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## **The Story of Norplant Implant in Indonesia**

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### **Introduction**

The Indonesian Ministry of Health approved the general use of Norplantâ implants in January 1986, and the process of introducing them into the national program was begun in 1987. By 1989, when the number of new implant users reached a peak, all of Indonesia's 27 provinces had contraceptive implant services in some regencies and districts.

Implants were introduced to broaden the range of contraceptive methods available to Indonesian women, and in particular to provide a long-term effective alternative to sterilization and IUDs. An estimated 1.5 million women in Indonesia were using implants in 1993, representing 7 percent of all current contraceptive users.

While the Indonesian program represents the largest and the most ambitious contraceptive implant program in the world, research is still ongoing on all aspects of its introduction and use in order to enhance the program's quality and effectiveness.

This paper draws on published research and interviews with program managers who played a role in the original decision to introduce implants, some of the first researchers involved in the training program, physicians who provide implant services, and women currently using the method. The Indonesian experience illustrates the enormous challenges involved in providing this method well and offers useful lessons for other programs.

## **History of Implant Introduction in Indonesia: Pre-Introductory Phase**

Prior to its approval for use in the national program, Norplant implants underwent an extensive period of trial studies. The method was first tested in Indonesia in 1981, in clinical trials involving over 800 women in Jakarta and Bandung.

Certificate training was carried out for both physicians and midwives. This included involving theory and practical training in insertion counseling; and theoretical training in removal, careful information about the method was given to women prior to insertion, and clinical procedures were well controlled. Records were kept to enable follow-up of all clients. Monitoring of these clinical trials was carried out under the direction of a steering committee consisting of representatives from the National Family Planning Coordinating Board (BKKBN) and the Ministry of Health, the two main government agencies responsible for family planning and implementation, together with the University of Indonesia Medical School.

Expansion during this period was gradual, initially confined to clinical trial centers, and then hospital based field trials and expand trials in 11 teaching hospitals. These trials indicated a high acceptance rate for implants, primarily due to the long period of effectiveness, its placement in the arm (making it more acceptable than the IUD), and the fact that it was provided free or at low cost. Its acceptance culturally has also been linked to a tradition called *susuk* in part of Indonesia, in which objects are inserted under the skin to enhance beauty.' [1] The high acceptance rate convinced the Ministry of Health to approve the use of the method.

### **Introduction in the National Program**

Once the implants were approved the method was introduced into the widely varying provinces of Indonesia on a large scale. In addition to delivery through clinics and hospitals, the program involved mobile team activities and 'safaris' - mass campaign-style services organized by government or NGOs, usually marking an anniversary or special occasion, which are used to provide a variety of health and fertility, planning services.

New users in 1987-88 numbered 145,826, compared with 44,703 the previous year. This figure climbed to 398,059 in 1989-90, the peak year of expansion, when

62 percent of all implant insertions were done at mobile and safari-type service delivery points.[2] This rapid spread nationwide presented the government with major challenges in the training of health personnel, the establishment of adequate service delivery facilities, and overall program management.

In order to assist in meeting the challenge, other government agencies and non-governmental organizations including the Indonesian Doctors' Association, the Indonesian Obstetrics and Gynecology Association, and the Indonesian Midwives Association have also been actively involved in the implant program. At the same time, research and evaluation studies were mounted to chart progress and problems.

The Program Strategy 1991-94 recognized the problems caused by demands placed on the system by the rapid expansions. [3] Since 1991-92, annual numbers of new implant users have been between 275,000-285,000, representing a showing-down of the nearly 400,000 annually in 1989-90 and 1990-91.

### **Current Use: A Statistical Snapshot**

A great deal of research [4] has been undertaken in Indonesia on implant introduction and use and although findings vary, some main themes have emerged. It must be pointed out, however, that program inputs, user profiles, and other key factors have changed during the history of the program and continue to evolve, as Indonesia expands the method's availability and learns from its own experience.

### **User Profile**

Implant users in Indonesia are on average in their late 20s or early 30s, have three living children and primary-level education. Recent studies have shown that about one-third of users wanted no more children, but significant numbers are using implants for spacing or are not sure about their future fertility intentions.

Although in early studies a major proportion of users had not used contraception before, more recent research shows that women choosing the implants are experienced contraceptive users.

Only a small proportion of women have had the implants inserted during the post-partum period. However, significant proportions of urban users have had

the implants inserted after abortions. [5] More research is needed on the link between implant use and post-abortion contraceptive services.

### **Acceptability**

The main reason women in the 1992 Use Dynamics study gave for selecting contraceptive implants was the fact that they were long lasting and convenient. Previous studies have stressed the low cost and cultural acceptability. Several studies have also reported that 20 percent or more of implant users accepted the method on the advice of a family planning/health or other government official, or on the basis of advice from friends or relatives, rather than as a choice they made for their own reasons.

Among implant users who had previously used other methods of family planning, around 70 percent said implants were the 'best' method. Most women in the 1992 Use-Dynamics study reported that they would recommend the method to others, and about one-third were interested in having a re-insertion themselves. On the other hand, about one-fourth of women in the study said they would not want a reinsertion, and about one-third said they would not recommend the method to others, in many cases because of side effects.

The proportion (around 8 per cent) of users who indicated overall dissatisfaction with service provision tended to mention inadequate information/counseling as the main reason for dissatisfaction. However, like people everywhere, Indonesian family planning clients are generally reluctant to criticize services when asked questions on a survey. Different research approaches and indirect questions have to be used to elicit useful information. The case studies below present one such approach.

### **Continuation Rates**

In most studies, continuation rates with implants are very high - some 80 percent of women are still using the method after four years, with expected fall-off as the method approaches its five-year expiry date. In part this is because a significant proportion of users (for example, 40 percent in West Sumatra and 66 percent in West Java) did not know that it was possible to have the implants removed prior to five years. [6] Nevertheless, even among women who knew early removal was feasible, continuation rates have still been around 65-75 percent at four years.

High continuation rates were also a strong feature of earlier clinical studies, where counseling and information provision were optimal and removal services available. With new information and removal training programs underway, future continuation rates should be more a reflection of client satisfaction, with program limitations no longer playing a role in artificially prolonging use.

### **Complications and Side Effects**

According to the 1992 Use-Dynamics study, [6] around 10 percent of implant users in Indonesia reported pain, itching and numbness on insertion and between 2.5 and 5 percent reported infection - higher rates than were found in clinical studies, and all important areas for further research and intervention efforts. As expected, menstrual disturbances were commonly reported. Effects ranging from the absence of menstrual cycles to inter-period spotting and prolonged bleeding occurred in half or more of all women. The specific type of menstrual disturbance varies considerably from study to study within Indonesia, and is an area currently undergoing more research.

Other side effects also show variation between studies. For example, weight changes are not commonly reported in most studies, though they occasionally appear in reports of some clinical trials. More research is required not only on the health impact of side effects, but also on their social and psychological impact, e.g. attitudes and behavior surrounding bleeding. A recent study by Hanhart [7] illustrates the difficulty of obtaining such data and the need for qualitative approaches.

### **Removal**

In some cases women in Indonesia who want the implants removed prior to the expiry date have encountered problems in finding personnel trained in removal techniques. It is difficult to estimate how large the impact of this has been on prolonging continuation rates. The 1992 Use-Dynamics study of 3,107 current and past implant users found that of the 394 women who had requested removal, 38 percent had had their request met on the same day. However, others had experimented delays, and in one province nearly 30 percent had the implants removed only after three or more requests. [6]

Major removal training programs have been mounted in response to this situation. In November 1993 the Indonesian Obstetric Gynecology Association

held a massive social service program' in West Java providing 12,000 removals in association with doctor midwife training.

Another problem currently being researched by the Indonesian program is the tracking system to ensure that women with expired implants return for removal. Past research that approximately 15 to 20 percent of users did not return after the five-year deadline. [8] The program is testing improved surveillance systems to try to surmount this problem.

Furthermore, studies have shown that the cost of implant removal varies considerably may affect access to removal services. This is another area for further policy consideration and intervention.

### **Training and Knowledge of Providers**

Implant services are provided by a range health personnel. Whereas midwives were the main providers for the women in the Use-Dynamics Study sample, doctors played the main role in most of the earlier clinical research as guidelines specified that specialist medical practitioners were to insert and remove implants.

During the initial expansion phase of the National Program, training largely shifted from formal certificated training to less formal training, whereby those with training would teach their colleagues and training would be done during mass programs. However, several studies have reported that as many as half of the physicians and midwives providing services had not received formal training and that duration and content of training varied widely. [6], [9], [10] Not all providers interviewed in these studies emphasized the need for screening and counseling as part of implant provision procedures for example.

The Department of Health has now stipulated that midwives may only provide implant services if they have obtained certificated training and work under the supervision of a doctor. Training is an area singled out for increased attention by the program. A large training-of-trainers program is being conducted and Norplant implant training is being introduced in National Training Centers as part of the general family planning training curriculum.

## **Use of Mass Campaigns**

The rationale for mass campaigns (safaris) is to provide maximum outreach of services through mobilizing local resources. However, it was found that optimal care for implant provision under such conditions was difficult. [1], [3]. Although Volunteer resources were mobilized, sufficient technical staff, equipment and time could not always be guaranteed under such conditions. Recognizing this, the Department of Health in 1991 ruled that implants could only be inserted in hospitals or health centers.

Interestingly, the 1992 Use-Dynamics study found little difference in key variables such as whether medical histories were taken and physical examinations performed during safaris versus individual service delivery conditions. In fact, the reported infection rate was lowest during safaris.

## **Voices from the Field**

In quantitative terms, surveys appear to show that the majority of implant users in Indonesia are satisfied users and would even recommend the method to others. As with all family planning methods, however, and particularly with a newly introduced method, problems have been reported. Sometimes such reports can be labeled 'isolated cases' or attributed to 'inappropriate local program implementation'. At the same time, a responsible program cannot fail to give due attention to the kinds of problems directly voiced by contraceptive users themselves, whatever they're number. Survey results are the 'bones' of any topic; the 'flesh' comes from listening to people with direct experience. The following are some stories told to us by contraceptive implant users and service providers:

Ibu I, 32 years old, has three children and is married to a tailor in Ciputat, on the outskirts of Jakarta. In February 1987, the first year implants were available nationwide, she and 12 other women went to a family planning clinic to have the implants inserted. They had heard from a midwife that the method could prevent pregnancy for five years, longer than the IUD, and what the advantages were, but not about any possible side effects. Only three of the 13 women had continued using the method for five years. Ibu I was one of them - she liked the method so much, that she decided to have a re-insertion and has now had the second round of implants for two years. She feels as healthy as before and has no complaints at all.

One thing disturbs her though: when she asked the doctor at the clinic about any possible danger if she decided to have a third insertion meaning that she would have the obat (drug) continuously for 15 years - the doctor could not give her a satisfactory answer, saying that it was still being investigated. That made Ibu I a little bit uneasy. When we asked whether she would encourage others to use implants, she said she would simply tell others that she has no complaints. But she will also share the experience that her ten friends had with irregular bleeding, four of them excessive bleeding, and who had the implants removed long before the five-year expiry date. She said she does not want to make any decisions for others.

Ibu A is a young woman of 18, the mother of one boy aged 3, who lives in a small village in east Lombok Island. Her husband is more than 20 years older than her and has two other wives who have 10 children between them. His visits to Ibu A have become irregular. She uses implants to prevent pregnancy because her husband has told her that he is already burdened by too many children. She actually wants to have another baby, because she thinks it is unfair that she should have only one child while the other wives have more. She does not remember when the implant insertion took place, nor did she know that the implants should be removed after five years and can be removed even before. Nobody gave her very much information at all.

Her implant insertion took place during the peak expansion of the program, during safari. She was so young at that time and had just delivered her first baby. It was her husband who talked with the nurse and the doctor. After the insertion, the nurse briefly explained to her only how to take care of the insertion site. Ibu A looked helpless when we mentioned that she could go to the health center for removal. She said that they are so poor, they never go outside the village. It's hard for her to imagine how she would even reach the health center, which is about 30 km from her house. When asked about side effects, she said she had slight spotting, but that does not bother her so much.

Ibu H. is 27 years of age and the mother of 4 children. She does not want to have another child, which is why, after being encourage by the family planning fieldworker in her village in Central Lombok, she decided to have the implants. This was also during the peak activity of the program. Together with many other woman from the village, she had the implants inserted in a safari program. Since then she has not stopped bleeding. After two months, she went to the nearest health center with her husband, who is furious. Not only is he worried about his wife's condition, but also his wife is reluctance to have sex with him. He can

understand that, but the bleeding has disturbed their relationship and made them worried and depressed.

Almost every week for two months, the doctor gave Ibu H something to try to stop the bleeding. It was without success. At the end of the four months, he recommended that the implants should be removed. Because he had not received removal training, he referred Ibu H to a private midwife in Praya. Praya was far to travel to, but they were accompanied by the family planning fieldworker who had encouraged Ibu H to use the implants. When they finally got to Praya, another shock awaited them. They were told that the charge for removal was Rp 55,000 (about US\$26), about two months' income for this family. When we interviewed Ibu H, she had already had the implants - and the non-stop bleeding - for more than 6 months. She said that the following month she would hopefully have enough money to pay the midwife to remove the implants. Her husband angrily questions why one would encourage use of a 'method that can cause such big problems without warning about the possible side effects'. He feels cheated because 'the doctors aren't taking responsibility; in fact, they are making matters worse. We are poor and ignorant, but it's so unfair to treat people like this....'

Service providers also have compelling stories to tell. Dr. A is the head of a health center in Jakarta Selatan. She was trained to insert and remove Norplant implants at a major Jakarta clinic and is very skilled at both insertion and removal. Many doctors refer their clients to Dr A, especially for removal. She has a caring attitude toward clients and their situation, and she does not mind spending the extra hour just to sit and give clear information to them.

There have been times when Dr A has had to fight with family planning fieldworkers over implant clients. One story she shared with us was about a morning she was asked to do 13 implant insertions. After asking the women one by one whether they had already made a firm decision to have the implants and were ready to accept the possible side effects, she learned that almost all of them had not been informed about the possible side effects. They said they were only told that the method could be used for five years, longer than any other method familiar to them. After Dr. A had spent more than one hour providing more complete information about the implants, only 4 of the 13 women decided to have them. Another 3 wanted to discuss it with their husbands, while the rest simply decided not to have them.

The family planning fieldworker was angry over this. She asked the doctor to avoid 'scaring' the clients. She expressed concern that too much information

would lead to rejection of the new method, and then she would not be able to fulfil her targets for implant acceptors.

Dr A herself was dismayed that so many doctors were referring their clients to her for implant removal. Some of these doctors confessed that they had not had the opportunity to do a single removal during their training, and so they were afraid to perform the procedure. According to Dr A, it would be better if they saw removals as 'an opportunity to develop and maintain skills; also, if they did more removals themselves they would be more careful doing insertions'. For Dr A, removals were time consuming and took valuable time away from other clinic activities.

In West Lombok, Dr C told us that every time fieldworkers asked her to do insertions for a large group of women, she wished she could simply refuse because she knew that many of the women would return later with complaints. I asked her why she did not give counseling prior to the insertion. Frustration colored her voice as she responded: 'I come from Surabaya. I don't speak their language well and they don't understand Bahasa Indonesia (the national language) so well. The implants require long and involved information. And look at me ... I have so many burdens in the health center, I don't have time for counseling. I don't think I'm responsible for this. My job as a doctor is to insert the implants. The family planning fieldworker should provide full information ... I don't know how to solve this. I hate to see so many clients come with complaints and bleeding, but I am only a very junior doctor, I just do what I am told to do...'

Interviews with two of the early implant study investigators also yielded interesting perspectives. They felt that the method held a lot of promise during the early clinical trials, when everything was done in controlled conditions. After 1986 it became difficult to follow up clients and to control provider training and program implementation, especially in mass programs. They noted that an early proposal to do removal training together with insertion training was rejected because it was considered too expensive. In retrospect, the program has now understood that removal training should have been instituted much earlier.

On a more positive note, we also offer the following stories:

Ibu M is a district health center provider in the same South Jakarta region as Dr A. She attended her first Norplant implant training in the late 1980s, a three-day course, which concentrated on theory. She did not feel confident enough to

attempt removals, and so referred clients to Dr A. When we interviewed her in March 1994, she talked about her recent refresher course. It was much more comprehensive, stressed counseling approaches, and included training in insertion and removal techniques, using a dummy arm (the 'Norplantâ arm') as well as real clients under a trainer's supervision. She now feels both competent and confident to undertake insertions and removals. She stresses the importance of ensuring that potential clients are well counseled and maintop (firm in their decision) prior to insertion to avoid unnecessary early removals.

The results of her training were apparent interviews we did with nine implant users in Ibu M's neighborhood. Most were experienced contraceptive, users. All had begun using implants as a result of their own decisions, with some acknowledging the phenomenon of ikutikutan (following the example of friends and neighbors). They seemed more mantap, to use Ibu M's term, than the women we spoke to in Lombok. Four of the nine women have had recent five-year removals by Ibu M followed by re-insertion. A group discussion involving all nine women yielded interesting common patterns in their experiences. None had experienced infections at the insertion site, though all reported that removal was difficult and had taken a long time compared to insertion. Some had experienced side effects such as headaches and irregular menstruation, but they said they could cope with these symptoms, using the term biasa (normal) to describe them. The menstrual symptoms did not affect sexual relations or have other socio-psychological effects for this group.

### **Lessons and Challenges**

Provision of contraceptive implants represents a major investment for any country. It demands proper training and monitoring of service providers, adequate facilities and equipment, and careful attention to information and counseling needs as well as follow-up care. Without this kind of support system, the effectiveness of the investment and the program is reduced. In the short term contraceptive prevalence may rise, but in the long term health and other problems will result in rejection of the method and perhaps even other family planning services.

Many programs may wish to promote implants as an alternative to sterilization. This implies long-term use with repeated re-insertion. If this is an objective, there is an added incentive to ensure that there will be 'satisfied customers' who will continue with the method. Other countries can perhaps learn from some of the

specific problems experienced by Indonesia's large program and the efforts being made to surmount them.

When introducing a new method such as implants there may be a tendency to withhold information or to stress positive aspects, in order to avoid unnecessary fear among potential clients. However, it has been found in Indonesia that clients who experience side effects, without being forewarned are more likely to discontinue and will share their disappointment with others. In a society where personal recommendations from friends and family are important, the lack of full information can have a negative effect.

Information should be given by personnel trained in counseling techniques, who can convey realistic information, but in a way that is sympathetic, encouraging and geared to the background of the client. Indonesia has mounted additional counseling training to meet these needs.

Ideally, the information process should be a two-way exchange. For, example, it would be good to find out more about women's attitude towards disruption of menstrual patterns order to understand what this potential side effect means. Introducing a new method entails conveying not only clinical information to clients, but also addressing cultural or psychological concerns of women. When these arise during counseling, much can be learned, thus anticipating future challenges which may be encountered by a program. Past research results in Indonesia can be used to identify some potential areas for further exploration during counseling in future.

The theory of implant delivery should be balanced with opportunities to practice the procedures of both insertion and removal during training. The phasing of training in removal is problematic for any large program. Provider must not only be trained formally, but must keep up their skills by performing at least a minimum number of procedures. This is difficult in a new program where demand for removals may be infrequent. In the early years of introduction programs tend to concentrate on training in insertion and management of early complications and side effects. Approaches to surmount the problem could include refresher training, if necessary involving the 'Norplant arm'. It is likely that there will still be a requirement in the early years for a well-designed system of referral for removal at central service points, which provide at least minimum accessibility for clients. These referral points could in turn be used as training sites to expand the number of skilled providers in a phased manner.

Training in counseling is a crucial element of implant service provision; both initial counseling and follow-up sessions are ways of helping to support satisfied long-term use. An issue, which must be confronted, is who is most suitable to undertake the main counseling role. Clinicians often feel this is outside their responsibility, or that they haven't sufficient time to provide counseling services.

Despite the long-term nature of the method, each set of implants should be removed within five years of its insertion - this requirement demands effective surveillance systems so that every woman can be followed up. Whereas this may be manageable during early clinical or pre-introductory trials, it creates a major challenge once routine provision is instituted. Effective systems need to be in place from the very beginning. Indonesia continues to undertake operations research to improve its surveillance and tracking systems.

Outreach has been a major strength of Indonesia's family planning program; however, it was found that mass campaigns could stretch personnel and facilities beyond their capacity to fulfil basic standards in providing implants, and the program has had to make some adjustments as a result.

The cessation of the target system in Indonesia's family planning program in 1993, in part because of the kinds of conflicts described above between Dr A and the family planning fieldworker, has been another adaptation aimed at ensuring that standards of care are not compromised.

Realistic pricing policies need to be a part of pre-introductory studies and policy decisions in any new context. Free or very inexpensive insertions, combined with costly removal charges, can unduly influence usage and continuation beyond what is optimal for client well being. In addition, if free insertions are available only because of initial external donor support, the program may not be sustainable.

The willingness and capacity to conduct and disseminate research by both in-country and external experts is an important positive contribution to the process of introducing new methods like implants. Programs are strengthened if they support detailed scrutiny of the impact of new methods, particularly in terms of users' perspectives.

The following research topics have all been a feature of the Indonesian implant program: comprehensive user surveys; studies of clinical topics, such as return of

fertility after implant use, comparison of removal techniques and hormonal treatment for side effects; and operations research on topics such, as tracking systems.

Research will inevitably yield issues that require follow-up. An ongoing research program is essential to any delivery program that wishes to be responsive to evolving needs. In-depth qualitative approaches, which focus on users' perspectives, can yield rich cultural, social and psychological insights, which help to improve quality of care in delivering services.

## **Conclusion**

The Indonesian Family Planning Program has been frank about the problems and challenges of introducing implants on a large scale:

'Some of the implant services' implementation was not accompanied by adequate efforts to support the quality of the program, such as personnel training, adequate medical equipment and supplies, and supervision of medical services. [3]

In response, the National Program Strategy for 1991-1994 stressed five objectives: to improve quality of service; expand and strengthen the service delivery network; promote self-reliance; strengthen program management; and improve international cooperation.

Some of the recommendations that are currently being carried out include: the development of standards for information, education and communication materials, counseling, and medical services; personnel training in counseling; enhanced service supervision; and research and evaluation activities. The recruitment of new implant users in Indonesia, after reaching a peak in the late 1980s, has tapered off to more manageable levels.

The challenges that have been identified as a result of providing implants reflect much broader limitations in the health and family planning service delivery system in Indonesia and many other countries. Underlying weaknesses of infrastructure, supplies, personnel training, and management are magnified when rapid expansion of any service strains the existing system, unless special efforts are made.

However, the relationship between implant services and broader service issues may also work to some extent in the opposite direction. In Indonesia, some of the detailed research on implant-related quality of care issues, and the efforts going into improving the delivery of implant services have stimulated discussion on these issues more broadly, with the potential of influencing other aspects of the health system, far beyond the immediate needs surrounding the method itself.

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