

## EDUCATIVE STRATEGY DIRECTED TO PREGNANCY AND CONTRACEPTION IN LEPROSY

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### ABSTRACT

Quantitative research of training about learning of knowledge carried out at the Dermatology Center Dona Libânia (CDERM), a reference unit in treatment of leprosy in Fortaleza-CE, Brazil. The objective was to assess the impact of educational strategy aimed at the knowledge of women with leprosy on the interaction between pregnancy and leprosy, and contraceptive methods suitable for this public. The participants were 40 women in childbearing age (16-49 years), sexually active, assisted at the CDERM, from March to April 2011. We performed interview and application of test before and immediately after intervention. In the pretest, the overall mean score was  $3.95 \pm 1.21$  (70% with level of limited knowledge). After intervention the mean score was  $7.15 \pm 1.63$  (45% with level of extensive knowledge). In the pretest and posttest, respectively, by topic, the averages of success were: risks to the baby ( $1.5 \pm 0.6$  and  $2.3 \pm 0.6$ ); maternal risks ( $1.9 \pm 0.1$  and  $3.2 \pm 0.7$ ); appropriate methods in leprosy ( $0.5 \pm 0.5$  and  $1.4 \pm 0.7$ ). We concluded that the intervention helped promoting knowledge of women with leprosy on the topics covered.

**Keywords:** Leprosy. Pregnancy. Contraception. Health education. Health promotion.

### INTRODUCTION

The leprosy is a disease infectious-contagious, chronic, that evolves slowly and if it is, mainly, by means of signs and dermatoneurologic symptoms, with lesions of skin accompanied by alteration of sensitivity by the involvement of nerves peripherals in any part of the body, being more common in the nerves of the eyes, hands and feet. Your agent etiologic is the *Mycobacterium leprae*, occurring the transmission by means of droplets infected present in the way airlines better<sup>(1)</sup>.

Among the communicable diseases is the main cause of inability physically irreversible. Leprosy is a disease of high impact on life quality of disabled people<sup>(1)</sup>. A service of quality to the individual with leprosy must be multidisciplinary, the physiological and psychosocial aspects of illness, still permeated of taboos, prejudices and discrimination.

As the sex, the men, in general, exhibit the ways more serious of illness and a greater number of disabilities physical, while the women show greater tendency to have a reply immunologic more effective against the bacillus, resulting in less number of cases of leprosy multibacillary and high degree of incapacity<sup>(2)</sup>. The specificity of the leprosy in women is the fact that the pregnancy is to be associated with the emergence of the first signs or the worsening of the disease. The last trimester of pregnancy and the first three months of lactation are considered critical periods due to hormonal changes, metabolic and immune disorders. The suppression of cellular immunity can, still, trigger or aggravate the leprosy reactions, there is also risk of recurrence of the disease. However, the disease seems not interfere in the course of gestation<sup>(3)</sup>.

In study of cut open foresight, conducted in India, from 1975 to 2003, in which were

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accompanied by 156 pregnant women with leprosy, and for aim the check consequences of pregnancy on the growth and development of the child, concluded that the children of mothers with leprosy showed a low weight at birth, placenta smaller, growth slow and greater incidence of infections and of mortality during the childhood in comparison to children of mothers without leprosy. A possible complication to these newborns is the dermatitis exfoliated in the first hours of life due to the sulphone and impregnation of Clofazimine<sup>(3)</sup>.

Established this association harmful between gestation and leprosy is necessary that women in childbearing age and sexually active receive care birth control until that the disease be healed. This care must occur especially in the multibacillary forms in which the probability of occurring reaction episodes is greater, as well as the management of pregnant women with reaction presents more complications. Therefore, the assistance aimed at woman with leprosy should include information about the aggravations cited, becoming recommended the continuance of the pregnancy for until two years after the end of treatment<sup>(3)</sup>.

One realizes, thus, the importance of the role of the nurse in assistance to women in childbearing age health with leprosy, which must go beyond and aimed to the treatment of disease and prevention of disabilities, and include interventions of contraception to prevent the complications arising out of pregnancy. For both, the education in health is a strategy to be prioritized, in order to promote the knowledge and to practice proper of the contraception by women.

In this context, the objective of this study was to evaluate the impact of strategies in education geared to knowledge and women with leprosy on interaction between gestation and leprosy and the contraceptive components methods suitable to this audience.

## METHODOLOGY

The descriptive research of qualitative approach comparing knowledge before and after intervention. The study was develop in the Center of Dermatology in Fortaleza. Participated

in 40 women in childbearing age (16 to 49 years), sexually active (at least a relationship sexual monthly), in monitoring on this center from March to April of 2011.

To obtain the data about the characterization of the participants used a form of interview containing questions about aspects of socioeconomic, clinical and reproductive rights. In the evaluation of the knowledge about the relationship between pregnancy and leprosy and the specificities with the contraception, before and immediately after the intervention, education, applied a form.

Were presented to participants two cards containing the risks to the mother and to the baby, respectively, in language technique and popular, for evaluation of knowledge about the risks maternal and fetal related to leprosy.

Each card contained information true and false, being four true pertaining to consequences on the woman (emergence of first signs of the leprosy, emergence or worsening of reactions for leprosy, recurrence of the disease and evolution for the lepromatous form) and three on the baby (newborn with low weight and small for his age, gestational greater incidence of infections and of mortality during the childhood and dermatitis exfoliated in the first hours of life).

On evaluation of the knowledge about the contraception of woman with leprosy, introduced himself to each participant a poster containing all the Contraceptive Methods (CM) for which these could arrange them in accordance with the Table 1, presented in a row.

The frame was built by authors with basis in Medical eligibility criteria for contraceptive use and on classification of effectiveness proposed by WHO<sup>(4)</sup>.

The intervention education corresponded to reading individual from a folder, conducted by two of the authors, in environment of room to wait, while the women waited for attendance, with an average duration of 15 minutes. The folder was prepared by authors with base in review integrative of literature about the subject in question. The review used the descriptors *leprosy* and *pregnancy* to form integrated in the bases of data Cumulative Index to Nursing and Allied Health Literature (CINAHL),

MEDLINE/PubMed via National Library of Medicine, and SCOPUS. No limit on a temporary basis, in which 11 studies presented subsidies theorists to construction to the said

folder, gathers orientations about the interaction between pregnancy and leprosy for the woman with the disease, their concept and on the CM more suitable.

With criterion clinical limited	Criteria	Methods Birth Control Pills
Yes (Use the method)	Can use with greater security, because fail bit and not worsen the leprosy.	Tubal Ligation, Vasectomy, Intrauterine Device (ID), Lactation with Amenorrhea (LAM), Injectable progestogen Contraceptive (IPC), condom male and female, diaphragm with spermicide, methods based on perception of fertility (less method of cervical mucus).
No (Don't use the method)	Is better avoid, because it can worsen the leprosy.	Combined Oral Contraceptive (COC); Combined Injectable Contraceptive (CIC); Progestogen Only Pill (POP).
	Is better avoid, because they fail more.	Coitus interrupted and mucus cervical.

**Frame 1** - Specifics for the indication/choice of method contraception on leprosy, when the criterion clinician is limited.

The data were analyzed in Statistical Package for the Social Sciences (SPSS), version 17.0. Data socioeconomic, clinical and reproductive received treatment statistics descriptive, using frequencies, absolute and relative, average ( $\chi$ ), standard deviation ( $S$ ) and Intervals of Confidence (IC).

The assessment of knowledge was assigned a general note to each participant, as the total of hits. The topic about the implications of pregnancy for the woman corresponded to four points and for the baby to three points; the topic CM more suitable totaled three points. Thus, adding the grades obtained in each topic, the general note assigned to the participant could vary between zero and ten. To assess the level of knowledge of the end of agreement with the note end obtained, devised the scale Likert with the levels of knowledge: 1- None (zero point); 2- Limited (1 to 4 points); 3- Moderate (5 points); 4- Substantial (6 to 7 points); and 5- Extensive (8 to 10 points). This scale was constructed by the authors, taking on the basis of the reasoning intuitive in comparison with the evaluations form the teaching in the country, in which the note 7.0, generally, represents the point of cut of approval or of seizure of knowledge satisfying (substantial).

In addition to of general assessment, each participant was evaluated in accordance with or in accordance with each one of the three topics. In the topic about the implications of pregnancy for a

woman with leprosy, the scale corresponded to: 1- No knowledge (no setting), 2-Knowledge limited (one right answer), 3-moderate (two right answers), 4- Substantial (three right answers) and 5-knowledge extensive (four right answers). In the topic implications for the baby of a pregnant woman with leprosy, the scale corresponded to: 1- No knowledge (no setting), > 2- Knowledge limited (one right answer), 3- Moderate (two right answers), 4-Substantial (two right answers, when included the option "being born with low weight") and 5-knowledge extensive (three right answers). In the topic MAC more suitable, the scale represented: 1- No knowledge (no setting), 2- Knowledge limited (setting of all the MAC of at least a category), 3- Moderate (arrangement of all the MAC from two categories), 4 - Substantial (arrangement of all the MAC of two categories, since it included the category "is best avoided, as it can worsen the leprosy") and 5 - Knowledge extensive (arrangement of all the MAC belonging to three categories).

The project it was approved by the Committee of Ethics in Research the Center of Dermatology (Protocol nº 013/2011). The participants signed the informed consent, being guaranteed the anonymity and confidentiality of information collected.

## RESULTS AND DISCUSSION

### Characterization of participants

Of the 40 (100%) of women with leprosy of child bearing age 15 (37.5%) had of 40 to 49 years, 13 (32.5%) of 30 to 39 years and 12 (30%) from 16 to 29 years, with mean age of 34.7 years. Origin of the municipality of Fortaleza-CE (67.5%) 27 corresponded to women and in the State of Ceará, 13 (32.5 %). The schooling of 15 (37.5%) was from 4 to 7 years of study, followed by 11 (27.5%) with 11 years of schooling or more; eight (20.0%) had schooling of 8 to 10 years of study. Married women and in consensual unions (75%) of the 30 participants. The predominant family income, stated by 25 (62.5%) of women was half to two minimum wages, found that related to the average number of 4.4 people at home, resulted in average *per capita* income of R \$ 184,40 (table 1).

**Table 1** - Distribution of the number of women with leprosy of childbearing age according to socioeconomic and demographic profile. Fortaleza-CE, 2011.

Variables	n	%
Age in full years		
16 to 19	2	4.5
20 to 29	11	25
30 to 39	15	34.1
40 to 49	16	36.4
Origin		
Fortaleza	30	68.2
Metropolitan region	10	22.7
Interior	4	9.1
Monthly family income (in minimum wages)		
1/2 to 2	29	65.9
More than 2	10	22.7
Don't know	5	11.4
Number of persons in the family		
2 to 4	26	59.1
5 to 7	16	36.4
8 or more	2	4.5
Bonding condition		
Married women and in consensual unions	32	72.7
Possible partner	12	27.3
Education (in years)		
Not studied	1	2.3
1 to 3	5	11.4
4 to 7	15	34.1
8 to 10	10	22.7
11 or more	13	29.5

The sociodemographic characteristics of the group searched following the pattern presented by other women with the disease, such as: the prevalence of adulthood due to the long incubation period of the disease, low family income and low education, where these conditions increase the vulnerability of this clientele to disease due to greater difficulties in access to diagnosis and the lack of knowledge in relation to illness, resulting in a low awareness and adherence to treatment<sup>(5)</sup>. The stable union, found as prevalent in the group is supportive of the pregnancy, featuring a clientele that craves attention in contraception.

To the clinical profile of leprosy, 23 (57.5%) were Multibacillary (MB), and 16 (40.0%) presented the borderline clinical form and seven (17.5%) and lepromatous form. Of the 17 (42.5%) and Paucilibacillary (PB) women, 14 (35%) presented the tuberculoid form and three (7.5%) to undetermined. The leprosy reaction was an event present in 15 (37.5%) of participants. The degree of disability in the diagnosis was zero in 35 (87.5%) of the cases.

The clinical data of leprosy, in the group, follow the general epidemiological trend of leprosy, in which there is a predominance of MB and no disability at diagnosis. These results reflect early detection of cases, protective factor for the advancement of the disability<sup>(6)</sup>.

The reactional states may arise before, during or after discharge from treatment, and are related to MB forms, a fact evidenced in this study, with the finding of reactional cases 15, being 13 (86.6 percent) MB.

The sexual historical and reproductive revealed that 35 (87.5%) women had children, with an average of 2.3 children, being that 27 (77.1%) had two or more children, and eight (22.8%) had a son. The contraceptive pills was affirmed by 31 (77.5%) participants, being that 11 (35.4%) were painted, eight (25.8 %) used the COC and seven (22.5%) used the male condom. Nineteen (61.2%) women were in use of contraception method without professional guidance, nine (29.0%) were accompanied in service of planning family in the basic units and three (9.8%) received such care in the own center.

These data resemble the presented in study in 2006 with 80 women with leprosy, where the 39

(48.7%) that stated use some CM, 15 (38.5%) wore male condom, and eight (20.5%) COC and tubal ligation, respectively<sup>(7)</sup>. Confidence on tubal ligation as method theoretically definitive was reason important to their choice by the group; the use of COC was motivated by the easiness and autonomy in use; the condom male, in general, when used in the initiation of the relationship due to concerns with the Sexually Transmitted Diseases (STD), switches the establishment of ties and confidence in the partner has the use interrupted. This thought can justify the low adhesion of this method in the group searched, already that the partnership sets prevailed<sup>(8)</sup>. Of the women who used a CM, 13 (41.9%) received guidance Professional, these 53.9% for doctors and 46.1% for nurses. This shows that the other, are doing use indiscriminate use of these CM, therefore, exposed the contraindications.

Of accordance with the criteria of eligibility for use of CM built for this study, of the 31 women in use of CM, 10 (31.5%) used a method that was contraindicated for the woman with leprosy (category 4). Women who make use of rifampicin not should use the contraceptives, oral because, although the interaction of rifampicin with the contraceptives don't be pernicious, is likely to reduce the effectiveness of the methods. Therefore, women in using extended the antibiotic, should be encouraged to use of other contraceptives that not the hormonal orals<sup>(9)</sup>. Furthermore, the percentage of women exposed to pregnancy not planned is greater, seen that 9 (22.5%) not used CM.

### **Knowledge before and after the educational intervention.**

Most women, 38 (95.0%) had not received any information about the implications of pregnancy for you, your baby and about the most suitable CM; two (5.0%) claimed to properly that the baby could be born with leprosy.

This reality has been maintaining constant among women with leprosy met in Fortaleza, as in study in 2006 showed that 82.5% (n = 66) of participants proved to be uninformed about the risks of pregnancy associated with leprosy, considering absence of diseases in pregnant with disease and pregnancy would not affect the disease<sup>(7)</sup>.

This fact confirms the prevalence of limited knowledge level between 28 (70%) of women in the overall assessment of all the topics before educational intervention. At pretest, the average of hits was  $1.21 \pm 3.95$  when the high score was 10.0. After the educational intervention this average was of  $7.15 \pm 1.63$ . Table 2 presented below shows the level of knowledge of the participants before and after the intervention.

In the topic about the risks for baby, the average of hits by participants in the pretest was  $1.5 \pm 0.6$  found that reflects the greater number of women with limited knowledge, corresponding to 20 (50%) were women. In the posttest average of right answer was  $2.3 \pm 0.6$  (47.5 percent) which corresponds to 19 women with substantial knowledge and 18 (45%) with extensive knowledge.

As for the knowledge about maternal risks, the average was  $1.9 \pm 0.1$  right answers at pretest, increasing to  $3.2 \pm 0.7$  in the posttest. Moderate knowledge was prevalent in previous review the educational intervention, corresponding to 16 (40%) are women, followed by a smattering of 14 (35%) were women. At this stage no participant has submitted extensive knowledge. After the intervention, the predominant knowledge was substantial (45%), followed by extensive knowledge (40%).

The knowledge about the most appropriate CM in leprosy was between none and limited, corresponding to 50.0% for each level, the pretest. In this topic, the participants should organize properly every CM in each of the three criteria, to be evaluated as right answer. Thus, the average of right answer prior to the intervention was of  $0.5 \pm 0.5$  to  $0.7 \pm 1.4$  increasing hits, with substantial knowledge level (45%).

The level of global knowledge of the pretest was limited among 28 (70%) of participants, while the extensive level prevailed among posttest 18 (45%) were women.

Communication actions in health for people with leprosy is one of the components of the National Leprosy Control Programme (NLCP). Among the priority themes set out are the stimulus to self-examination, research of household contacts, self-care measures, prevention and treatment of physical disability<sup>(1)</sup>.

**Table 2** – Right answers obtained on the risks of the interaction between leprosy and pregnancy to the baby and the woman and about the most appropriate CM in leprosy before and after educational intervention. Fortaleza-CE, 2011.

	Before the intervention (pre-test)			After the intervention (Test post)		
	N	%	IC 95%	N	%	IC 95%
<b>Risks to the baby</b>						
<b>Level of knowledge</b>						
No	1	2.5	0.4-12.8	1	2.5	-12.8 0.4
Limited	20	50	35.2 – 64.8	-	-	-
Moderate	5	12.5	5.4-26.1	2	5	1.3 – 16.5
Substantial	11	27.5	16.1-42.8	19	47.5	32.9-62.5
Extensive	3	7.5	2.5-19.8	18	45	30.7-60.1
<b>Risks to the Mother</b>						
<b>Level of knowledge</b>						
No	-	-	-	-	-	-
Limited	14	35	22.1-50.4	-	-	-
Moderate	16	40	26.3-55.4	6	15	7-29
Substantial	10	25	14.1-40.1	18	45	30.7-60.1
Extensive	-	-	-	16	40	26.3-55.4
<b>Use of appropriate contraceptive methods</b>						
<b>Level of knowledge</b>						
No	20	50	35.2 – 64.8	9	22.5	12.3 – 37.5
Limited	20	50	35.2 – 64.8	7	17.5	8.7-31.9
Moderate	-	-	-	5	12.5	5.4-26.1
Substantial	-	-	-	18	45	30.7-60.1
Extensive	-	-	-	1	2.5	0.4-12.8
<b>Global knowledge</b>						
<b>Level of knowledge</b>						
No	-	-	-	-	-	-
Limited	28	70	54.5-81.9	1	2.5	0.4-12.8
Moderate	8	20	10.5-34.7	9	22.5	12.3 – 37.5
Substantial	4	10	3.9-23.0	12	30	18-45.4
Extensive	-	-	-	18	45	30.7-60.1

Currently, the educational activities are founded on the rules of multiprofessional NLCP and in the tradition of that health education is to transmit information necessary for the care and treatment adherence<sup>(10)</sup>.

In the context of the NLCP, the contents explored in this research were not mentioned. However, the results point to the need for their inclusion in the guidelines of routine consultations and educational practices and health promotion, such as waiting rooms, discussion group, workshops and others. Highlights that these educational activities should promote the autonomy and empowerment of women with leprosy,

understood as a process of empowerment of individuals and communities to take greater control over the personal, social, economic and environmental factors that affect health; increasing the ability to understand and act upon themselves<sup>(11,12)</sup>.

Only by the establishment of a relationship with the woman who respects and notify their rights as to access the CM, listening to her about her story of life and choices, realizing her on their uniqueness and completeness will be possible to develop a practical education that encourages the autonomy at contraception.

## CONCLUSION

It was found to be essential to the development of such strategies for women with leprosy improve their knowledge about the importance of postponing motherhood during treatment of the disease and for two years after its completion, in order to prevent damage to the health of the mother, the fetus and worsen the disease picture.

If this conclusion is silted in the realization that global knowledge about implications of pregnancy for a woman with leprosy and your baby and about the most appropriate CM went

from limited between 70% of participants, for extensive by 45% of participants after the educational intervention.

It is suggested that future studies are developed with a larger sample and that can assess not only the immediate knowledge of the participants after the educational intervention, but also changes in contraceptive practices of the group searched in long term, what was recognized as a limitation of the present research.

## ESTRATÉGIA EDUCATIVA VOLTADA À GESTAÇÃO E ANTICONCEPÇÃO NA HANSENÍASE

### RESUMO

Pesquisa quantitativa de treinamento sobre a aprendizagem do conhecimento, realizada no Centro de Dermatologia Dona Libânia (CDERM), unidade de referência em tratamento de hanseníase de Fortaleza-CE. Objetivou-se avaliar o impacto de estratégia educativa voltada ao conhecimento de mulheres com hanseníase sobre interação entre gestação e hanseníase e métodos anticoncepcionais adequados a este público. Participaram 40 mulheres em idade fértil (16 a 49 anos), sexualmente ativas, assistidas no CDERM, de março a abril de 2011. Realizou-se entrevista e aplicação de teste antes e imediatamente após intervenção. No pré-teste, a média de acertos geral foi de  $3,95 \pm 1,21$  (70% com nível de conhecimento limitado). Após intervenção a média de acertos foi  $7,15 \pm 1,63$  (45% com nível de conhecimento extenso). No pré-teste e pós-teste, respectivamente, por tópicos, as médias de acertos foram: riscos para o bebê ( $1,5 \pm 0,6$  e  $2,3 \pm 0,6$ ); riscos maternos ( $1,9 \pm 0,1$  e  $3,2 \pm 0,7$ ); métodos adequados na hanseníase ( $0,5 \pm 0,5$  e  $1,4 \pm 0,7$ ). Concluiu-se que a intervenção contribuiu para promover o conhecimento de mulheres com hanseníase sobre os temas abordados.

**Palavras-chave:** Hanseníase. Gravidez. Anticoncepção. Educação em saúde. Promoção da saúde.

## ESTRATEGIA EDUCATIVA DIRIGIDA AL EMBARAZO Y A LA ANTICONCEPCIÓN EN LA LEPROA

### RESUMEN

Investigación cuantitativa de entrenamiento sobre el aprendizaje del conocimiento, realizada en el Centro de Dermatología Libânia (CDERM), unidad de referencia en tratamiento de lepra de Fortaleza-CE, Brasil. El objetivo fue evaluar el impacto de la estrategia educativa dirigida al conocimiento de mujeres con lepra acerca de la interacción entre embarazo, lepra y métodos anticonceptivos adecuados a este público. Participaron 40 mujeres en edad fértil (16-49 años), sexualmente activas, atendidas en el CDERM, de marzo a abril de 2011. Se realizaron entrevista y examen antes e inmediatamente después de la intervención. En el pre-examen, el promedio de aciertos general fue de  $3,95 \pm 1,21$  (70% con nivel de conocimiento limitado). Después de la intervención, el promedio de aciertos fue de  $7,15 \pm 1,63$  (45% con nivel de conocimiento amplio). En el pre-examen y post-examen, respectivamente, por asunto, los promedios de aciertos fueron: riesgos para el bebé ( $1,5 \pm 0,6$  y  $2,3 \pm 0,6$ ); riesgos maternos ( $1,9 \pm 0,1$  y  $3,2 \pm 0,7$ ); métodos adecuados en la lepra ( $0,5 \pm 0,5$  y  $1,4 \pm 0,7$ ). Se concluye que la intervención ayudó a promover el conocimiento de mujeres con lepra sobre los temas tratados.

**Palabras clave:** Lepra. Embarazo. Anticoncepción. Educación en salud. Promoción de la salud.

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