

Implanon removal experiences of women in Butajira, Ethiopia

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Abstract

Introduction: Over the last decade, a lot of advocacy work has been done to increase long acting and permanent contraceptive methods (LAPMs) use in Ethiopia. However, LAPMs uptake is very low compared to short acting ones where eventual disinterest and subsequent removal of the method is observed.

Objective: This study was carried out to explore reasons behind implanon removal within unreasonably short time after insertion.

Methods: An exploratory qualitative study was employed to apply class room qualitative research method training organized by the School of Public Health, Addis Ababa University. Research participants were purposively selected women in Bido and Diram kebeles of rural Butajira, which is a research site of the School of Public Health, Addis Ababa University's. Nine women who had recently removed implanon and two health extension workers (one from each kebele) were interviewed. Data analysis was facilitated using ATLAS.ti qualitative software and presented using content analysis.

Results: Study participants were aware of the different types of family planning (FP) services available at the health facilities. However, women did not get two sided information which explains the benefits and side effects of implanon. Women in this study reported that the main reasons for early implanon removal were perceived side effects, desire to get pregnant, partner pressure and at times, religious leaders delay the burial of a woman who had implanon. After implanon removal, some reported to have shifted back to short acting FP methods while others reported to have faced unintended pregnancy. Though implanon insertion is conducted at a community level, removal was possible only at health centers or Hospitals and this has created discomfort and anxiety among women.

Conclusion and recommendation: Women's agency to decide on their reproductive health, cultural influences, and inadequate information was the main causes for the untimely removal of implanon. Working with community leaders, access to implanon removal services at a community level and strengthening the pre-insertion counseling process to assure informed choice would help to avoid unnecessary removal of implanon and increase uptake.. [*Ethiop. J. Health Dev.* 2015;29(3):176-182]

Key word: Implanon, Maternal health, Rural setting, Ethiopia

Introduction

Ethiopia is a country with the second largest population in Africa (1) and characterized as one of the countries with high rate of child and maternal mortality (2). Women of reproductive age constitute remarkable proportion (46%) of the total female population (3). Over the last decades the country recorded steadily declining total fertility rate from 5.9 in 2000 to 4.1 in 2014 (4, 5). Nevertheless, there remains variation between urban and rural residents (2.2 in urban and 4.5 in rural setting) (5). Such decline in fertility level could be attributed to the effort made by the health sector which has consistently tried to diversify and expand family planning (FP) service coverage (6).

In Ethiopia, knowledge about FP methods is almost universal. Almost all, 97.5% of currently married women of reproductive age know at least one method of FP where 75 percent of currently married women in the reproductive

age had knowledge about implants (a one-rod sub-dermal contraceptive implant that can be used for three years) (5).

Contraceptive prevalence rate has increased from 5.9 in 2000 to 28.8 in 2014 for women of reproductive age (4, 5). However, despite widespread knowledge about FP, only 5% of currently married women of age 15-49 use implants despite the effort put by the government to scale up implanon use since 2009 (5, 7).

Implanon insertion is done by health extension workers (HEWs) at community level and by other health professionals at health centers (HCs) and/or hospitals to increase its up take while removal is done at health centers or hospitals by higher level health professionals (7).

Available evidences reported different reasons for discontinuation of implants. A study in northern Ethiopia

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showed that side effects and service quality as the main predictor of implanon discontinuation (8). A similar study in Oromia region has shown prolonged menstrual bleeding, fertility desire, and pain on arm as major reason for removal (9, 10).

Although several studies documented factors affecting use of FP methods including long-term methods (11-13), studies that explored the reasons for implanon removal and challenges during removal remains quite limited (8, 9). This particular study was carried out in two kebeles of Butajira HDSS Southern Central Ethiopia, as part of a training to explore the reasons of early implanon removal and related challenges.

Methods

An exploratory qualitative study was employed using indepth and key informant interviews. The study was conducted in two rural villages of Butajira Rural Health Program (BRHP) also called Butajira Demographic and Health Surveillance System, namely Diram and Bido kebeles. BRHP is located 130 km away from the capital Addis Ababa in the Southern Nations and Nationalities Peoples (SNNP) Region of Ethiopia. The BRHP was established in 1987 in nine rural kebeles and one urban kebeles. It also has nine health posts (one per rural kebele) provide most primary and preventive health services including maternal and child health services while four health centers and two hospitals (a zonal hospital and an NGO hospital) provide both curative and preventive services to the population.

The two kebeles/villages were selected purposively based on accessibility and availability of clients who have removed implanon at the day of the interview.

Nine women who had experiences of implanon removal and two health extension workers were identified. From each of the selected villages, five women who have experienced removal of implanon and can express themselves well were selected by the HEWs and one of them couldn't appear. The HEWs who were trained on implanon insertion were approached by BRHP field staff. The interview was conducted using semi structured questionnaire developed for this study. Interviews with HEWs were conducted at the health posts while women who had removed implanon were interviewed in the health posts compound where auditory privacy could be maintained. All records were tape recorded and each interview took an average of 30 minutes.

The collected data were transcribed after repeated reading and rereading to develop themes and codes following the objectives of the study. Data analysis was facilitated using an application of ATLAS.ti software version 7.

Data were analyzed using content analysis and interpreted using phenomenological approach. Written informed consent was obtained from each participant.

Results

Background characteristics of respondents: All respondents were married. Mean age of respondents was 29.4 with a range of 25 to 40. Except one, all of the participants did not attend formal education. On average they have had five children with minimum of three and maximum 10.

Awareness about FP methods: Study participants were aware of the different types of FP services that were available at the nearby health facilities. All of them mentioned at least two types of FP methods they know, one being implanon. In fact, they struggled to mention the exact names of the methods, but they were able to explain the method in their own way.

"...It is injectable. I don't know the name. I used it to limit number of children. Previously, I had been using a method which can serve for three years. (40 Years old respondent [YOR])"

They all explained the benefits of implanon by articulating the benefits in different ways. Frequently reported benefits include: "child spacing", "child limiting", "better quality of life", and "avoiding risks of getting pregnant". They have obtained this awareness from service providers (including HEWs), friends and their partners. The following quote support the above statement.

"... FP improves my own life since I can have sufficient time to contribute to my family's livelihood, my children's health, and improves my ability to send my child to school ..." (30 YOR)

Another participant expressed the use of FP as follows: *"...It helps me to space between children and it keeps me younger. It also helps me to live longer" (29 YOR)*

Accesses and availability of implanon services: Participants said that different types of FP services including implanon were available at the health posts in the villages for free. They explained the situation on which the implanon was inserted. It is done not only through routine services at HCs and health posts but also through outreach by HC staff and during training events. *"The implanon insertion was done for me by a number of peoples like you from Butajira or else. They came to our village and advised us to use implanon, and I accepted their advice and used it." (30 YOR)*

Counseling services were not enough: The HEWs were asked about the counseling service they are providing during implanon insertion. They explained that proper counseling was provided to clients before inserting the implanon. One of the HEWs who participated in the study said that

"... at village level, we teach women about implanon and provide a one-to-one pre-insertion counseling when they come to get service. Once they have agreed, they get the implanon inserted..." (HEW)

However on the other hand, the study participants also explained about the counseling service they received. The study investigate that the one-to-one counseling service is

more focused on telling the client to use implanon without providing evidences on how it works as well as potential side effects. Study participants don't deny that they were "counseled". But they stressed that the counseling process however was argued to be one sided focusing more on the benefits of implanon and not good enough to make informed decision. One of the participants clearly explained this:-

"...service providers insisted that I may not fully adhere to FP methods other than Implanon. And, they urged me to use Implanon. I was not informed about its side effects." (28 YOR)

Why do women use Implanon?: Implanon insertion is driven by various factors. An important factor that encouraged women to use implanon service was campaign by HEWs and Women Development Armies (WDAs). There was continuous lobbying by the HEWs and WDAs for women to either start to use or switch to long-acting FP methods—particularly Implanon. Furthermore, continuous follow up from respective woreda health offices (WorHO) and inclusion of implanon uptake as an evaluation criterion of HEWs performance was an important factor for several women to use the service. *"... Yes there is pressure from higher level [WorHO]. We are evaluated at woreda level. There are responsible individuals who oversee our performance. During review meetings, they raise questions such as 'why did you fail to counsel and convince them [women] to consider implanon?' They blame us for not meeting expectations despite being trained"* (HEW)

Women's agency and perceived benefit of implanon use helped women decide on their reproductive health: From women's point of view, their intention to avoid the risk of pregnancy was one of the main reasons. The reasons given by women were related to lack of time, poverty and not prioritizing to have children. One of the women indicated her reasons for limiting number of children using contraceptives as follows:

"...It is me that suffer and not my husband. So, I didn't find important to tell him that I was using implanon. For that matter, it is me that gives birth; it is me that suffers from lack of food ... not him. It is me that help my kids grow ..." (28 YOR)

Study participants also stated that they preferred implanon other than other FP methods due to the fact that they could get pregnant immediately after its removal unlike other methods like Depo Provera.

One of the participants highlighted it as follows: *"Previously I used to give birth every year. After receiving advice from the health worker, I decided to use implanon because I knew that I can remove it and can get pregnant immediately if I want to."* (40 YOR)

Similarly, HEWs witnessed that once implanon is removed, their clients usually get pregnant immediately. One of the HEWs indicated the situation as follows:

"There are women who used implanon for three years. After removal they become pregnant immediately. However, women who have been using Depo Provera

complain that stopping it is not accompanied by immediate pregnancy."

Unlike short acting methods, once inserted, implanon neither requires reminder nor do clients worry about unintended pregnancy which is a great help for a busy woman. One of the participants argued that:

"...implanon could be used for long without any reminder or concern. While using injectable, for example, requires one to remember about it every three month." (29 YOR) The HEW also share clients idea *"... taking implanon once for three years is simple and easy as compared to taking Depo Provera every three months..."*

In addition, HEWs explained that the issue of irregularity of menstrual cycle is arguably has less concern during using Implanon. A HEW explained that, *"...clients often mentioned that the menstruation appear regularly during implanon use while it is perceived to be disrupted, sometimes for a year while they use depo, for example."*

Why do women remove Implanon?: In principle women can remove implanon any time they want. The most frequent and obvious reason for removal is associated with the need to get pregnant. However, this study revealed that there are various other reasons to remove implanon. Concerns about side effects, health problems, peer and partner pressure and myths were reported as the main reasons. Most (6 out of 9) of the respondents used implanon for less than two years and only as few as 3 out of 9 used it for three years. All of them complained about the method. A HEW also admitted the short duration of use of implanon by clients. She explained that: *"... those who are interested may use it for three years. However, according to my experience most of my clients use it for one year or six months not more than that."*

Different health problems and side effects were found to be the main reasons for most of the implanon removal. All study participants reported that they experienced different health problems after they started using implanon. Some of the reported health problems and side effects included but not limited to: 'arm pain', 'dislocation of implanon', 'declined productivity', 'severe headache', 'heart pain', 'continuous flow of menses for long time', and 'weight loss'. One of the participants reflected as follows:

"I was a daily laborer and I used to use implanon. Few weeks later, started to suffer from severe headache. Furthermore, I became weak and was not as active and productive as before. Consequently, I removed the implanon and regained my health. But I am worried that I may get pregnant again." (28 YOR)

Another participant indicated that heavy menstrual flow was one of their reasons for removal of implanon. *"My main problem was continuous flow of menstruation and I decided to remove it."* (29 YOR)

HEWs also claimed that one of the reasons that women demand implanon removal was heavy menstrual flow and discomfort. HEW reported that

"Clients complain that they have burning sensation, heavy and continuous menses and loss of body weight after the insertion of implanon."

Furthermore, one participant pointed out that heavy workload as a cause of pain and displacement of the implanon.

She said that *"...in our village, we are engaged in heavy tasks for survival. I think due to this, my implanon was shifted to upper side of my arm. As a result I got very sick. At that time I was worried that it may have gone deeper into my muscle. After I got it removed, I feel healthy."* (30 YOR)

Peer or partner influence was also found to have significantly contributed to the removal of implanon. Although HEWs claimed that implanon was inserted with the knowledge of their husbands/partners, some (three) of the women revealed that they used implanon without the knowledge of their husbands. They kept it secret since their husbands wanted them to give birth again and again. One of the participants indicated that *"My husband was not aware that I was using it [implanon]. My intention was to space children since I don't have much to eat and was physically weak as well. Lately, he heard about it and he became aggressive on me. He was nagging me day and night [to remove implanon]."* (28 YOR)

Another respondent added that *"...My husband tells me that I should continue giving birth and should not take any [contraceptives]. But I refused ... because I had nothing to eat or drink. So at the time ... I decided to take [implanon] without his knowledge. That's why he was aggressive when he heard that. The aggression was nothing to me ... but the side effects."* (28 YOR)

In contrast, there were few other respondents who had support from their husband in the whole process of using implanon. A 29 YOR explained this as *"...Yes my husband knows everything. When I felt discomfort he encouraged me to remove it and switched to another method... and I did so after a while."*

Other than husbands, community level peers do also play important role in decisions to remove as well as insert implanon. It was reported that there were also times in which group decisions were made at the community level meetings and gatherings. Peers played an important role during such decisions. One of the study participant pointed out that *"... we were told at a meeting that implanon is good for child spacing and we used it. After sometimes, we heard that several women were getting the removal. So, we discussed in our neighbors and several of us got rid of it."* (28 YOR)

Clients who maintained implanon for three years often got it removed mainly to get pregnant. One of the participants who used implanon for three years pointed out that

"... I wanted to get pregnant again as a result I removed it. I was pregnant and now I have given birth." (25 YOR)

There were some emerging beliefs/myths identified in this study that expedited implanon removal. According to one of the HEWs interviewed, there was a woman using implanon who died while using implanon through some other causes. The local people urged that any woman having implanon shouldn't be buried having it. It was explained further as: *"...a client using implanon died with another cause and a rumor was circulated in the village all of a sudden that the woman with implanon shouldn't be buried in our area. ... they have ordered me to bring a health worker to remove it. I had no option; the health worker came and removed it from the dead body. After this time, the perception towards implanon service becomes very negative even in the surrounding kebeles."*

Implanon removal process: Although the request for implanon removal was very high for various reasons, the removal process was uneasy mainly due to resistance and hesitation from the health workers and lengthy and unfriendly removal procedures that required approval letter from HEWs as well.

Respondents complained that when they requested for an implanon removal service, health workers were generally unhappy and often refused to remove and preferred to provide medications and counseling for the reported problems.

"...In fact health workers were not willing to do the removal. Often they rather recommended other treatment for my complaints instead of removing it. I insisted on the removal and told that I will consider going to another health institution. Finally, they removed it which was a relief for me." (30 YOR)

Another participant also emphasized how challenging the removal process was; *".... I made several visits to the HC to get the removal service but I was told that government has spent money and it is a joke to think about removal before three years. However, I went to Butajira and pleaded the health workers to obtain the service."* (40 YOR).

At times knowing a health professional facilitated the removal process. *"...the HEW is in my neighborhood and she is my friend as well. I begged her to help me in removing the implanon. She agreed and handed me referral letter to the nearby HC ..."* (28 YOR) Although there was no clear instruction from government that removal is not allowed, health workers were perceived to have created a situation where they have to be begged to help with the removal. This was well captured in the argument by one of the participants. *"I begged the nurse in the HC to help me. She was hesitant even after I told her my ill-feelings. In any case after much begging and pleading I was advised to buy a razorblade, which I did. Within few minutes they removed it for me although they did not want to help at the beginning."* (28 YOR)

The health extension workers also agreed on the challenges raised by clients: "... clients usually complain that we (HEWs) don't provide them the removal service, we just insert it. They also complain that the HCs are very reluctant, and have excuses such as running out of lidocaine (a local anesthesia) when requested for removal. Even the HCs don't do removals unless we write them a referral letter mainly for those who have inserted in the HP. It is one of the requirements in the HCs not only in this woreda but also in others too. This is happened if a woman wanted to remove it before three years. But if it is timely, they will do the removal by looking at her appointment card."

Post implanon removal experience: Participants reported that they felt relieved and got healthy after removal of Implanon. The finding shows that there were two glaringly common experiences that women encountered in connection to implanon removal. One was lack of proper bridging during switching due to lack of appropriate counseling. The other was a "phobia" develop by mothers due to ill-feelings in connection to implanon use and its removal. As a result of these negative experiences, most of the study participants developed fear and became reluctant to use other family planning after removal.

Despite such daunting experiences, women were found to exhibit mixed impressions following the removal of implanon. On one hand, most of them faced unwanted pregnancy right after removal. On the other hand, it seems they felt they have relieved from ill feelings. So, at times, they want to consider short acting methods. One of the participants explained that "*I felt happier after implanon removal. I used to have a feeling of burning and was concerned that my hand may be paralyzed. With its removal, all these feelings and associated problems have gone. Actually, it was not my plan to get pregnant...anyways, thanks to God, I became pregnant and my husband was happy. After I delivered my twins, I switched to depo and am feeling much better.*" (40 YOR) HEWs also confirmed that almost all women who got their implanon removed don't want to use it again. They rather opt to shift to short acting methods or became pregnant. "*Most implanon users usually tell you much about the side-effects of the implanon, not about its uses. The one who wanted to remove it weighs. As far as my experience is concerned, no one wanted to reinsert implanon after the first experience. There are few clients who wanted to use it again but they asked us if there is any new improved version of implanon otherwise they don't use it.*" (HEW)

Discussion

This study explored the reasons for early implanon removal among women in rural set-up. Partner influence, fear of side effects, heavy menstrual flow, discomfort on the insertion area and cultural influences related to avoidance of burning a woman who had implanon were the major reasons for early removal. Information provided at community level about FP method choice was onesided and the fact that implanon removal was not possible at

health posts created anxiety and instigated untimely removal of the method.

In this study, we found that the implanon removal process was more challenging both at a HP and HC level. The fact that women were asked to produce support letter from the HP makes them disempowered towards controlling their own reproductive health. This is mainly related to the fact that implanon insertion is done by HEWs at community level and by other health professionals at HCs and/or hospitals while removal is not done by HEWs (7). This long process has created fear and anxiety among clients, where they are forced to beg health professionals at each level. Some of this facts were documented by other studies done in Ethiopia (8, 9).

The other main reason for untimely removal of implanon was fear of side effects of the method. Women using the method reported to have removed it because of mild discomfort at the site of the insertion; feeling that the implant has shifted from its position because of hard work. This could be associated with local myths and lack of proper two-sided counseling and follow-up after insertion. A strong counseling service at each service delivery point is pivotal for effectiveness of the program. A study done in Philippines and Nigeria showed that adequate counseling is a key determinant factor that convinces a client to use the method for a longer period (14-16). A study in Ethiopia also confirmed that the inadequacy of the counseling services during implanon insertion resulted in high rate of discontinuation (8).

Partner pressure was also reported as one of the main reasons for early removal of implanon, this may be related to failure to provide participatory pre-insertion counseling at the beginning and partly due to partner's desire to have more children. These reasons were well substantiated in other similar studies done in Ethiopia and other countries (8-10, 17, 18). However, the power imbalance among couples in Ethiopia and low women's agency to decide in their reproductive health is also another factor. Studies from elsewhere documented that women who were educated and employed to have made decision for their reproductive health (19). Other studies also indicated that husband's positive attitude towards contraceptive use increase contraceptive uptake among women (20).

In this study, we found that some client faced unintentional pregnancy while others moved to short term method. This still suggests that clients were not properly counseled even at removal and bridged to FP services. Other studies in the country also suggested that counseling services about family planning are not strong (8). These findings are similar with other findings done in Ethiopia (9).

Some cultural problems such as prohibiting women not to be buried with the implanon was reported. Though reported by very few respondents, further study could explore this issue further. In a traditional country such as Ethiopia, the role of religion and culture is immense which would affect

future programs. Involving religious leaders in health programs have shown positive outcomes (21).

Strengths and limitations of the study The study has different strengths and limitations. Person triangulating (comparing clients' response with that of HEWs) and having multidisciplinary research team were the main strengths of the study. The main limitation of the study was the limiting the study site two kebles and inability to involve HC and district staffs, as the study was conducted as part of a training program.

Conclusion:

Women in this study were forced to remove implanon because of lack of proper counseling services before insertion and their subordinate position in the household which deter them to decide on their reproductive health. Pre-service counseling on FP method needs to be strengthened to assure informed choice by providing two sided information which provides the benefits as well as side effects of available methods. Access to removal service at a community level was a challenge for most women was frustrating as they could not remove it by health workers at a community level despite its insertion at a similar level.

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Conflict of interest

The authors declare that there is no conflict of interest for anyone involved in this research.

References

1. African Countries by Population.2016; Available from: <http://www.worldometers.info/population/countries-in-africa-by-population/>.
2. AU. 2014 Status Report on Maternal New born and Child Health. Addis Ababa, Ethiopia: African Union 2014.
3. CSA. Summary and Statistical report of the 2007 Population and Housing census. Addis Ababa, Ethiopia: Federal Democratic Republic of Ethiopia Population Census Commission 2008.
4. CSA. Ethiopia Demographic and Health Survey 2000. Addis Ababa, Ethiopia and Calverton, Maryland, USA: Central Statistical Authority and ORC Macro; 2000.
5. CSA. Ethiopia Mini Demographic and Health Survey Health, Medicine and Nursing. 2015;15: p.62-71. 2014. Addis Ababa, Ethiopia: Central Statistical Agency; 2014.
6. Olson DJ, Piller A. Ethiopia: An Emerging Family Planning Success Story. *Studies in Family Planning* 2013;44(4):445-59.
7. FMOH. National Guideline for Family Planning Services in Ethiopia 2011.
8. Birhane k, Hagos s, Fantahun M. Early discontinuation of implanon and its associated factors among women who ever used implanon in Ofla District, Tigray, Northern Ethiopia. *International Journal of Pharma Sciences and Research (IJPSR)* 2015;6(3): p. 544-51.
9. Burusie A. Reasons for Premature Removal of implanon among Users in Arsi Zone, Oromia Region, Ethiopia, 2013. *Reproductive System & Sexual Disorders: Current Research* 2015;4:48.
10. Harvey C, Seib C, Lucke J. Continuation rates and reasons for removal among implanon users accessing two family planning clinics in Queensland, Australia. *Contraception* 2009;80(6):527-32.
11. Gebremichael H, Haile F, Dessie A, Birhane A, Alemayehu M, Yebyo H. Acceptance of Long Acting Contraceptive Methods and Associated Factors among Women in Mekelle City, Northern Ethiopia. *Science Journal of Public Health* 2014;2(4):349-55.
12. Teferra AS, Wondifraw AA. Determinants of Long Acting Contraceptive Use among Reproductive Age Women in Ethiopia: Evidence from EDHS 2011. *Science Journal of Public Health* 2014;3(1):143-9.
13. Meskele M, Mekonnen W. Factors affecting women's intention to use long acting and permanent contraceptive methods in Wolaita Zone, Southern Ethiopia: A cross-sectional study. *BMC Women's Health*. [journal article]. 2014;14(1):1-9.
14. RamaRao S, Lacuesta M, Costello M, Pangolibay B, Jones H. The Link between Quality of Care and Contraceptive Use. *International Family Planning Perspectives* 2003;29(2):76-83.
15. Ezegwui HU, Ikeako LC, Ishiekwene CI, Oguanua TC. The discontinuation rate and reasons for discontinuation of implanon at the family planning clinic of University of Nigeria Teaching Hospital (UNTH) Enugu, Nigeria. *Niger J Med* 2011;20(4):448-50.
16. Ladipo OA, Akinso SA. Contraceptive implants. *Afr J Reprod Health* 2005;9(1):16-23.
17. JT Mutahir, Nyango D. One-year experience with implanon sub-dermal implants in Jos, Nigeria. *Nigerian Journal of Clinical Practice* 2010;13(1):2881.
18. Mansour D, Korver T, Marintcheva-Petrova M, Fraser IS. The effects of implanon on menstrual bleeding patterns. *The European journal of contraception & reproductive health care: the official journal of the European Society of Contraception* 2008;13(Suppl 1):13-28.
19. Wanzahun G, Fikadu W, Gebremaryam T, et al. Utilization of long acting and permanent family planning methods among women visiting family planning clinic in Arba Minchi Hospital. *Journal of*

20. Tilahun T, Coene G, Temmerman M, Degomme O. Spousal discordance on fertility preference and its effect on contraceptive practice among married couples in Jimma zone, Ethiopia. *Reprod Health*. 2014;11:27; p.1-10.
21. Kumar A, Thangavel N, Durgambal K, Anbalagan M. Community leaders involvement in leprosy health education. *Indian J Lepr*. 1984;56(4):901-11.