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Problems and Prospects of Implants as a Contraceptive Method in Bangladesh

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Norplant is an acceptable method of family planning and should be made available along with other methods of contraception

The NorplantR implant1 is a progestin-only hormonal contraceptive method for women. The progestin, i.e. levonorgestrel, is supplied by six small SilasticR (silicone) rods implanted subdermally in a woman's arm by a minor surgical technique. The rods remain effective for at least five years. Removal of them requires surgery similar to that used in their insertion. After removal, normal fertility returns without delay; if continuing contraceptive protection is required, a new set of implants may be inserted immediately. As of mid-1989, an estimated 355,000 women in 44 countries had used or were using this kind of implant.2

Norplant has been used in Bangladesh since 1985 when the Bangladesh Fertility Research Programme (BFRP), later renamed the Bangladesh Institute of Research for Promotion of Essential and Reproductive Health and Technologies (BIRPERHT), initiated a clinical trial in 1987 at three medical centres in Dhaka, namely, the Dhaka Medical College Hospital (DMCH), the Institute of Post- Graduate Medicine and Research (IPGMR) and the Mohammedpur Fertility Services and Training Centre (MFSTC). In that trial, Norplant implants were supplied to 681 women. By December 1990, nearly 90 per cent of those women had the implants removed. Of those who had them removed, between 35 and 40 per cent had completed five years of use.3

An acceptability study conducted in 1987, after all users had completed their 18-month follow-up, found that the users were quite satisfied with the Norplant implants: 94 per cent of the continuers and 52 per cent of the discontinuers expressed satisfaction with the method. The contraceptive's long duration, efficiency and convenience of use were commonly cited as advantages; bleeding problems were mentioned as the major undesired effect. Of those who had the implants removed within 18 months of insertion, 38 per cent reported that having the implants removed took "little" effort on their part, 52 per cent said it took "some" effort, and 10 per cent said it required "a lot" of effort.4

In 1988, the clinical trial was expanded to include, besides the three original centres, four additional centres, namely, the Family Planning Association of Bangladesh (FPAB) at Dhaka and Rangpur, the Bangladesh Association for Voluntary Stertilization (BAVS) at Khulna, and the Thana Health Complex (THC) at Gazaria. By December 1990, a total of 2,654 women had been enrolled in this clinical trial.

In mid-1990, the question of access for removal was raised at two centres. Investigation showed that most removal requests were due to menstrual problems, and that the counselling which the women received was inadequate. It was observed that counselling about the need for a second and third visit was low in almost all the service centres. Although the counsellors do inform the acceptors about the need for the first follow-up, it was found that they were less likely to emphasize the need for subsequent follow- up. Moreover, a good number of acceptors (8 per cent) mentioned not having been counseled about possible side-effects. The donor agency expressed concern about this situation, particularly in the light of plans to expand the use of the Norplant contraceptive nationwide - initially to 20,000 women through 32 centres -- and the impact that this situation could have on the willingness of women to use a method over which they felt they did not exercise control. As the use of the Norplant contraceptive expands into Bangladesh's national family planning programme, careful attention must be given to ensuring high quality implant services, particularly counselling and management of side-effects. Also, there is a need for assuring women, especially those who wish to have the implants removed before five years of use have elapsed, that they will have access to trained service providers for removing the implants. The programme runs the risk of being accused of forcing women to keep the implants against their wishes if women perceive that they do not have full access to services for removal.

The main purpose of this study was to assess the quality of service provision, particularly as it was related to access for removal of the implants. The specific objectives were:

- To examine the decision-making process vis-a-vis accepting the Norplant contraceptive;
- To ascertain the extent and quality of counselling and follow-up as well as any problems associated with insertion services;
- To assess the reasons for removal, and assess the removal services; and

- To assess the level of satisfaction and future intention to use the Norplant contraceptive.
- Data and methods

Half of the implant acceptors from each of the seven centres currently offering the Norplant contraceptive were randomly selected from the client registers maintained by those centres. Out of a total of 2,654 insertions, a total of 1,327 acceptors were thus selected. Acceptors were defined as those who had had Norplant implants inserted through December 1990, excluding those who received the implants from the three centres in the initial phase.

A structured questionnaire was used for collecting data from the implant acceptors who reported that they had requested removal of the implants and had difficulty in having them removed. Trained interviewers of the Associates for Community and Population Research Management (Dhaka) conducted open-ended interviews with these women to elicit detailed information on the problems related to removal. Field work was conducted between 7 September and 10 November 1991. Of the selected acceptors, nearly 13 per cent could not be successfully interviewed. The major reason for non-response was that the acceptors could not be located at the addresses listed in the centres' register. Thus, out of a total of 1,327 selected clients, 1,151 clients were successfully interviewed and included in the analysis.

Results

Background characteristics of acceptors

As regards the socio-demographic characteristics of the implant acceptors, it was observed that the mean age of the acceptors was 28.6 years and their mean number of living children was 3.1 at the time of interview. Two-thirds of the acceptors did not desire to have any more children and another 14 per cent were undecided on whether to have an additional child or not. Only 9 per cent said that they desired to have another child during the next 1-4 years. This finding suggests that Norplant is regarded as a terminal method for most acceptors. However, for about one- fifth of them, they considered it a spacing method (table not shown).

Regarding the educational and residential status of the acceptors, it was observed that three-fifths of them (59 per cent) had no education, slightly over one-fourth (28 per cent) had some education, and only 13 per cent had education above the primary level. Nearly three-fourths of the implant acceptors were from rural areas and one-fifth were from either urban residential (16 per cent) or slum areas (4 per cent); the remaining 6 per cent were from suburban areas (table not shown). Since the Norplant system is a long-acting contraceptive, the characteristics of its acceptors are likely to be more comparable with those of similar methods such as the IUD (intrauterine device) and, to some extent, tubectomy. Selected characteristics of acceptors of implants, IUDs and tubectomy were compared for three variables, namely, age, parity and education, because these variables are believed to influence the contraceptive behaviour of Bangladeshi women.

It was observed that the IUD acceptors were drawn from more educated, younger and lower parity women, whereas Norplant acceptors comprised relatively less educated, middle-aged women of average parity. Bangladeshi tubectomy acceptors seemed to be characterized by illiteracy, higher age and high parity (table not shown).

Decision-making process

The decision to accept the implants was likely to have been influenced mostly by the clinical staff of the aforementioned centres since the clinical trial was based on the selection of clients motivated to attend the clinic for some other method of contraception and not on referral of clients by field workers. Here we consider the factors influencing women's choice in the use of implants, including their knowledge and use of other methods of family planning and the sources of information regarding the Norplant method.

The study revealed that the implant acceptors were universally aware of the main options of contraception and the sources of supply of contraceptives. It was found that two-thirds (67 per cent) of the implant acceptors had ever used any other method prior to use of Norplant. Nearly three-fifths (56 per cent) had used the pill. Among other methods used were injectables (16 per cent), IUDs (14 per cent) and condoms (12 per cent). In terms of knowledge and use of other family planning methods, there was a similarity between the IUD users and implant acceptors, except that the proportion of women having ever used any other method prior to use of an IUD or Norplant was slightly higher for IUD users (75 per cent) than for the implant acceptors (65 per cent) (table not shown). This suggests that the Norplant contraceptive is not typically the first method that Bangladeshi women are using; the vast majority of the acceptors had prior experience with other forms of contraception.

As regards the factors influencing the decision to accept the Norplant method, women were asked about their sources of information, topics they discussed and reasons for their preference of the implant over other methods. Contrary to expectation, past users of this method were the single most important source of information about Norplant (61 per cent), followed by "worker in home" (20 per cent) and "worker in clinic" (13 per cent) (see table 1).

The same table shows that, prior to acceptance, most implant acceptors had discussed the matter with their husbands (81 per cent) and with other users (74 per cent). About one-fourth of the acceptors mentioned that they had discussed the Norplant contraceptive with a family planning worker before deciding to undergo the minor surgery to insert this method.

The table also shows that a wide range of topics were discussed by the clients prior to acceptance. Two-fifths of the acceptors mentioned that the discussion included getting the consent of their husbands. Discussions centred mostly on "advantage of Norplant implants" (50 per cent), "whether there would be pain in the arm" (46 per cent), "effective duration" (36 per cent), "any problem in doing household work" (30 per cent) and "where is it inserted" (23 per cent). Other areas of interest discussed were "disadvantages or side-effects" (17 per cent), "where available" and "whether it can be removed in case of any problem" (15 per cent).

Regarding the reasons for choosing the implant contraceptive over other family planning methods, it was observed that the most frequently mentioned reason was that the "Norplant contraceptive is a long-term method" (86 per cent), followed by "other methods have side-effects" (46 per cent), "Norplant implants have fewer side- effects" (25 per cent), and "other methods are hazardous to use" (24 per cent). One-fifth of the acceptors mentioned that they had decided to use the implant method because they were advised to do so by clinic staff, family planning workers, or by another Norplant users (table 2).

Counselling and follow-up service

Counselling may be defined as "face-to-face communication in which one person helps another to make decisions and to act on them".5 Past studies in Bangladesh have shown that client satisfaction is positively associated with counselling, and thereby influences the continuation rate of family planning methods. Moreover, anticipatory counseling on probable side-effects and what to do in the case of complications also influence the rate of continuation.6 Despite all these positive influences, counselling is inadequately done in most clinics dealing with maternal and child health (MCH) and family planning clients in Bangladesh. Ideally, counselling should be provided before, during and after the insertion of the implant. It is important to note that unlike usual MCH and family planning clinics where the provider herself provides both counselling and insertion services, all the Norplant contraceptive centres have separate counsellors.

It was observed that all of the implant acceptors were counseled on effective duration, need for follow-up, possible side-effects and their management, and when to report for removal. Four- fifths of the acceptors reported that the physician or the counsellor was the source of counselling. Less than half mentioned that Norplant users counseled them, while another one-fifth (19 per cent) mentioned the family planning worker as a source of counselling (table 3).

During observations at the clinic it was found that standardized messages for follow-up requirements were well documented at each clinic, and the counsellors reported that these messages were properly provided during counselling. Findings presented in table 3 show that 89 per cent of the acceptors knew that the first follow-up visit was one month after insertion, 61 per cent said that the second visit was after 5-8 months, and 55 per cent knew that the third visit was after one year, and that the fourth visit was after two years.

Lack of 100 per cent recall may reflect on the memory lapses of the acceptors more than on any negligence by the counselors. Only 8 per cent of the acceptors mentioned not having been counseled about possible side-effects. However, most (91 per cent) mentioned that they were informed about possible menstrual irregularities. Other aspects on which anticipatory counseling was given included "not to worry, problems will automatically go away" (19 per cent) and "dizziness/nausea/headache" (16 per cent) (table not shown).

As regards the follow-up services, implant clients were given a short version of the client card; detailed information was retained on the clinical card. The dates of insertion and subsequent visits were recorded on the clients card along with a short description of side-effects/complications and treatment given. Irrespective of the mean number of times the acceptors had returned to the clinic, it was observed that the visits for follow- up were considerably higher than the recommended number during the first year, but the reverse was true after the first year. After the initial six months of use, the implant acceptors seemed to settle down in terms of noticing side-effects and complications. It was also observed that two-thirds of the acceptors were never late in reporting to their clinic for follow-up. The reasons for delay among the remaining one-third were varied; they included such responses as "busy with household work" (29 per cent), "lack of money" (15 per cent), "went to village/paternal home" (13 per cent), "no one to accompany" (12 per cent), "bad communication/centre is far away" (8 per cent), "sickness/illness" (8 per cent), and "forgot the date" (7 per cent) (table not shown).

Life table techniques were used to calculate the continuation rate of implant use, or the proportions of acceptors still using implants at specified durations after insertion. It was observed that three months after insertion 99 per cent of the acceptors were still using the implants. The proportion declined slightly to 97 per cent after six months, to 95 per cent after nine months, and to 92 per cent at the end of one year. The two-year retention rate was 75 per cent and the three-year rate was 61 per cent (table 4). Results of the study conducted by BIRPERHT at the end of 36 months of the first phase clinical trial estimated the continuation rate at the end of 12, 24 and 36 months at 94, 72 and 56 per cent, respectively.7

It was also observed that there were wide variations in the continuation rates among different countries. However, the continuation rates in Bangladesh were similar to those of other Asian countries, i.e. China, Indonesia, Sri Lanka and Thailand. The continuation rates were relatively lower in North and South American countries, except for Chile (table 5).

Analysis was also performed to examine variations in the retention rates by individual characteristics of acceptors. Age, number of living children and education appeared to be significant variables in this regard. Functional impairment owing to side- effects or complications was also highly correlated with levels of retention.

The level of satisfaction with the services is another important factor which was found to be highly correlated with retention rates. Women who were "highly satisfied" or "satisfied" were more likely to use the implant method for a longer time than those who were either "somewhat satisfied" or "not at all satisfied". The retention rate sharply declined from those who were "highly satisfied" (77 per cent) to those who were "somewhat satisfied" (53 per cent), and to those who were "not at all satisfied" (36 per cent) (table 6).

Implant removal services

All of the physicians interviewed were experienced in the removal of Norplant. When clients requested removal, the physicians would generally ask them about their reasons for wanting the implants removed. If the woman's problem could be resolved without removal, the service providers would attempt to do so. None of the physicians interviewed said that he or she had refused a request for removal. For those clients who had retained the implants for five years, the clinic sent them a letter or a message through a family planning worker to return for removal, if the clients themselves had not already come to the clinic seeking removal.

One-third of the total acceptors had requested removal by the time of the interview. The single most important reason for removal was menstrual disorders. This was mentioned by two-thirds of those requesting removal; 9 per cent of the acceptors had the device removed because they wanted more children and 7 per cent because their husbands either had died or gone abroad. Only 6 per cent wanted the implants removed because of "dizziness/loss of appetite". "Other reasons" accounted for the remaining 13 per cent of users (table not shown).

For most women in Bangladesh using Norplant, access for removal is not a problem. In the seven centres, 90 per cent of the women who requested removal were able to have the implants removed at the same centre where the implants were inserted. However, among the remaining one-tenth of acceptors who had the implants removed, they felt compelled to have them removed at a place or by a person other than at the centre where it was inserted: those acceptors mentioned as their reason that the clinic had refused to remove the device. No centre could be singled out: almost all the centres were mentioned in this regard by those women who wanted the removal done elsewhere. Other reasons cited by the clients were: "wanted 5,000 taka" (US$1 = about 40 taka), "doctor was absent", "clinic is far away" and "clinic staff gave no importance to request". Four-fifths of the acceptors who had their implants removed said that they experienced no problems. About one-tenth said that it was a very painful procedure and 4 per cent reported a lot of bleeding. Nearly half of the acceptors having the implants removed mentioned that Norplant was removed at their first request, 22 per cent had to go twice seeking removal, and 15 per cent had to go three times (table not shown).

Usually, when a removal is requested, the staff of the clinic try to ascertain the reason for removal and to determine whether removal is actually necessary or not. If, in their judgement, removal is not warranted, they usually advise the acceptors to retain the device and also prescribe or give any necessary medication. Most of the acceptors (85 per cent) were satisfied with the services related to removal. Thus, it may be said that not too many clients were dissatisfied with the clinics. However, in view of the newness of the device in Bangladesh and the non-availability of trained personnel to perform the removals, other than from those trained in the selected clinical trial, it is extremely important to understand the reasons why 10 per cent of the women stated that they were not given the service they requested (removal), some even after repeated requests.

It is worth noting that, of those having the implants removed, 48 per cent were not using any contraceptive at the time of the interview; the rest were using mostly oral pills (34 per cent), followed in frequency by traditional methods (8 per cent) and injectables (5 per cent). Four-fifths of the acceptors who were not using any contraceptive method after removal of the implants, excluding those desiring more children, said that they were not counseled by the clinical staff; the remaining one-fifth mentioned that they had been advised by clinical staff to use other methods or have the Norplants inserted again (table not shown). Thus, it appears that the majority of those who had removals but who did not desire to have additional children were not counseled to use another method of contraception despite being at risk of getting pregnant.

Satisfaction with services and future intention to use

An analysis was conducted to assess the clients' satisfaction with services, i.e. to determine whether or not the clients had experienced any problems and the type of follow-up they had received. Even among those clients who had experienced a functional impairment, 71 per cent were satisfied or highly satisfied with the services they had received. An additional 22 per cent were at least somewhat satisfied. The results were similar among women who had experienced side-effects but no functional impairment (table not shown).

Regarding satisfaction with services, most of the women (88 per cent) were "satisfied" or "highly satisfied" with the services they received; an additional 10 per cent were at least "somewhat satisfied" with the services. Only 2 per cent of the clients were "not at all satisfied" (table not shown).

Clients who were visited at home in addition to having visited the clinic were slightly more likely to be "satisfied" or "highly satisfied" (92 per cent) than were women who had visited the clinic only (table not shown). These findings indicate that field workers and clinical staff who visit women in their homes could potentially provide reassurance and assistance to implants users.

Clients were also asked about their intention regarding future use of Norplant. Two-thirds of the women who were currently using the implants said that they would use this method again in the future, while 24 per cent were not sure; 10 per cent of the women said they did not plan to use the implants again. Of those who were not currently using Norplant, the situation was reversed - almost three-fourths of them said that they had no intention of using implants in the future; 11 per cent said they were not sure and 15 per cent said they would use implants again. Of the current users of Norplant who said they did not intend to use implants in the future, 42 per cent said they would wait until they had removed their current implants before deciding on future use. An additional 16 per cent said that they were currently experiencing side- effects; if those side-effects went away, they would consider future use of Norplant. Twelve per cent said that they would not use the implants in the future owing to the menstrual disorders they experienced during use (see table 7).

Conclusion

The study revealed that Norplant users in the clinical trial were, on average, 28.6 years old with 3.1 children; two-thirds wanted no more children. Three-fifths of the women had no education and three-fourths were from rural areas. All of the women knew at least one other method of contraception, and 67 per cent had used family planning before accepting Norplant. Most clients were satisfied with this contraceptive method and with the services they received. The most appealing aspect of the method for 86 per cent of the new users was Norplant's long duration of effectiveness. The 18-month continuation rate of Norplant appeared to be higher than that of IUDs. Of current implant users, 66 per cent said they would use the implants again in the future and another 24 per cent said they were undecided. Only about 10 per cent of the women were "most dissatisfied" with the services they received, and their criticisms of the programme appeared to be justified.

For the women who had side-effects or complications, and who requested removal but were refused this service by the clinics -- sometimes even after repeated requests -- the system set up to provide this contraceptive method failed them. It is not possible to determine exactly why some clients had such difficulty while most others had their implants removed promptly. However, it should be stressed that such problems with removal might have been isolated cases.

Nevertheless, this study has highlighted several aspects of the Norplant contraceptive service delivery system which should be strengthened in order to ensure that all women are accorded an acceptable level of good-quality service, and that all women have full access to removal of the implants. This process should be overseen by a steering committee comprising representatives of governmental and non-governmental organizations.

The Norplant contraceptive programme will require strong monitoring and evaluation, particularly during the Norplant pre- introductory pilot phase (NPIPP). In addition to monitoring service delivery sites, an annual evaluation should be conducted to assess the quality of services and, particularly, to assess the removal services. In addition, NPIPP represents an ideal period to conduct operations research to test mechanisms to improve the delivery of the Norplant services within the family planning programme.

We can, therefore, conclude that the Norplant contraceptive is an acceptable method of family planning and should be made available to the women of Bangladesh along with other methods of contraception.

Footnotes

1. Norplant is a registered trademark of the Population Council, Inc., for contraceptive subdermal implants.

2. Zimmerman, Margot, and others "Assessing the acceptability of NORPLANT in four countries; findings from focus group research", Studies in Family Planning 21(2)(March/April 1990).

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