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A Comprehensive Assessment of the Quality of Services Provided by Family Planning Field Workers in One Major Area of Dhaka City, Bangladesh

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This study assesses the quality of family planning services provided by community-based field workers in Dhaka City, Bangladesh. The findings are based on a large household survey of a representative sample of clients, direct observation, and interviews with field workers and clients. The areas identified by the assessment that are in greatest need of improvement include frequency of contact with clients who are non-users or who have special needs, client education about family planning methods, and counseling about side effects and warning signs.

Key words: Bangladesh; family planning; quality of services; community-based field workers

Introduction

The application of quality assurance approaches has grown rapidly in hospitals and health centers in developing countries,[1,2] but the application of such approaches to services provided by health workers in the homes of clients has been infrequent. This is partly because home-based services are not as widespread as those provided at fixed facilities, and partly because of the logistical difficulties involved in assessing the quality of home-based services. Observations of client-provider interactions and interviews with clients are an essential part of the quality assessment process,[1] but for home-based services these are logistically difficult and time-consuming activities to carry out.

Only a decade ago, quality concerns were considered by many leaders in family planning for developing countries to be an expensive luxury for programs that had achieved the more important goal of expanded access to all those who need services. Today, however, quality concerns are seen as much more central to the achievement of key goals of family planning programs: helping clients to achieve their reproductive goals, and achieving high levels of client satisfaction with services. In fact, recipients of services are now increasingly referred to as 'customers' rather than 'beneficiaries' or 'clients.'

This paper describes the results of a comprehensive assessment of the quality of family planning services provided by field workers in the homes of their clients in one large area of Dhaka City, Bangladesh.[a]

Bangladesh has extensive national experience with the promotion and provision of family planning services through visits to the homes of married women of reproductive age by paid female community workers. Since 1978 the

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government has trained and employed 24,000 of these workers, referred to as Family Welfare Assistants (FWAs); non-governmental organizations (NGOs) have also trained and employed approximately 7,000 workers, referred to as Field Workers, to carry out similar activities.[4-6] Almost all of the government FWAs are based in rural areas of the country. Most of the family planning community field workers in urban areas, on the other hand, are employed by NGOs.

NGO field workers are considered to be part of the national family planning program. They receive two weeks of training in a government-approved course and they receive family planning supplies (i.e., oral contraceptives and condoms) from government sources. They report their monthly activities to the government, and these reports become a part of the data-base for the national family planning program. Like the FWAs, NGO field workers have a defined geographic catchment area containing approximately 800 couples of reproductive age, and they try to visit the homes of these couples every two months. There is widespread agreement that one of the main reasons for Bangladesh's success in reducing fertility over the past two decades — during which time there were minimal improvements in the socioeconomic conditions of the population — has been the woman-to-woman home-based system of family planning promotion and commodity distribution.[5]

Generally, each FWA or field worker visits approximately twenty married women of reproductive age during a single day of home visits. A conservative estimate is that more than fifty million home visits are carried out by these family planning workers each year in Bangladesh.[7] Thus, assessments of the quality of services provided by the field workers are important because they provide valuable insights into how such an important element of the country's primary health care system can be further strengthened. Given the current rapid growth of the urban population and, more importantly, the growth of slum and squatter settlements in the urban areas, urban family planning services in Bangladesh are becoming an increasingly important national priority. The lower contraceptive use in Bangladesh's urban slums compared to non-slum areas, together with other conditions there associated with higher fertility — such as poverty, illiteracy, and the young age of couples migrating to the urban slums,[5,8,9] — give additional urgency to the need to strengthen family planning services among Bangladesh's urban poor. The current study is the only one of which we are aware that focuses on the quality of urban NGO field workers in Bangladesh.

A Quality of Care Framework

From a simple and broad perspective, quality is 'doing the right things right, and right away'.[10,11] From the primary care perspective, quality of care has been defined as the proper performance, according to standards, of interventions that are known to be safe and affordable, and that have the ability to produce an impact.[12] Quality can also be considered as 'meeting or exceeding customer expectations.'[13]

In this paper, we have extended the standard Bruce framework[14] of six dimensions of quality of family planning services — method choice, information given to clients, technical competence, interpersonal relations, follow up/continuity mechanisms, and appropriate constellation of services — by incorporating eight additional dimensions identified by the Quality Assurance Project: technical competence, access to services, effectiveness, interpersonal relations, efficiency, continuity, safety, and amenities.[11,15] Combining these various technical, organizational, and client perspectives with Donabedian's well-known trichotomy of inputs, processes, and outcomes,[16] leads to the framework depicted in Table 1.

Table 1 *Framework for Assessment of the Quality of Family Planning Services*

Assessment of service inputs	Assessment of service processes	Assessment of service outcomes
Training received by provider	Constellation of services	effectiveness*
provider attitudes	technical quality of services	efficiency*
provider knowledge and skill	counseling quality	client satisfaction
quality of supervision	quality of interpersonal relations	client perception of quality
supplies and medicines	access	client attitudes
facilities and equipment*	safety*	client knowledge
amenities*	promotion of continuity of care	client behavior
		coverage of services within the targeted population

* *Not assessed in the current study*

The present study includes measures of most of the dimensions of quality shown in Table 1. However, facilities and equipment, amenities, and safety are not relevant issues since field workers provide services in the homes of clients and do not provide any services for which safety is a concern. In addition, assessments of effectiveness and efficiency have not been included since they are beyond the scope of the current study.

Data and Methods

Zone 3, one of ten zones in the Dhaka City Corporation, has a population of approximately 450,000 persons. It is located in the south-western section of the city, which includes the areas known as Bakshi Bazar, Rayer Bazar, and Lalbagh. More than one-third of the households there are located in slums, and one-fifth of the households in the zone report a monthly income of less than Taka 2,000, which is the equivalent of US $50.

At the time the data for this study were collected, 61 field workers were providing community-based services in Zone 3. All but 4 of these field workers participated in the present study. Of the 57 participating field workers in Zone 3, 52 are employed and supervised by Concerned Women for Family Planning (CWFP, a national NGO), and the remaining 5 are government FWAs. For the sake of simplicity, we will refer to both types of workers as field workers. The overall contraceptive prevalence rate (for modern method use) in Zone 3 was 46 percent at the time of this study in late 1994.[9] CWFP has been working in Zone 3 for two decades now, and many of its field workers have also been working there as CWFP employees during this entire period. They have a quite well-established role in promoting the use of family planning services, distributing pills and condoms, and facilitating the use of clinic-based contraceptive methods.

There are also 18 government and private facilities which provide family planning services in Zone 3. These include 11 family planning clinics operated by the Ministry of Health and 7 operated by NGOs. There are also 385 pharmacies in Zone 3.[17] Most of these pharmacies, in addition to selling oral contraceptives, condoms, and medications, also provide 'over-the-counter' medical advice and offer the services of a physician for several hours a day.

The findings of this analysis are based on data collected as part of a Needs Assessment Study in Zone 3 of Dhaka City which was undertaken in November and December 1994. The study included a survey of households in the zone as well as interviews with clients and providers of maternal/child health and family planning services.

The household survey respondents consisted of a multistage stratified cluster sample of 5,399 married women of reproductive age. The findings from this survey have been weighted to make them representative for Zone 3. The 57 field workers who work in Zone 3 were also interviewed.

In addition, 114 field worker-client interactions were observed by female field researchers, – two interactions for each of the 57 field workers. These observations were made during the course of a day of routine daily home visits. The field researcher was introduced to the field worker as someone who would be observing the field worker's activities. The field workers were not aware that the information was going to be used for an assessment of the quality of field worker services. The field researcher accompanied the field worker for the entire day of home visits and arbitrarily chose two encounters for detailed observation and recording of the content of the encounters using a structured check-list. The field workers were not aware which two encounters were included in the study, nor were the field workers notified ahead of time that the field researcher would be accompanying them on a specific day. Although it was apparent to the client that a field researcher was accompanying the field worker, the field researcher did not participate in the interaction between the field worker and the client after her initial introduction to the client had taken place. Finally, the 114 clients of the field workers who had been observed in their encounters with the field worker were also interviewed alone in their homes later on the same day by the same field researcher.

Computer analyses have been carried out using EPI INFO and SPSS software.

Findings

Constellation of services, access, continuity, and coverage: The 57 field workers in Zone 3 visited an average of 21 clients per day on those days when their work was observed

by a field researcher. The median length of each field worker-client interaction was 5.0 minutes.[b] Some type of family planning service (including promotion or counseling) was provided in 76 percent of the observed encounters.

Among the 4,106 household respondents in the population-based survey who had been visited by a field worker during the previous six months, 83 percent reported that the field worker had discussed family planning with them.

On the day of observation, 37 percent of the field workers had a written schedule for the work for that day. In 44 percent of the 114 field worker-client encounters observed by the researchers, the field worker informed the client when she would be visiting again.

The survey of 5,399 married women of reproductive age included information about contact with a field worker during the previous six months. During this period, 76 percent of the respondents had had face-to-face contact with a field worker, and 57 percent had had direct contact during the previous two months.

Contact with field workers is least for married women who are under 20 years of age, who have no children, and who are not using a contraceptive. Contact rates are highest for pill and condom users who obtain their supplies from a field worker (Table 2).

Quality of counseling: Among the household survey respondents who had been visited by a field worker and who were users of a non-permanent modern family planning methods (n=2,086), 70 percent said that the field worker had discussed other family planning methods with them. Among the observed encounters of field workers with 70 family planning users, the field worker inquired in 33 percent of the cases if the client wanted to switch methods. The field worker discussed alternative methods the client could adopt with 40 percent of these 70 family planning users.

Table 2 *Field Worker Contact Rates with Clients during the Previous Six Months, by Client Age, Number of Living Children, and Current Use of Family Planning*

Characteristic of client		Percentage who reported contact (n=5,364)	(n)
Age	<20 years	59.6	(721)
	20-39	75.9	(4,219)
	40-49	67.8	(433)
	(X^2 = 75.46; 2 df; p < .001)		
Number of living children	0	56.9	(685)
	1	74.7	(1,247)
	2+	67.8	(3,771)
	(X^2 = 88.56; 2 df; p < .001)		
Contraceptive status			
not using a method	non-pregnant non-user	69.1	(2,205)
	pregnant	76.5	(271)
using a modern method	oral contraceptives (supplied by field worker)	95.6	(447)
	oral contraceptives (not supplied by field worker)	81.5	(717)
	condoms (supplied by field worker)	98.9	(228)
	condoms (not supplied by field worker)	72.5	(237)
	female sterilization	73.0	(324)
	injectables	80.1	(273)
	IUD	77.3	(221)
	other modern method*	57.1	(35)
using a traditional method†		76.8	(405)
	(X^2 = 242.11; 10 df; p < .001)		

Note: *Clients are all married women of reproductive age*
**Includes Norplant® and vasectomy*
†Includes withdrawal, abstinence, and herbs

Among the 1,724 household survey women respondents who had been visited by a field worker and were not using a modern family planning method, 64 percent said that the field worker had talked about different methods that can be adopted to avoid or delay pregnancy. The field worker discussed various family planning methods available to the client in 59 percent of the 44 observed encounters with non-users of family planning.

Client behavior and coverage: It was observed that 61 percent (70/114) of the clients whose encounters with field workers were using a modern method of family planning. Out of the non-users, 64 percent (28/44) had practiced family planning in the past. The most common method among the 70 users is birth control pills, reported by 51 percent. The second most frequent method used is condom, reported by 21 percent of the users. Other less frequently used methods include injectable contraceptives (14 percent), IUD (10 percent), Norplant® (3 percent), and female sterilization by tubectomy (1 percent).

Among the 36 pill users, 23 (64 percent) said they obtain their supplies from the field worker. Among the 13 pill users who obtain their supplies elsewhere, 11 said that they buy their supplies from a pharmacy or shop. Thus, overall, 31 percent of the 36 pill users obtain their supplies from a pharmacy or shop.

Among the 15 condom users, 8 (53 percent) said they obtain their supplies from the field worker, and 6 out of the 7 remaining condom users say they or their husbands buy their supplies from a pharmacy or shop. Thus, overall, 40 percent of the 15 condom clients obtain their supplies from a pharmacy or shop.

Counseling quality: The field worker discussed family planning methods with 93 percent of the 44 non-users of family planning whose encounters with the field workers were observed. She asked 70 percent of these 44 clients if they were pregnant. The field worker inquired about the client's reproductive goals and plans in 59 percent of the encounters with non-users.

Supplies: Out of the field workers, 26 percent (15/57) said they had experienced supply problems during the previous six months. The most common supply problem mentioned was a shortage of condoms. This problem was resolved by giving the field workers condoms purchased from the open market, such that the actual doorstep distribution of condoms was not affected.

Technical quality: The field workers were asked which of the standard recommended screening questions they routinely ask potential new acceptors of birth control pills. A majority reported they routinely ask if the client has high blood pressure or diabetes or if she has a history of jaundice. Less than half of the field workers, however, said they routinely mention one of the other nine standard screening questions.

Among the 114 field worker-client encounters observed, there were two in which a client became a new pill acceptor. The only screening question asked during these two interactions was about the date of the last menstrual period, and this was asked in only one of the two observed interactions. In neither of the two observed interactions did the field worker ask any of the other standard screening questions.

Provider knowledge, a technical quality: Among the 2,086 household survey respondents who had been visited by a field worker and who were current users of temporary family planning methods, 68 percent said the field worker had not discussed side effects which they might experience with their current family planning method. Among the same 70 current users, only 47 percent said the field worker told them about warning signs for which they should obtain medical assistance.

The field workers were asked what explanations about family planning methods they give to new acceptors of these methods. Depending on the method, no more than 15 percent said they give explanations of method use; no more than 37 percent said they explain side effects and their management; and, no more than 12 percent said they explain warning signs to new method users (detailed data not shown). Direct observations of new users are consistent with these findings (data not shown).

The knowledge of the field workers regarding what precautions pill users should take if they forget to take their pills was assessed. It was found that 86 percent of the field workers knew that the clients should take the missed pill

and continue as usual if one pill had been forgotten; 93 percent of the field workers gave the correct answer for what to advise if more than two pills were forgotten (stop taking the pills and use another method until the next menstrual period). But for clients who had missed exactly two pills, however, only 4 percent of the field workers knew to advise the client to take the missed pills and use a barrier method (the policy of the National Family Planning Program). Almost all (88 percent) of the field workers said the clients should take the missed pills and continue as usual.

Client knowledge: Among the 68 current users of non-permanent methods (i.e., birth control pills, condoms, IUD, and injectables), 78 percent gave a fully or partially correct explanation of how to use the method. That is to say, 22 percent of the users — depending on the type of method — had insufficient or incorrect knowledge of method use. A partially correct explanation was defined as one in which the client had sufficient knowledge of use of the method to prevent method failure. About the proper use of the method they had adopted, 17 to 20 percent of the pill users, condom users, and injectable users, and 57 percent of the IUD users, had insufficient or incorrect knowledge.[c]

Among the 70 current users whose encounter with a field worker was observed, 47 percent could name at least one side effect of the method they were using. Among the 36 pill users, 64 percent were able to mention at least one side effect of birth control pills. Out of the 33 current users who said the field worker had informed them of warning signs at the time they began the method, 42 percent could mention one or more warning signs at the time of the interview.

Counseling quality: Of the 70 users of family planning whose encounters with a field worker was observed, 18 were identified as having a method-related problem; 16 clients spontaneously mentioned that they were having a problem. Among the other 54 users, the field worker asked 19 if they were having any method-related problems, and 2 of them said they were.

Among the 18 encounters in which a method-related problem was identified, the problem was not discussed further in 2 cases. In 63 percent of the remaining 16 cases, the field worker told the client not to worry. In 56 percent of the cases the field worker advised the client to switch over to another method. In 28 percent of the cases the field worker provided counseling to the client about side effects and their duration.

Among the 54 users of family planning who did not spontaneously mention to the field worker that they were experiencing problems with their current family planning method, the field worker asked 43 percent if they were actually having any problems. One-quarter (18/70) of the current users mentioned problems with their current method.

Client behavior: One-third of the 28 previous but not current family planning users had stopped using family planning because they wanted to have a child. More than half (54 percent) of the previous users, however, had stopped because of side effects or other 'health concerns.'

Constellation of services: Almost all of the field workers reported that they talk at least occasionally with the husbands of their clients. When talking with husbands, however, the field workers discuss motivation for male sterilization less frequently than motivation for female sterilization or IUD. Only 16 percent of the field workers said they had discussed vasectomy with the husbands of their clients at the time they last had a conversation with the husband.

During the three months before being interviewed, 4 percent of the 57 field workers had referred at least one male client for vasectomy. In contrast, 42 percent of the field workers reported they had referred at least one female client for tubectomy during this period.

Continuity of care: Out of the 114 clients interviewed, 39 percent reported that the field worker had referred them or one of their children for a service. About half (55 percent) of the 44 clients who said they had been referred had actually obtained the service, and in about two-thirds (68 percent) of the cases referred, the field worker had inquired about the result of the referral. In 4 percent of the 114 interactions, the field worker told the client what to do if she or one of her children experienced a problem before the next visit.

Provider attitudes, quality of supervision, technical quality: All of the 57 field workers interviewed indicated that they had regular field supervision and almost all (87 percent)

said that during the previous four months they had had at least four supervisory field visits. Encounters between field workers and supervisors were not observed. Almost all (95 percent) of the field workers feel that the supervisory visits are helpful and 25 percent feel the visits should be more frequent. The field workers mentioned that supervisors assist in the solution of field problems, help correct 'wrong actions,' help improve the quality of the field worker's performance, and improve the client's confidence in the field worker.

The field researcher assessed the quality of the record book which the field workers were using on the day of the observation. In only 7 percent of the cases did the record book appear to be in 'poor' condition.[d] As many as 91 percent (52/57) of the record books contained sufficient information about the clients' addresses to enable a follow-up visit to be made by someone who had not previously been to the house.

Quality of interpersonal relations, client satisfaction, and client perception of quality: Of the 4,106 women interviewed in the baseline household survey who said they had received a field worker visit during the previous six months, 49 percent felt that the field worker visits were useful or helpful; 7 percent said the visits were 'more or less' helpful; and, 44 percent said they were not helpful or they did not know if they were helpful or not. Clients who are most likely to consider the field worker's visits to be helpful are married women who are in their mid-reproductive years, who have at least one child, and who are using pills and condoms supplied by the field worker (Table 3).

Table 3 *Attitudes of Clients Regarding the Usefulness of Field Worker Visits, by Client Age, Number of Living Children, and Current Use of Family Planning*

Characteristic of client		Percentage who consider visits to be useful (n=4,096*)	(n)
Age	<20 years	38.6	(430)
	20-39	54.0	(3,150)
	40-49	35.2	(517)
	(X^2 = 88.26; 2 df; p < .001)		
Number of living children	0	24.1	(390)
	1	51.8	(946)
	2+	53.1	(2,760)
	(X^2 = 116.56; 2 df; p < .001)		
Contraceptive status			
not using a method	non-pregnant non-user	37.1	(1,523)
	pregnant	43.9	(207)
using a modern method	oral contraceptives (supplied by field worker)	95.2	(225)
	oral contraceptives (not supplied by field worker)	54.2	(172)
	condoms (supplied by field worker)	94.3	(428)
	condoms (not supplied by field worker)	49.3	(584)
	female sterilization	26.8	(237)
	Injectable	59.1	(218)
	IUD	49.3	(171)
	other modern method†	15.0	(20)
using a traditional method‡		37.0	(370)
	(X^2 = 449.62; 8 df; p < .001)		

Note: *Clients are all married women of reproductive age*
among women who received a field worker visit during the previous six months
†includes withdrawal, abstinence, and herbs

Observations of the 114 encounters between the 57 field workers and their clients indicate that the field workers proffered a respectful greeting to the client in all cases. In 84 percent of the encounters, the field researcher considered the field worker to have responded adequately to the client's questions.

When these same 114 clients were interviewed separately later the same day, 71 percent said that they had received the service they wanted during their encounter with the field worker earlier in the day, and 81 percent said that the field worker had answered all of their questions. Of these 114 clients, 70 percent said they felt comfortable asking the field worker about their own personal health problems.

Most (76 percent) of the 114 clients interviewed felt that the timing of field worker visits is about right. However, 10 percent think the visits are too frequent, 11 percent think the visits are not frequent enough, and 15 percent did not have an opinion. According to 84 percent of the 114 clients, the duration of the visit was about right. However, a substantial minority (19 percent) felt the visits were too short.

While most of the 114 clients interviewed appreciated the visit of the field worker, 18 percent said they do not always like the field worker to come and visit, or that there is no need for the field worker to visit them.

Discussion

The findings from this comprehensive assessment of the quality of family planning services provided by the field workers indicate the importance of periodic quality assessment. Our assessment has identified a number of obvious shortcomings which could be readily improved with additional training and modified supervision. The potential benefit for strengthening the quality of field worker services is substantial.

There is abundant evidence that the quality of basic health and family planning services in low-income countries is a major problem.[18,19] Issues related to quality of care for family planning services have been discussed extensively.[14,20-23] However, in spite of the growing interest in quality assurance for basic health services in low-income countries, published research on this subject has been surprisingly limited.[19] Most of the published research has been concerned with facility-based services, and less attention has been given specifically to the quality of care provided by community-based service providers.

The quality of field worker family planning services — both the technical quality, as measured from an objective standpoint, and the subjective quality, as measured by client ratings — appears to influence the utilization of family planning services. Hossain, Mita and Haaga[24] found that subsequent adoption of modern contraception was substantially greater for clients whose field workers provided better quality of services. For NGO community distribution programs utilizing field workers, overall project effectiveness was associated with higher service quality.[25] Rahman et al.[26] found that reported side effects from oral and injectable contraceptive use were lower when users reported that the field worker provides higher quality services. Kane et al.[27] found that the quality of field worker-client interactions was associated with higher current use of modern contraception and, among non-users, was associated with a higher likelihood of later use of modern methods. Furthermore, client satisfaction with the field worker's services and the field worker's provision of antenatal care services during the previous pregnancy were both found to be associated with a greater likelihood of current non-acceptors intending to use modern methods in the future.[27]

There is also considerable evidence that the provision of quality services requires time. The communication of important family planning information requires visits of at least ten minutes per client — rather than the usual five minutes — and client satisfaction is much higher when visits are ten minutes in length or longer.[24,28,29] Also, home visits from field workers which last at least ten minutes are associated with higher contraceptive usage rates.[24,30] A substantial proportion of the clients in our study feel that the visits from field workers are too short, while another substantial proportion of clients feel that the visits from field workers are not useful. Thus, there is a need for the field workers to be able to give more time to those clients who need or want their assistance and less time to those clients who neither need nor want the services which the field workers provide.

The findings from this study also suggest that there are a number of areas in which the quality of field worker activities could be improved. The issue is how to decide on the priority areas for improvement since, obviously, all areas cannot be improved simultaneously. In our view, the areas in greatest need of improvement include frequency of contact with clients who have special needs,[e] client education about family planning methods, and counseling about side effects and warning signs.

The fact that only slightly over half of the clients reported actual contact with a field worker during the previous two-month period suggests that efforts need to be made to improve the contact rate. Visitation during late afternoon, evening, or weekend hours may be necessary if the contact rate is to improve, particularly in urban areas where women are likely to be more mobile.[f] There is abundant evidence that contraceptive usage and continuation rates are greater for those clients with more frequent contact with their field worker,[6,24,27,30, 32-35] and those clients who are visited more frequently give a more favorable rating of the quality of services provided by the field worker.[36]

Others[5,24,37-39] have found that field workers tend to give lower priority in their home visitation schedule to newly married and low parity couples and to never-users, pregnant women, and post-natal mothers. Our study reports similar findings. The contact rates we observed are particularly low among nulliparous women and married adolescents. These same groups of clients are also less likely to consider field worker visits to be useful. Perhaps field workers should focus on maternal and child health issues rather than on family planning issues when visiting these types of clients so as to give them a *bona fide* reason to visit them, rather than promoting something which the client is not interested in at that particular point in her life.

Haque et al.[35] found that the frequency of field worker contact was positively linked to contraceptive method switching and the number of different contraceptive methods used throughout the reproductive life cycle, suggesting that more frequent contact would diminish discontinuation rates and promote utilization of longer-term methods. If we consider access to field worker services as an element of quality of care, then we need to find out why field workers do not visit a substantial proportion of young newlywed couples at all (see Islam et al.).[39] Anecdotal information suggests that field workers consider such visits to be a non-productive use of their time since they 'know' that newly weds and other low-parity clients will have no current interest in adopting a family planning method.

Other studies in Bangladesh have identified a lack of screening of clients as a problem in the quality of field worker services.[37,40] Our study indicates that the screening of clients by field workers before recommending birth control pills is a particularly important activity that needs strengthening. Field workers should inform clients that birth control pills are not recommended in certain situations. Even though many clients obtain their supply of birth control pills from pharmacies and shops rather than from field workers, all clients who express an interest in birth control pills or who take pills need to be informed by the field worker of the screening criteria.[g] The need for field workers to appropriately screen new pill users, regardless of the source of the pills, is further highlighted by recent research in Zone 3 revealing that 60 percent of the pharmacists are unable to name the three major contra-indications to pill use.[17]

Other research in Bangladesh has identified problems with the level of knowledge among field workers about family planning methods,[41] and problems with the transmission of information to clients about proper method use.[37,40] One recent study has estimated that 12 percent of births in Bangladesh are a result of failure of birth control pills, and an equal percentage of births is due to failure of one of the less reliable birth control methods such as condom, withdrawal, rhythm, or other traditional methods.[42] High failure rates of these methods have been documented in Bangladesh by others as well.[5]

Family planning users need continuing instruction regarding what precautions to take if the method is not used properly. Women commonly forget to take their daily birth control pill, and it is rare that they use another method if they miss more than two consecutive pills.[5] Under such conditions, pregnancies resulting from user failure are not uncommon. The findings from this study suggest that field workers are not properly informed about what educational messages to give to women who have missed two consecutive pills, and they infrequently inform clients what precautions to take if they forget one or more pills.

There is evidence from Matlab, Bangladesh, that the quality of a field worker's services can influence the contraceptive user failure rate. There, the performance of each field worker, as assessed by supervisory ratings, was assessed. The contraceptive failure rate for the clients who were using temporary methods, including birth control pills, condoms, withdrawal, rhythm, or some other traditional method, was 24-25 percent among the clients of field workers with poorer supervisory ratings, compared to failure rates of 9-18 percent among the clients of field workers with more favorable supervisory ratings.[42] These findings suggest that efforts to improve field worker performance can reduce contraceptive failure rates.

Taking into account the importance of the problem of use failure, one might argue that with every contact which a field worker has with a birth control pill user, the field worker should ensure that the client knows what to do if she forgets to take her pills. Furthermore, greater efforts by the field workers to encourage clients to adopt longer-acting and more reliable forms of family planning methods (such as injectable contraceptives, IUDs, Norplant®, or sterilization) would help to reduce the number of pregnancies arising from inappropriate use of temporary methods.

Various studies, including the present one, have found that field workers are reluctant to inform clients about potential side effects and warning signs.[37] Field workers freely admit that this is because they are afraid that the client will not accept the family planning method if this information is provided. Supervisors need to encourage field workers to rethink this strategy, since lack of information among clients about side effects may be producing a higher dropout rate than might be the case if initial counseling was more thorough. A better-informed client is more likely to tolerate mild side effects without discontinuing the method. Such a client may also be more likely to seek treatment or to switch over to another method, if necessary, without discontinuing family planning altogether. Finally, and perhaps most-importantly, clients have a right to information about the risks of family planning methods.[43] However, even when clients have been informed about side effects and warning signs, they tend to forget them, so new approaches are needed for improving retention of the information provided to clients.

There is evidence that field workers in high-performing programs are more likely to inform clients about side effects than are field workers in low-performing programs.[25] Flip charts or similar tools could be very useful in helping field workers share information with clients about side effects and warning signs and this might increase the retention rate for information communicated to the clients.

Counseling on side effects is particularly relevant in the light of the fact that a majority of past users in our study stopped family planning because of side effects or 'health concerns,' which probably represent a fear of side effects. These findings are consistent with those reported by Messer et al.[18] for rural Bangladesh, where 70 percent of the past users mentioned side effects as a reason for discontinuation. In Messer's study, one-quarter of the never-users mentioned fear of side effects as a reason for never adopting a method of contraception.

Our study, like those of others,[45] indicates the importance of managing side effects: the recognition of this need is one of the reasons that field workers want to be able to provide their clients with medicines and vitamins.

Conclusion

This analysis of the quality of services provided by field workers in Zone 3 of Dhaka City has identified many areas in which quality could be readily improved, and pointed to some possible strategies for achieving quality improvement.[h] Like other studies of the quality of field worker services in Bangladesh, the current study documents important gaps in field worker knowledge, notes infrequent contact with a substantial proportion of the clients, and documents a lack of information provided to clients about family planning methods. If clearly defined standards for field worker services had existed, the interpretation of the findings would have been far more straightforward.[i]

However, quality assessment is only the first step in the quality improvement process. Institutionalization of management processes for quality improvement are essential for continuous quality improvement. The effectiveness of these processes can be enhanced through decentralization, response to the needs of staff at all levels, and community involvement.[43,46-48] For lower-level community-based health

workers in developing countries — such as the field workers analyzed here — effectiveness depends largely upon the guidelines, training, and support that are provided by their supervising organization.[49-51] The performance of a community-based worker is largely a reflection of the overall quality of the supervising organization.

Without the identification of problems related to the quality of services, it will be extremely difficult to improve the effectiveness of field workers. As socially and economically disadvantaged urban populations will continue to grow in Bangladesh during the next decade, gradual improvements in the quality of basic family planning and basic health services for the urban poor will be a major challenge, but should be achievable with persistent efforts.

The field worker's role is currently in transition as part of a trend within Bangladesh toward increasing reliance on fixed-site clinics, and the development of a broader basic package of family planning and maternal/child health services that can be provided at these fixed sites. Clarifying the field worker's role and providing her with the skills and the time to provide quality services will be vital if Bangladesh's family planning program is to continue to be a global leader in reproductive health care among the poor.

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Notes

a. An analysis of the quality of maternal and child health services (excluding family planning services) provided by these same field workers has been reported elsewhere.[3]

b. The number of visits carried out during the day of observation ranges from 3 to 46. The inter-quartile range is 4-11 minutes; 18 percent of the visits were three minutes or less; 10 percent of the visits were 20 minutes or longer, with the longest being 35 minutes.

c. The criteria used here for assessment of knowledge regarding method use can be found elsewhere.[7]

d. Record books were considered to be in 'good' condition if they were clean, readable, and had no torn pages. 'Satisfactory' condition was defined as readable with some torn pages. Books which were difficult to read and had a number of torn pages were classified as being in 'poor' condition, and books which were unreadable or had many torn pages were considered to be in 'very poor' condition.

e. Clients with special needs include those not using family planning who do not presently want to become pregnant, those who do not want to become pregnant for at least two years who are using temporary methods (pills or condoms), those who do not ever want to have any more children who are not sterilized, and current users of a method experiencing side effects. In order to be able to visit these clients more frequently, it would be necessary to reduce the frequency of visits to the non-priority clients. However, occasional contact needs to be maintained with non-priority clients since most of them could become priority clients at any time.

f. More time spent with clients in the late afternoons, evenings, and weekends could foster more discussions between field workers and the husband and wife together in their home which, at least in one other setting, has resulted in higher contraceptive use.[31]

g. Fewer than 3 percent of clients obtained their first supply of oral contraceptives from a physician.[17]

h. See Perry et al.[7] for other specific recommendations arising from this study.

i. See Huezo and Diaz[43] and Jain, Bruce and Mensch[21] for a list of indicators of quality of family planning services which could be applied to community-based family planning workers.

References

1. Nicholas, D, J Heiby and T Hatzell. 1991. The Quality Assurance Project: introducing quality improvement to primary health care in less developed countries. *Qual Assur Hlth Care* 3:147-165.

2. De Geyndt, W. 1995. *Managing the quality of health care in developing countries.* World Bank Technical Paper Number 25. Washington, DC: The World Bank.
3. Perry, H, S Begum, A Begum, T Kane, M Quaiyum and A Baqui. 1999 (in press). A comprehensive assessment of the quality of maternal and child health services provided by urban family planning field workers in Bangladesh. *Ann Trop Paed.*
4. Mitra, S, C Lehrman and S Islam. 1993. *Bangladesh contraceptive prevalence survey, 1991: final report.* Dhaka, Bangladesh: Mitra and Associates.
5. Mitra, S, M Ali, S Islam, A Cross and T Saha. 1994. Bangladesh demographic and health survey 1993-1994. Dhaka, Bangladesh: National Institute of Population Research and Training, Mitra and Associates; Calverton, Maryland: Macro International Inc.
6. Hossain, M and J Phillips. 1996. The impact of outreach on the continuity of contraceptive use in rural Bangladesh. *Studies in Family Planning* 27: 98-106.
7. Perry, H, S Begum, A Begum, T Kane, M Quaiyum and A Baqui. 1996. *Assessment of quality of the MCH-FP services provided by field workers in Zone 3 of Dhaka City and strategies for improvement.* Working Paper No. 20, MCH-FP Extension Project (Urban), Dhaka, Bangladesh: International Center for Diarrheal Disease Research, Bangladesh.
8. Mamdani, M, P Garner, T Harpham and O Campbell. 1993. Fertility and contraceptive use in poor urban areas of developing countries. *Health Policy and Planning* 8: 1-18.
9. Arifeen, S and S Mookherji (eds.) 1995. *The Urban MCH-FP Initiative, a partnership for urban health and family planning in Bangladesh: an assessment of programme needs in Zone 3 of Dhaka City.* Dhaka, Bangladesh: MCH-FP Extension Project (Urban), International Center for Diarrheal Disease Research, Bangladesh.
10. Deming, R. 1996. *Out of the crisis.* Cambridge, Massachusetts: MIT Center for Advanced Engineering Study.
11. Brown, L, L Franco, N Rafeh and T Hatzel. 1992. *Quality assurance of health care in developing countries.* Bethesda, Maryland: Quality Assurance Methodology Refinement Series, Center for Human Services.
12. Roemer, M and C Montoya-Aguilar. 1988. Quality assessment and assurance in primary health care. WHO Offset Publication No. 105. Geneva: World Health Organization.
13. Evans, J and W Lindsay. 1994. *The management and control of quality.* St. Paul, Minnesota: West Publishing Co.
14. Bruce, J. 1990. Fundamental elements of the quality of care: a simple framework. *Studies in Family Planning* 21: 61-91.
15. Franco, L, J Newman, G Murphy and E Mariani. 1993. Achieving quality through problem solving and process improvement. Bethesda, Maryland: Quality Assurance Methodology Refinement Series, Center for Human Services.
16. Donabedian, A. 1978. The quality of medical care. *Science* 200: 856-864.
17. Mookherji, S, T Kane, S Arifeen and A Baqui. 1996. *The role of pharmacies in providing family planning and health services to residents of Dhaka, Bangladesh.* Working Paper No. 21, MCH-FP Extension Project (Urban), Dhaka, Bangladesh: International Center for Diarrheal Disease Research, Bangladesh.
18. Messer, E. 1990. Social-science perspectives on primary health care activities. *Food Nut Bull* 12: 229-239.
19. Reerink, I and R Sauerborn. 1996. Quality of primary health care in developing countries: recent experiences and future directions. *Int J Qual Hlth Care* 8:131-139.
20. Jain, A (ed.). 1992. *Managing quality of care in population programs.* West Hartford, Connecticut: Kumarian Press.
21. Jain, A, J Bruce and B Mensch. 1992. Setting standards of quality in family planning programs. *Stud Fam Plan* 23: 392-395.
22. Lynam, P, I Rabinovitz and M Shobowale. 1993. Using self-assessment to improve the quality of family planning clinic services. *Stud Fam Plan* 24: 252-260.
23. Mensch, B. 1993. Quality of care: a neglected dimension. In *The health of women: a global perspective*, eds. M Koblinsky, J Timyan, J Gay. Boulder, Colorado: Westview Press.
24. Hossain, M, R Mita and J Haaga. 1991. Quality of care and contraceptive adoption in rural Bangladesh: MCH-FP Extension Project areas. Paper presented at the Annual Meeting of the Population Association of America, San Francisco, California, April 6-8, 1991.
25. Bernhart, M and G Kamal. 1994. Management of community distribution programs in Bangladesh. *Stud Fam Plan* 25: 197-210.
26. Rahman, M, M Khan, B Caldwell and T Kane. 1997. Factors associated with reported side effects of oral pill and injectables in rural Bangladesh. Paper presented at the Annual Meeting of the Population Association of America, Washington, DC, March 27-29, 1997.
27. Kane, T, M Hossain, Barkat-e-Khuda and S Ahmed. 1997. Client satisfaction, quality of care, and contraceptive use in rural Bangladesh. Paper presented at the Annual Meeting of the Population Association of America, Washington, DC, March 27-29, 1997.
28. Hasan, Y and M Koblinsky. 1991. *Work routine of female family planning field workers in rural Bangladesh.* Working Paper No 58, MCH-FP Extension Project (Rural). Dhaka, Bangladesh: International Center for Diarrheal Disease Research, Bangladesh.
29. Koblinsky, M, S Brechin, S Clark and M Hasan. 1989. Helping managers to manage: work schedules of field-workers in rural Bangladesh. *Stud Fam Plan* 20: 225-234.
30. Koenig M, M Hossain and M Whittaker. 1992. *The influence of field worker quality of care upon contraceptive adoption in rural Bangladesh.* Working Paper No 73, MCH-FP Extension Project (Rural). Dhaka, Bangladesh: International Center for Diarrheal Disease Research, Bangladesh.
31. Terefe, A and C Larson.1993. Modern contraceptive use in Ethiopia: Does involving husbands make a difference ? *Am J Pub Hlth* 83: 1567-1571.
32. Khan, M. 1993. *Factors affecting use of contraception in Matlab, Bangladesh.* Working Paper No. 92, MCH-FP Extension Project (Rural). Dhaka, Bangladesh: International Center for Diarrheal Disease Research, Bangladesh.
33. Kamal, N and A Sloggett. 1996. The effect of female family planning workers on the use of modern contraception in Bangladesh. *Asia-Pac Pop J* 11: 15-26.
34. Phillips, J, M Hossain and M Arends-Kuenning. 1996. The long-

term demographic role of community-based family planning in rural Bangladesh. *Stud Fam Plan* 27: 204-219.

35. Haque, I, T Kane, N Roy and K Mozumder. 1997. Contraceptive switching patterns of rural Bangladesh. Poster presented at the Annual Meeting of the Population Association of America, Washington, DC, March 27-29, 1997.
36. Hossain, M, Barkat-e-Khuda and J Phillips. 1995. *The effects of worker contacts on perceived quality of care in two rural areas of Bangladesh*. Working Paper No. 119, MCH-FP Extension Project (Rural). Dhaka, Bangladesh: International Center for Diarrheal Disease Research, Bangladesh.
37. Ali, M, S Bhadra, S Haider and A Thwin. 1994. *Status of interpersonal communication by FWAs during their home visitation*. Dhaka, Bangladesh: National Institute of Population Research and Training.
38. Huq, N and A Sabir. 1992. *Interaction between clients and grassroots family planning workers: implications for programme performance.* Dhaka, Bangladesh: National Institute of Population Research and Training.
39. Islam, M, T Kane, Barkat-e-Khuda, M Hossain and M Reza. 1997. Determinants of low contraceptive use among young and newlywed couples. Unpublished manuscript. MCH-FP Extension Project (Rural), International Center for Diarrheal Disease Research, Bangladesh.
40. Hashemi, S and Z Hossain. 1995. *Evaluation of knowledge and skills of field level workers of health and family planning programs.* Dhaka, Bangladesh: Population Development and Evaluation Unit (PDEU), Implementation, Monitoring and Evaluation Division, Ministry of Planning.
41. Laing, S, K Allen and Barkat-e-Khuda. 1991. *1990 Bangladesh NGO family planning fieldwork evaluation survey: final report.* Dhaka, Bangladesh: Mitra and Associates, University Research Corporation; Honolulu, Hawaii: East-West Center, Population Institute.
42. Bairagi, R and M Rahman. 1996. Contraceptive failure in Matlab, Bangladesh. *Int Fam Plan Perspec* 22: 21-25.
43. Huezo, C and S Diaz. 1993. Quality of care in family planning: clients' rights and providers' needs. *Adv Contracep* 9: 129-139.
44. Mirza, T, A Hussain, M Khan and M Rahman. 1996. *Reproductive health of women: management of contraceptive side effects in rural Bangladesh*. Fifth Annual Scientific Conference Programme and Abstracts. Dhaka, Bangladesh: International Center for Diarrheal Disease Research, Bangladesh.
45. Whittaker, M, M Hossain, R Mitra and M Koenig. 1993. *Rural women's perspectives on quality of family planning services.* Working Paper No. 85, MCH-FP Extension Project (Rural). Dhaka, Bangladesh: International Center for Diarrheal Disease Research, Bangladesh.
46. Berwick, D. Continuous improvement as an ideal in health care. *N Eng J Med* 320: 53-56.
47. Simmons, R and G Simmons. 1992. Moving toward a higher quality of care: challenges for management. Pp 23-34 in *Managing quality of care in population programs*, ed. A Jain. West Hartford, Connecticut: Kumarian Press.
48. Chase, E and R Carr-Hill. 1994. The dangers of managerial perversion: quality assurance and primary health care. *Hlth Pol Plan* 9: 267-278.
49. Heggenhougen, K, P Vaughan, E Muhondwa and J Rutabanzibwa-Ngaiza. 1987. *Community health workers: the Tanzanian experience*. Oxford: Oxford University Press.
50. Walt, G. CHWs: Are national programs in crisis? *Hlth Pol Plan* 3:1-21.
51. Simmonds, S. Human resource development: the management, planning and training of health personnel. 4: 187-196.