12.0
Give little, relevant information	62.0	80.0	18.0	60.2	61.6	1.4
Use simple language	73.0	88.4	15.4	73.8	80.6	6.8
Suggest, do not order	62.6	89.4	26.8	57.6	65.4	7.8

^a Δ = % achievement of skill at post-testing – % achievement of skill at pre-testing.

Table 4. Average percentage achievement by participants in counselling skills and breastfeeding clinical management before and immediately after the course and upon late evaluation

	% achievement		
	Pre-course	Post-course	Late valuation
Clinical history	37	52	47
Assessment of a breastfeed	48	71	62
Non-verbal communication	68	88	87
Listening and learning	51	77	72
Confidence and support	59	80	78

per day for two weeks, instead of 8 hours per day for one week, or due to the number of sessions recommended. The lack of time was especially detrimental to the completion of exercises and to clinical practice, both of which are of fundamental importance to the course. Person-to-person skills are important for the support of breastfeeding (12), and their acquisition is particularly time consuming.

The difficulty in conducting the clinical practice sessions seemed in some cases to be due to the more experienced trainers teaching in their usual manner, departing from the course methodology and sometimes from the technical content. Despite this, the analysis showed highly significant improvements in participants' knowledge of breastfeeding.

Clinical management and counselling skills also showed significant and sustained improvement following the course, but some further comments are necessary in this respect. Taking a breastfeeding history was the skill least well retained by participants.

The content of the session was covered (100%), but there were serious time difficulties with the exercises and thus few opportunities for discussion. Assessment of a breastfeed was another skill that participants found difficult to retain. Participants began with a score of around 48%, which increased to 71% immediately after the course, but their performance fell to around 62% at 3 months, suggesting that although there was definite improvement some participants rapidly revert to old habits. Listening and learning skills were seen to improve from 68% to 88%, and this improvement was maintained in the late evaluation. Prior to the course, the greatest difficulty here was experienced with "appropriate touch". This practice is quite natural in Brazilian culture and low scores in the pre-test may reflect inhibition by the participants, who felt less inhibited after the course. "Non-verbal communication" was adequately practised by half the participants before the course, 77% immediately after training, and 72% three months later. The hardest skill to learn was "empathy": after the course, 2 out of 3 participants were able to demonstrate this skill. The ability to "show interest" increased from around 42% to 82%. The skills of building confidence and giving support were already practised by around 59% of participants before the course, by 80% immediately after the course, and by 78% in the late post-test. "Giving practical help", "giving praise" and "making suggestions, not commands" were the best learned components of these skills.

These data are consistent with an evaluation of the performance of health workers following a similar course in Bangladesh, who were able to counsel

mothers effectively and to enable them to breastfeed exclusively for longer periods (6).

Thus the BFC course resulted in a substantial acquisition of both knowledge and skills. Three months afterwards, there was no substantial loss for any item evaluated, despite the difficulty of practising breastfeeding counselling in the health services of a large metropolitan area. We recommend that the time allocated for development of skills in the clinical practice and exercise sessions of the course be increased. Some theoretical sessions (such as health care practices) may be shorter for the target audience for this course. We also recommend that, for training to be most effective, it should be followed up and participants enabled to continue practising the skills that they have acquired. To ensure that this happens, it is necessary for the local health supervisor to be included in the course training. This requirement should be specified in the *Director's guide* along with

the recommendations for selecting trainers and participants.

In conclusion, *Breastfeeding counselling: a training course* effectively increases health workers' clinical and counselling skills for the support of breastfeeding. Adequate time must, however, be allocated for exercises and clinical practice, which are important for the learning of skills. Where health workers have already been exposed to courses covering the theoretical aspects of breastfeeding, the practical training is likely to be the most effective part of the BFC course. ■

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Résumé

Conseil en matière d'allaitement au sein : évaluation des connaissances et des compétences

L'article décrit les résultats d'un essai contrôlé randomisé destiné à évaluer l'efficacité d'un cours OMS/UNICEF de 40 heures sur le conseil en matière d'allaitement au sein. Le cours a été organisé dans une maternité d'une grande agglomération qui accueille une population à faible revenu. Les agents de santé de 60 unités de santé ont été désignés au hasard, 20 comme participants et 40 comme témoins, et leurs connaissances et leurs compétences concernant l'allaitement au sein ont été évaluées avant et immédiatement après le cours, et une nouvelle fois 3 mois plus tard. Immédiatement après le cours, les connaissances des participants sur l'allaitement au sein avaient sensiblement progressé par rapport à celles des témoins. Leurs compétences tant au plan clinique qu'en matière de conseil s'étaient aussi nettement améliorées. Trois mois plus tard, les résultats demeuraient satisfaisants, malgré un léger recul.

La mise en œuvre du cours a aussi été évaluée. Les méthodes utilisées étaient l'observation active, les entretiens clés et la discussion de groupe. Pour les 33 séances du cours, la note moyenne était 8,43 sur 10. Les notes les plus élevées ont été attribuées au contenu et à la méthodologie des cours théoriques, et les plus faibles à l'utilisation du temps, à la gestion clinique de la lactation et à la discussion de la pratique clinique.

Le cours sur le conseil en matière d'allaitement au sein permet donc d'améliorer effectivement les connaissances des agents de santé et leurs compétences cliniques dans ce domaine. Le cours peut être dispensé de façon satisfaisante avec les matériels et la méthodologie proposés mais il serait préférable de prévoir plus de temps pour les exercices et la pratique clinique.

Resumen

Orientación sobre la lactancia materna: evaluación de los conocimientos y las aptitudes

Se presentan los resultados de un ensayo controlado aleatorizado que se llevó a cabo para evaluar la eficacia del curso OMS/UNICEF de 40 horas «Orientación sobre la lactancia materna: curso de formación». El curso se impartió en una maternidad que atiende a personas de bajos ingresos de una zona metropolitana. Entre el personal sanitario de 60 unidades de salud, se escogió aleatoriamente a 20 participantes y 40 testigos. Sus conocimientos y aptitudes en materia de lactancia materna fueron evaluados antes del curso e inmediatamente después del mismo, así como tres meses más tarde. Inmediatamente después del curso los conocimientos de los participantes sobre la lactancia materna habían aumentado significativamente en comparación

con los controles. Sus aptitudes, tanto clínicas como de orientación, también mejoraron significativamente. En la evaluación realizada tres meses más tarde las puntuaciones seguían siendo altas, observándose sólo una ligera disminución.

Se evaluó también la ejecución del curso. Los métodos empleados fueron la observación participativa, la realización de entrevistas a los directores de los cursos y la discusión por grupos focales. En las 33 sesiones del curso la puntuación promedio fue de 8,43 sobre 10. Las puntuaciones más altas correspondieron al contenido y a la metodología de las sesiones de teoría, y las más bajas al «uso del tiempo», el «manejo clínico de la lactancia» y el «estudio de la práctica clínica».

Así pues, el curso de formación aquí considerado permite aumentar eficazmente los conocimientos de los agentes de salud y sus aptitudes clínicas y de orientación en apoyo de la lactancia materna. El curso puede

impartirse adecuadamente con el material y la metodología propuestos, pero sus resultados podrían ser más satisfactorios si se aumentara el tiempo asignado a los ejercicios y a las sesiones sobre la práctica clínica.

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Counseling on breastfeeding: assessing knowledge and skills. mothers effectively and to enable them to breastfeed exclusively for longer periods (6). Thus the BFC course resulted in a substantial acquisition of both knowledge and skills. Three months afterwards, there was no substantial loss for any item evaluated, despite the difficulty of practising breastfeeding counselling in the health services of a large metropolitan area. We recommend that the time allocated for development of skills in the clinical practice and exercise sessions of the course be increased. Sps 550. sports counseling STAGE, SKILLS AND KNOWLEDGE IN SPORTS COUNSELING ANUAR BIN HAMID AHMAD MUZZAMMIL BIN AZMI MUHAMMAD FARID IKHWAN BIN MAT MUSA PREPARED FOR : NOR HAZWANI BT MOHAMAD NASIR. What is counseling ? The process by which the structure of the self. is relaxed in the safety of the clients relationship with the therapist and previously denied experiences are perceived and then integrated into an altered self. Rogers (1952). While assessing the problem the constraints of personal bias or theoretical blind spots must be avoided. Stage 1. DATA COLLECTION. In addition to the counseling skills required as a Breastfeeding Counselor , we also focus on strengthening your knowledge base of the physiology of lactation, developing communication skills, and provide a strong foundation in preparation for the IBCLC exam. During your training you will cover four main topic areas: Communication Skills. Physiology of Lactation. Being a Breastfeeding Counselor. These will all be reviewed and assessed by your trainer. This module has been mapped to the IBCLC Exam Blueprint. Topics in this module.