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PREVALENCE AND CONTINUATION OF INJECTABLE CONTRACEPTIVES:

EVIDENCE FROM EXTENSION
PROJECT AREAS OF ICDDR,B

Md. Mafizur Rahman
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MCH-FP Extension Project (Rural)
Health and Population Extension Division

1996



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FOR HEALTH AND
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Abstract

Injectable contraceptives are increasingly becoming popular in Bangladesh. Although injectables are considered clinical methods and delivered only by paramedics at the HFWCs and Satellite Clinics in the national family planning programme, domiciliary injectable programmes have also been in operation in many NGO areas and special projects. This paper attempts to assess the effectiveness of injectables as a method of family planning in terms of prevalence and continuation.

The study was conducted in the ICDDR,B MCH-FP Extension Project areas, where a domiciliary injectable programme has been in operation since 1984. The data were extracted from the SRS, the longitudinal surveillance system of the Project, as well as the service records of the FWAs.

The longitudinal data show a significant increase in the contraceptive prevalence rate, as well as in the use of injectables after the introduction of home delivery of injectables. The continuation rate for injectables was higher than condoms and oral pills. The first method continuation rate for injectables were estimated at 74% at 6 months and 48% at 18 months. Over half of the injectable users discontinued after 18 months. The all method continuation rate for injectables were, however, somewhat better than for the first method.

The major reasons for drop-out of injectable contraceptive users were side-effects, switching over to other methods and the absence of clients from homes. Each of the first two reasons accounted for one-fourth of the drop-out cases, while the last reason accounted for one-fifth. Amenorrhoea and the bleeding problem were reported as the major side-effects causing the discontinuation of injectables.

Introduction

Depot Medroxy Progesterone Acetate (DMPA) and Norethisterone Enantate (NET-EN) have been in use as contraceptives since the mid-1960s, and they are now used respectively, in more than 80 and 60 countries (1). In some Asian countries, including Indonesia and Thailand, they are very popular (2). Injectable contraceptives have become increasingly popular because of their effectiveness, longer duration of action, reversibility, non-association with intercourse, and ease of administration (1,3). The results of studies in many countries showed that 25-75 per cent of women willing to adopt contraception would choose injectable contraceptives if offered a choice (2). A study conducted in two rural *thanas* (subdistricts) of Bangladesh in 1989 reported that 25-35 per cent of non-users of family planing would use injectables, if readily available (4).

In Bangladesh, injectable contraceptives were introduced in the national family planning programme as clinical contraceptives in 1976. Injectables are considered clinical methods and are delivered only by the female paramedics, called Family Welfare Visitors (FWV) at *Thana* Health Complexes (THCs), Family Welfare Centres (FWCs), and Satellite Clinics (SCs). The Family Welfare Assistants (FWAs), the outreach workers of the national family planning programme, are still not allowed to deliver injectables to their clients during their home visits. As a result, in spite of its high popularity, the prevalence of injectables has not increased substantially over the past years. Injectables account for only 6.5% of all users of contraceptives (5). However, an experimental programme, in which injectables are delivered at the clients' homes by FWAs, has been in operation in the ICDDR,B MCH-FP Extension Project (Rural) areas since 1984. This programme, called Door Step Injectable Programme, has demonstrated that injectables can be effectively delivered at the clients' homes by FWAs (6). The success of this experimental programme has recently led the Ministry of Health and Family Welfare (MOHFW), Government of Bangladesh, to expand it in 8 *thanas*. This situation has

made it imperative to assess the effectiveness of injectables as a method of family planning in terms of the level of prevalence and continuation.

Objectives

This paper, attempts to: a) ascertain the level of prevalence; b) estimate the continuation rate; and c) investigate the reasons for drop-out (discontinuation) of injectable contraceptives.

Data Source

The data for this study were extracted from two major sources. Data on the prevalence and continuation of contraceptives were collected through the longitudinal surveillance system of the MCH-FP Extension Project (Rural) of ICDDR, called Sample Registration System (SRS). SRS has been in operation since 1982 in two *thanas*: Abhoynagar in Jessore district and Sirajgonj in Sirajgonj district, which are the field sites (treatment areas) of the MCH-FP Extension Project (Rural). SRS collects demographic events and some selected programmatic data, such as worker visits and contraceptive use status, from the 5,728 eligible women of selected households at a 90-day interval. In this paper, we have used the longitudinal SRS data for a nine-year period (1983-1992). The sample size includes 5,728 currently married women of reproductive age.

Data relating to causes of drop-out of injectables were collected from the service records of FWAs, called the Injectable Register. In this register, the use status of injectable users is recorded. When an injectable user drops out, the reasons for dropping out are also recorded. During 1984-1991, 15,288 injectable users dropped out, and the reasons for their dropping out have been analyzed in this paper.

Definition and Estimation of Continuation Rates

First Method: The first-method continuation rate assesses the cumulative probability of practising contraceptive method from the time of adoption with brief interruption in which no method is used or a woman is absent and subsequently uses the same method again, with no intervening pregnancy. The period of non-use or absence is limited to only one round (three months). The first-method duration of use terminates at the earliest of the following events: i) switching, where a user terminates use of the first method to begin using another method, ii) dropping, where a user stops using the method for any reason, iii) pregnancy, where the use terminates in method failure. First-method censoring occurs when a user becomes i) ineligible due to widowhood, divorce, separation, menopause, or death, or ii) lost from observation, by moving out the study area or when the study period ends.

All Method: The all-method continuation rate assesses the cumulative probability of practising any contraceptive method between the initial adoption of the first method and non-use of any method, with no interim pregnancy. Brief interruptions of the use of any method, or absence are included in all-method duration. The period of non-use or absence is limited to one round (three months). Censoring of durations of all-method use occur if contraceptive practice is interrupted for more than one round. The all-method duration of use is distinguished from the first-method duration of use by the fact that switching is no longer a terminal event.

A standard life table-technique was used for estimating the continuation rates.

Results

The longitudinal data show a significant increase in the contraceptive prevalence rate (CPR), as well as in the use of injectables after the introduction of home delivery of injectables in the Extension Project areas. In Sirajgonj, CPR in 1983 was only 7.5%, well below the national average 19% (5). In 1992, CPR rose to 39.5%, almost equal to the national average (Fig. 1 and Table 1). In Abhoynagar, CPR in 1983 was 23.5%, slightly higher than the national rate. In 1992, CPR increased to 47.1%, which was higher than the national rate by 7% points. (Fig. 2).

In Sirajgonj, the injectable prevalence rate reached 12.5% in 1992 from almost zero in 1983, and accounted for 31.6% of all users. In Abhoynagar, the prevalence of injectables increased from 0.2% in 1983 to 12.2% in 1992, which accounted for 25.9% of all users. (Fig. 1, 2 and Table 1). Nationally, the injectable prevalence rate was only 2.6% in 1991, accounting for 6.5% of CPR (5).

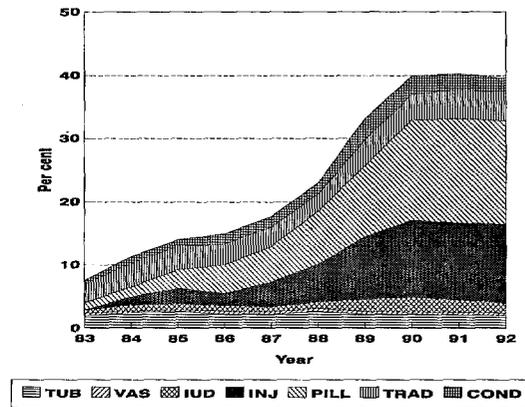


Fig. 1. Trends in contraceptive prevalence among currently married women in Sirajgonj, 1983-1992

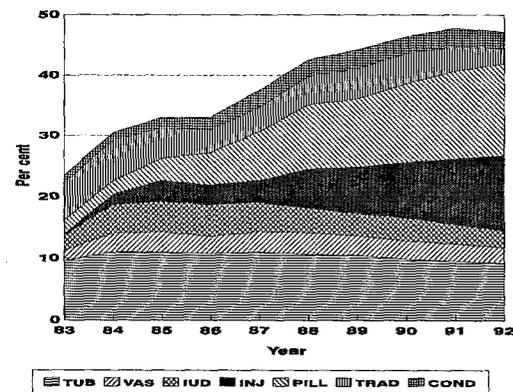
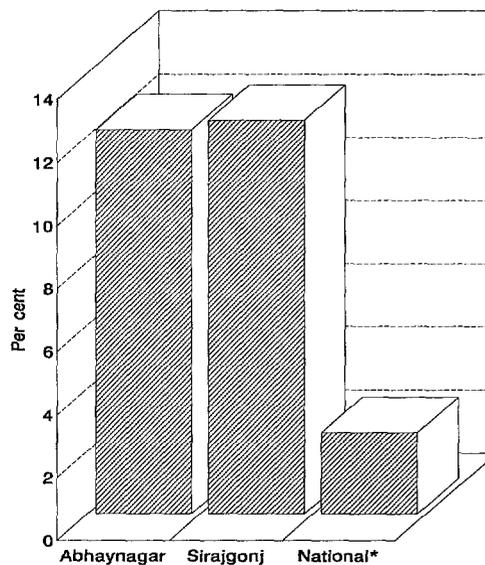


Fig. 2. Trends in contraceptive prevalence among currently married women in Abhoynagar, 1983-1992

The critical issue is whether this increase in the use of injectables occurred at the cost of other methods. The data show that there was not only an increase in the use of injectables, but also an increase in the use of other reversible methods of contraception (Fig. 1 and 2). The data also show a favourable trend of method-mix, consistent with the national trend. Table 1 presents method-mix by areas and national average. The proportion of pill, condom and IUD users among all users in the Extension Project (Rural) areas in 1992 were similar to those of the national rates. This suggests that the increase in the use of injectables was not at the expense of other methods. This finding is similar to that of other studies which have shown that the introduction of a new method does not merely substitute for the current methods but adds a new layer of users (7).



* Bangladesh Contraceptive Prevalence Survey - 1991

Fig. 3. Per cent of users of injectable contraceptives among currently married women in the MCH-FP Extension Project areas in 1992 and nation-wide in 1991

Table 1. Percentage distribution of method-mix, extension areas, and national average by years

Method	<u>Sirajgonj</u>		<u>Abhoynagar</u>		<u>National average</u>	
	1983	1992	1983	1992	1983	1991
Pill	14.6	41.3	9.4	32.3	17.3	34.8
Condom	8.0	5.8	5.5	5.9	7.9	6.3
Injection	0.0	31.6	0.9	25.9	1.0	6.5
IUD	6.7	4.1	10.6	5.7	5.2	4.5
Foam/Jelly	0.0	0.0	0.0	0.0	1.6	0.0
Sterilization	30.7	6.1	48.1	25.1	38.7	25.8
Modern	60.0	88.9	74.5	94.7	71.7	78.2
Traditional	40.0	11.1	25.5	5.1	28.3	21.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
CPR	7.5	39.5	23.5	47.1	19.1	39.9

Source: Mitra and Associates. Bangladesh Contraceptive Prevalence Survey, 1983 and 1991.

Continuation Rate

The first-method continuation rates for injectables during 1989-1991 were estimated at 73.5% at 6 months, 58.9% at 12 months, 48.2% at 18 months, 39.4% at 24 months and 26.6% at 36 months. It appears that over half of the injectable users dropped out after 18 months. The all-method continuation rates for injectables are, however, somewhat better than for the

first method. The all-method continuation rates for injectables for the same period were 81.8% at 6 months, 53.5% at 24 months and 41.9% at 36 months. However, the continuation rates for oral pills and condoms for the same period were lower than for injectables (Fig. 4 and 5).

Fig. 6 shows the continuation of injectable contraceptives by areas: a) Sirajgonj, b) Abhoynagar, and c) Comparison area. It shows that the continuation rate for Abhoynagar was slightly higher than that for Sirajgonj for the first 24 months, but after that the difference diminishes.

The difference between the treatment areas and the comparison area, however, was very significant. In the comparison area, about 60% of the users discontinued after only 6 months. The reason for such a low continuation rate in the comparison area might be that the clients do not come to

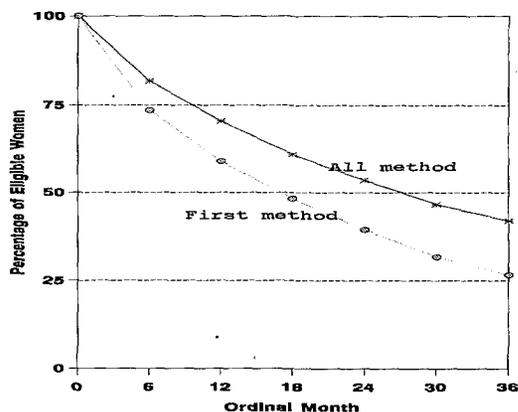


Fig. 4. First-method and all-method continuation rates of injectables in the MCH-FP Extension Project, 1984-1991

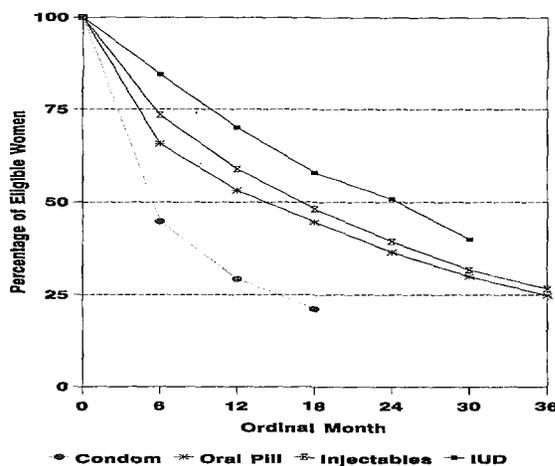


Fig. 5. Continuation rates of injectables and other contraceptives in the MCH-FP Extension Project areas, 1984-1991

FWCs and Satellite Clinics to receive their subsequent doses. It should be noted that, in the comparison area, injectables are administered only by FWVs from FWCs and Satellite Clinics. This emphasizes the need for delivering injectables in the clients' homes.

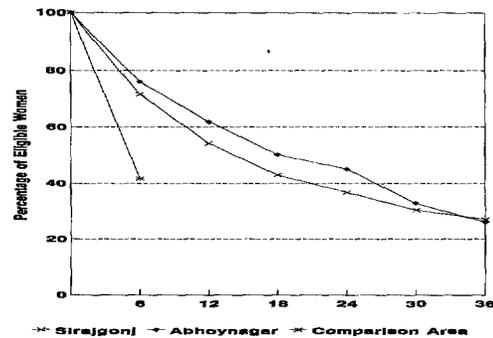


Fig. 6. Continuation rates of injectables in the treatment and comparison areas of the MCH-FP Extension Project, 1984-1991

Reasons for Drop-Out

The major reasons for drop-out of injectable contraceptives during 1984-1991 were side-effects, switching over to other methods, and the absence of clients from home. Each of the first two reasons accounted for one-fourth of the drop-out cases, while the last reason accounted for one-fifth. Amenorrhoea and the bleeding problem were reported as the major side-effects causing the discontinuation of injectables. Each of them accounted for about one-tenth of the drop-outs. However, the failure of method as a reason for drop-out was reported to be very low (0.4%) (Fig. 7).

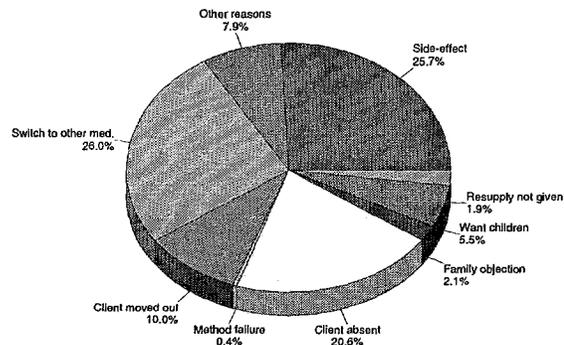


Fig. 7. Reasons for drop-out of injection contraceptives in the Extension Project areas, 1984-1991

The continued use of injectable contraceptives is dependent on the reliability of a worker. If a worker does not turn up to administer the due dose in time, the method is discontinued. The data, however, showed that an insignificant proportion (1.9%) of the injectable users dropped out, because the worker did not administer the due dose in time.

Fig. 8 shows a considerable variation in reasons for drop-out of injectable contraceptives between Abhoynagar and Sirajgonj. The major reason for drop-out in Abhoynagar was the side-effects, whereas in Sirajgonj, the highest proportion of drop-out cases were attributed to a switch over to other methods. The side-effects accounted for only 17% of the drop-outs in Sirajgonj but for 36.7% of drop-outs in Abhoynagar. In Sirajgonj, more than one-third of the injectable users dropped out due to switching over to other methods. In Abhoynagar, however, only one-tenth dropped out for the same reason. The proportion of women who discontinued using injectables to have a child is comparatively higher in Abhoynagar than in Sirajgonj.

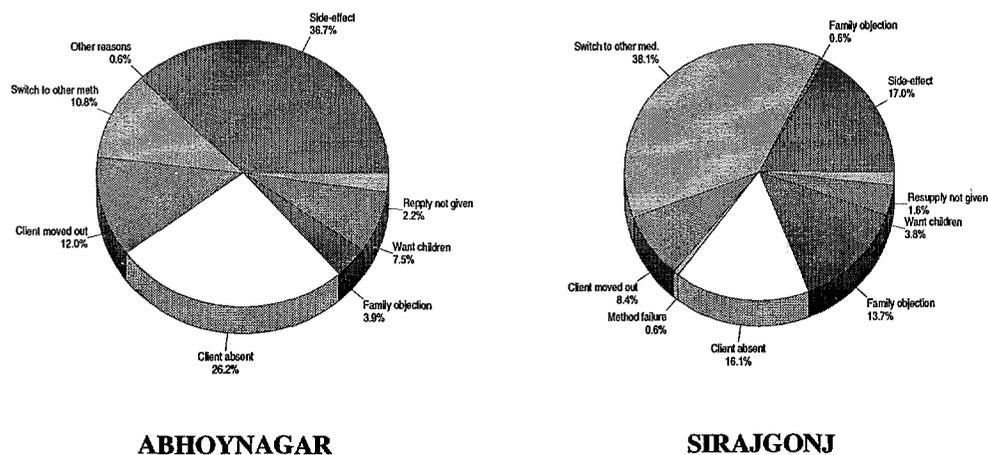


Fig. 8. Reasons for drop-out of injectable contraceptive in the Extension Project areas, 1984-1991

Conclusions

The effectiveness of a family planning programme is by and large measured by its ability to prevent births. The continuation rate of a contraceptive method is positively associated with the prevention of births. Although the continuation rate for injectables is higher than that for oral pills and condoms, it is not yet satisfactory. It appears that more than half of the injectable users discontinued after 18 months which considerably reduces the effectiveness of the method. This emphasizes the need for programme strategies and operations research to improve the rates of the continuation rates.

Side-effects are a major cause of the discontinuation of injectables. Strategic measures must be undertaken to ensure proper management of side-effects which, in turn, will increase the continuation rate.

Lastly, the very low-continuation rate in the comparison area emphasizes the need for the introduction of a domiciliary injectable contraceptive programme in the national family planning programme.

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A Brief History of ICDDR,B

1960	Cholera Research Laboratory established
1963	Matlab field station started First of a series of cholera vaccine trials launched
1966	Demographic Surveillance System established
1968	First successful clinical trials of Oral Rehydration Solution (ORS)
1969	Relationship between stopping breast-feeding and resumption of menstruation demonstrated
1971	Independence of Bangladesh
1973	Shift from Classical to El Tor cholera identified
1977	Maternal Child Health and Family Planning interventions began in Matlab
1978	Government of Bangladesh Ordinance establishing ICDDR,B signed
1981	New Dhaka hospital built Urban Volunteer Programme initiated
1982	Classical cholera returned Field testing of cereal Oral Rehydration Solution began Clinical sub-centres established in Matlab MCH-FP Extension Project began
1983	First issue of the Journal of Diarrhoeal Disease Research Epidemic Control Preparedness Programme initiated
1984	ICDDR,B received UNICEF's Maurice Pate award
1985	Full Expanded Programme of Immunization activities tested in Matlab WC/BS cholera vaccine trial launched
1987	ICDDR,B received USAID's "Science and Technology for Development" award
1988	Treatment of and research into Acute Respiratory Infection began
1989	The Matlab record keeping system, specially adapted for Government use, extended to the national family planning programme
1990	The new Matlab Health and Research Centre opened
1992	ICDDR,B-Bangladesh Rural Advancement Committee study commenced
1993	New laboratories built and equipped New <i>Vibrio cholerae</i> 0139 - Bengal identified and characterized, work on vaccine development began
1994	Twenty fifth anniversary of ORS celebrated ICDDR,B epidemic response team goes to Goma to assist cholera-stricken Rwandan refugees, identifies pathogens, and helps reduce mortality from as high as 48.7% to < 1%.
1995	Maternal immunization with pneumococcal polysaccharide vaccine shown to protect infants up to 22 weeks

MCH-FP Extension Work at the Centre

An important lesson learned from the Matlab MCH-FP project is that a high CPR is attainable in a poor socioeconomic setting. The MCH-FP Extension Project (Rural) began in 1982 in two rural areas with funding from USAID to examine how elements of the Matlab programme could be transferred to Bangladesh's national family planning programme. In its first years, the Extension Project set out to replicate workplans, record-keeping and supervision, within the resource constraints of the government programme.

During 1986-89, the Centre helped the national programme to plan and implement recruitment and training, and ensure the integrity of the hiring process for an effective expansion of the work force of governmental Family Welfare Assistants. Other successful programme strategies scaled up or in the process of being scaled up to the national programme include doorstep delivery of injectable contraceptives, management action to improve quality of care, a management information system, and developing strategies to deal with problems encountered in collaborative work with local area family planning officials. In 1994, this project started family planning initiatives in Chittagong, the lowest performing division in the country.

In 1994, the Centre began an Urban MCH-FP Extension Project in Dhaka (based on its decade long experience in urban health) to provide a coordinated, cost-effective and replicable system of delivering MCH-FP services for Dhaka urban population. This important event marked an expansion of the Centre's capacity to test interventions in both urban and rural settings. The urban and rural extension projects have both generated a wealth of research data and published papers.

The Centre and USAID, in consultation with the government through the project's National Steering Committees, concluded an agreement for new rural and urban Extension Projects for the period 1993-97. Salient features include:

- To improve management, quality of care and sustainability of the MCH-FP programmes
- Field sites to use as "policy laboratories"
- Close collaboration with central and field level government officers
- Intensive data collection and analysis to assess the impact
- Technical assistance to GoB and NGO partners in the application of research findings to strengthen MCH-FP services.

The Division

The reconstituted Health and Population Extension Division (HPED) has the primary mandate to conduct operations research to scale up the research findings, provide technical assistance to NGOs and GoB to strengthen the national health and family planning programme.

The Centre has a long history of accomplishments in applied research which focuses on the application of simple, effective, appropriate and accessible health and family planning technologies to improve the health and well-being of the underserved and population-in-need. There are several projects in the Division which specialize in operations research in health, family planning, environmental health and epidemic control measures which cuts across several Divisions and disciplines in the Centre. The MCH-FP Extension Project (Rural), of course, is the Centre's established operations research project but the recent addition of its urban counterpart - MCH-FP Extension Project (Urban), as well as Environmental Health and Epidemic Control Programmes have enriched the Division with a strong group of diverse expertise and disciplines to enlarge and consolidate its operations research activities. There are several distinctive characteristics of these endeavors in relation to health services and policy research. First, the public health research activities of these Projects focus on improving programme performances which has policy implications at the national level and lessons for international audience. Secondly, these Projects incorporate the full cycle of conducting applied programmatic and policy relevant research in actual GoB and NGO service delivery infrastructures; dissemination of research findings to the highest levels of policy makers as well as recipients of the services at the community level; application of research findings to improve programme performance through systematic provision of technical assistance; and scaling-up of applicable findings from pilot phase to the national programme at Thana, Ward, District and Zonal levels both in the urban and rural settings.



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