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# The Quality of Services at Laparoscopic Sterilization Camps in Madhya Pradesh

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In 1952 the Indian government adopted a population policy establishing a national family planning program, which it has constantly pursued, modified, and expanded. In the 1960s the program began offering a wide choice of contraceptive methods, and later it introduced an incentive scheme for both acceptors and service providers (Conly and Camp 1992).

Although the government has always aimed to provide an array of contraceptive methods, much of the history of the program has consisted of a series of campaigns focusing on a single method. The Lippes loop intrauterine device was promoted through intensive campaigns in the 1960s, and male sterilization (vasectomy) was aggressively promoted in the mid-1970s. Public reaction to overzeal-ousness in recruiting acceptors led to a revised policy in 1978 that stressed the voluntary nature of the program (Conly and Camp 1992). In the 1980s, the program introduced the laparoscopic technique of female sterilization, which is simpler and less traumatic than the more common method of tubal ligation, and today almost a third of all tubectomies are laparoscopic cases (GOI 1991).

The Family Planning Programme (now called the Family Welfare Programme) has until recently been target-oriented and continues to focus -heavily on female sterilization. A substantial majority of current contraceptive users have received tubectomies, and large proportions of these sterilizations were performed in the public sector. Although district hospitals and community health centers are well-equipped and staffed to conduct sterilization's, primary health centers (PHCs) are not as well-equipped. Moreover, most of the doctors posted at PHCs are not trained in sterilization procedures. For this reason the program periodically organizes sterilization camps run by experienced doctors who come from district headquarters.

Government officials realize that strengthening the program's outreach is critical to improving its effectiveness. Hence the organization of the sterilization camps is an annual event between the months of October and March, when teams of trained gynecologists visit the PHCs. The main activity of the health workers during those months is recruiting women to accept sterilization. The camps are organized at various locations in rural areas, and every effort is made to bring the sterilization services to the doorstep of the rural population.

To gain a better understanding of the quality of services offered through laparoscopic camps, in 1995 the Population Council under- took a study of camps in five states-Madhya Pradesh, Uttar Pradesh, Bihar, Gujarat, and Karnataka. The Centre for Operations Research and Training (CORT), a multidisciplinary research organization in Baroda, Gujarat conducted the portion of the study in Vidisha District of Madhya Pradesh, in central India.

**Objectives and Study Area**

The broad objective of the study was to assess the quality of services provided to clients during laparoscopic sterilization camps. More specifically, the study was designed to assess the quality of sterilization services offered by the PHCs, sub-centers, and outreach program. Attention focused on the camps' infrastructural facilities, logistic support, manpower, the surgical procedure, and pre- and postoperative care. The three types of camp were compared on each of these aspects. The portion of the study reported here included observations of 82 sterilizations at seven camps in Vidisha District, including one camp at a PHC, another at a sub-center of another PHC, and the remaining five in outreach areas of the district (Table 13.1).

**Table 13.1**: Observed laparoscopic camps and cases: Vidisha District, Madhya Pradesh, 1995

| Type of setting | Number of camps | Number of cases |
|---|---|---|
| PHC | 1 | 19 |
| Subcenter | 1 | 13 |
| Outreach camps | 5 | 50 |
| Total | 7 | 82 |

PHC = primary health center.

**Methodology**

Our team of well-trained and experienced social scientists used mainly qualitative techniques to collect information from the seven camps. We observed the entire proceedings of the camps, from registration to postoperative care, and conducted in-depth interviews with both service providers and clients. We also engaged in informal discussions with clients and providers and held exit interviews with the clients. With the consent of the providers and clients, we used audio and visual camera recordings to document our observations.

The research team consisted of six investigators (one male and five females) headed by a project coordinator (the senior author). The investigators were given training in what to observe, observation techniques, and how to record their observations. Each investigator was trained in specific functions of the camp and thus was prepare to observe specific tasks associated with that function. Team members were also briefed on how to interact with people at the camps. They were instructed to behave casually in order to avoid causing undue tension, while executing their tasks efficiently. They were given de- tailed guidelines and a checklist to make sure they collected complete information.

To observe the proceedings of the camp in their entirety, it was necessary for the team to be present when daily activities began. Team members therefore made every effort to arrive at each campsite ahead of even the sweeper and the paramedical personnel, who were usually the first persons to appear on the day of the camp.

One of the study team members, a trained interviewer, was assigned the task of collecting background information on the clients and documenting their individual arrival times. She did this with the help of a checklist. She also observed the seating arrangements, the discussions that took place among the providers, and the interactions between the clients and health providers. She noted such behavioral cues as body language, facial expressions, and gestures. Another researcher was trained to observe the procedure for registering clients: who registered them, what information was collected at the time of registration, and how it was documented. A third team member was trained to observe and document the quality of the preoperative care provided to clients. This information included the types of services provided who provided them, how well the providers performed those services (e.g., how they conducted

precounseling, clinical examinations, and other investigations), and their reasons for rejecting some clients seeking sterilization. The fourth and fifth team members were trained to observe the operation theater (OT) arrangements before and during the surgery. They were to observe and record the conditions of the OT, including equipment and supplies; the procedures used to sterilize surgical instruments and prevent the spread of infection from one person to another; and the surgical team's laparoscopic procedures.

**Findings**

The outreach camps were located 15-50 kilometers from Nateran, the site of the PHC. The average distance that the women had to travel from their villages to the outreach camps was about four kilometers. Most clients, especially those in outlying villages, were not willing to travel to the PHC for their operations. They did not perceive the services offered by the PHC to be of better quality than those they could receive at the subcenter or an outreach campsite. The medical officer, however, found it difficult to arrange logistical support for clients in outlying areas. Our own observations revealed that the quality of services, ranging from infrastructural facilities to conditions during and after surgery, varied considerably across the three types of setting.

**Infrastructural Facilities**

The Nateran PHC was a cement building with a moderately furnished OT, which included an OT table, surgical instruments, autoclave, and emergency kit. The OT had windows with shutters that were closed at the time of surgery.

The Kamkheda subcenter of Borrow PHC was also a cement building with two rooms, one of which was used as an OT. Both rooms were small, and the room used for surgery was dark. Still the room accommodated an OT table, other surgical instruments, and the laparoscope, which was kept on a small table.

At the five outreach areas, the camps were organized in school buildings. One room of each school served as an OT. The facilities in the outreach areas were minimal. The makeshift OT rooms had no shutters or grills on their windows, the flooring was of very poor quality and covered with dust, and there were cobwebs and dust on the walls.

Water and poorly maintained toilet facilities were available in the PHC but not in the subcenter or the outreach camps. Sweepers brought water from taps or handpumps 20-30 meters away and stored it in plastic containers for the use of the doctors and other staff during and after the operations.

Both the PHC and the subcenter had electricity. In the OT, 100- watt bulbs were used during surgery. In the subcenter, electrical power was taken from a nearby homeopathic clinic. In the outreach camps, however, there were no electrical facilities, and lights were powered by jeep batteries. Additional sources of light were candles and torches at the subcenter and kerosene lanterns at the outreach camps. Arranging for proper lighting was a major problem at the out- reach camps. Because it was winter, the days were short. The campsites were surrounded by thick vegetation, and it was pitch-dark as early as 7:00 p.m.

Drawing electricity from the jeeps was a complicated process. It was necessary to use wires long enough to reach from their batteries to the laparoscope in the OT. Hence some portion of the wires was hung loosely on the building's pillars or door, or lay on the floor. When people moved about the room, they would accidentally disconnect the wires from the batteries or the laparoscope. This happened every 10 or 15 minutes. Each time the surgeon would shout from the OT, "Please connect the wires, fast!"

In one of the outreach camps, the surgeon had completed three operations, the fourth patient was made to lie on the table, and the surgical process had started. The surgical team had applied antiseptic solution, and the surgeon had made a half-inch incision and was about to insert the laparoscope. But when he picked up the laparoscope, he found it would not reach the patient. The wire had suddenly become shorter. He removed his mask and ordered his OT attendants to push the OT table closer to him. They had difficulty moving the table with the patient on it. Frustrated by the frequent interruptions of power, the surgeon left the patient and went outside to find out what had gone wrong and reconnect the wires himself. He shouted at one of the health providers:

> *I told you to stand outside and keep an eye on the wires, but where the bell did you disappear? Do you expect me every time to come and shout like this?*

The extra length of wire had coiled around itself. It was straightened and the surgery continued. While this incident took place, the unconscious patient lay on the OT table with her open incision.

In another outreach camp a kerosene lamp burst, throwing the camp into darkness and scattering broken glass across the ground. This accident took place close to the OT, where surgery was in progress. The patient had to be moved to the postoperative room. The multipurpose worker (MPW) screamed at the male attendant who was carrying the patient:

*MPW: Don't come, wait there! I am cleaning the place. There are glass pieces all over here.*

*Attendant: How long can I carry her? She is too heavy. Please clean the place fast, she is a dead weight on me. I cannot even go inside the OT with my slippers.*

This incident indicates that unless minimal facilities such as a reliable source of electricity and water are available, an operation or health camp should not be planned. A power failure complicates the proceedings and can create a dangerous situation.

The OT teams at all seven camps used spirit or phenyl to clean the OT rooms and tables. They covered the OT table first with a white cloth. Over this they spread a thin mattress and tied the four corners of the mattress to the four legs of the OT table. The mattress was covered with a mackintosh sheet, and a white, sterilized cloth was spread on top of the sheet.

An auxiliary nurse-midwife (ANM) explained the procedure for maintaining cleanliness:

*The tablecloth that is used to cover the OT table is particularly washed using hot water, and is also soaked in hot water for 10 to 15 minutes. This has to be done to remove the blood stains and other stains.*

The research team observed, however, that the tablecloth was not changed until all the operations were completed. This procedure was followed at all the campsites. A lady health visitor (LHV) explained that in a camp situation it was difficult to change the tablecloth after each operation.

The OT tables were kept in an inclined position. The two legs at the head of the table were placed on the ground and the other two legs were placed on a bench

and secured to prevent the table from slipping off the bench while the patients climbed onto the table and were made to lie down.

**Transport**

PHC vehicles were used in all three settings to pick up and drop off clients, although about half of the women took buses to the outreach camps on their own. In the outreach areas a vehicle was used to transport the PHC and subcenter staff and materials. One jeep was provided exclusively for the surgeon and his team to travel between Bhopal (the capital city) and the camps. During the camps the short- age of vehicles and their poor condition posed a serious problem.

Transporting clients from their homes to the PHC took one to two hours per trip. This delay caused anxiety on the part of the health worker s. The subcenter had only one jeep available for picking up and dropping off the clients. The same jeep had to bring the PHC surgeon and transport OT instruments and other equipment used for postoperative care.

The health provider of the PHC remarked to one of the observers:

> *There is only one jeep, and my colleague has taken the vehicle to bring cases from her area. My patients will be waiting near the main road. I had given them a time, and now I do not think I can get them. By the time the first batch arrives and the time [comes] for fetching my clients, definitely those women would have left that place. After my hard work and motivation I have to lose my cases because of the vehicle problem.*

Another ANM expressed her frustration:

> *We will get [a] scolding from the clients if we go back tomorrow, and we also get [a] scolding from our medical officer for our low achievement and performance. Who is to be blamed in this process? Am I responsible for this?*

Only one jeep was available for the five outreach camps, and it had to be pushed from behind before the motor would turn over. At one of the camps the driver commented wryly:

*If this jeep could speak, it would literally cry. We have used this vehicle to the maximum limit. See the condition of the jeep, the damages caused to it. We have not had time for servicing it, since there is no replacement and the whole of this month we have camps.*

Observing the jeep, the MPW remarked that the lack of reliable vehicles was having a negative impact on their recruitment of sterilization clients:

*I would have brought more cases today, but due to this jeep problem I have lost so many cases.*

As time was running out, the medical officer asked the research team if they could spare their vehicle to bring clients to the camp.

**Manpower**

At the PHC and outreach camps, a surgeon and a medical officer per- formed the sterilizations. All PHC and subcenter staff were also present, whether or not they had brought their clients. At the Kamkheda subcenter camp, two surgeons performed the sterilizations. The medical officer of the PHC did not attend this camp, as he was on leave. In all five-outreach camps, health providers outnumbered clients. When the medical officer was asked why so many staff were called when they were not required to work, he replied:

*In an outreach camp we never know when things might go out of control. Sometimes [the] surgeon does not turn up from the district, I have to send a person to contact him over the telephone, or else [the] jeep breaks down or starts giving trouble. Two men are needed to push the vehicle. [At the] last minute sometimes we notice that OT equipment's have not arrived, [there is] no kerosene in the stove, no torch, no candles. Patients sometimes develop complications and immediate referral has to be done, and a worker has to accompany the client. Keeping these uncertainties in mind, a large manpower is needed.*

During our observations in the camps, however, none of those problems occurred, and many person-days were wasted.

**Scheduling Problems and Clients' Waiting Time**

At all seven camps the clients arrived in-groups, depending on the availability of vehicles. Most of the clients arrived much earlier than the health providers. At six of the seven camps the surgeon arrived late, thereby extending the clients' waiting time. Clients had to wait an average of four or five hours before seeing a doctor and having the sterilization procedure. The women had been instructed not to eat before coming to the camps, so they were both hungry and thirsty. During the long waiting periods, the health providers made no attempt to provide health education or entertainment for the women and the family members who had accompanied them.

The delay in the doctors' arrival was due not only to their long commute from Bhopal (50-70 kilometers) but also to their heavy schedules. They conducted a minimum of three camps per day in different locations. If a surgeon was held up at the first camp, the unforeseen delay affected the subsequent camps as well. Moreover, if a camp was planned for an outreach area, there was uncertainty about the timing of clients' arrival and other logistic arrangements. In this state of confusion it was difficult to predict when the surgeon would arrive.

The surgeon's delays caused anxiety for the health providers and even more so for the clients and their families. At one of the outreach camps the doctor was delayed by more than four hours. The clients became restless, and some lost their temper and tried to leave without having the surgical procedure. At the subcenter, where clients had been waiting a long time, one woman's husband lost his patience:

> *Husband (to young wife): I don't think you should keep waiting here. It is getting too late and I cannot manage the children. Let us go.*

The wife was hesitant about leaving. Her husband walked into the crowd of women seated on the floor, caught hold of his wife's arm, and began to drag her away. The LHV tried to detain them:

> *LHV: Brother, please wait. Surgeon is coming, and I will see that she gets operated first.*

> *Husband: No, I am not going to wait any longer, and there is no need for her to get operated.*

He walked out angrily with his wife in tow.

Program managers should take these problems into account and try to schedule the clients' arrival at sterilization camps to precede the arrival of the surgical staff by only a short interval. Staff at the camps should also do everything possible to reduce the inconvenience and discomfort to clients caused by unforeseen delays.

**Registration of Clients and Preoperative Care**

When the women arrived at a sterilization camp, they were registered by the block extension educator (BEE) in the case of the PHC and outreach areas, or by the LHV at the subcenter. The BEE or LHV collected basic information about the client: her name and her husband's name, number of children, last child's age, total family income, and the name of the village where they lived. Other details collected included her menstrual history and incidence of previous illnesses. At one camp the BEE was grumbling because he was assigned this work:

> *Registration of the clients is not actually my work. Since the LHV has not come, I have been forced to do this work. In our department we have cooperation but no coordination.*

After being registered, a client was examined by the medical officer, who checked her blood pressure and pulse rate, looked for signs of anemia, and palpated her abdomen. At one outreach camp the women were also given a blood test and urine test. Next, an ANM gave the client two injections, 0.25 milliliters each of zylocaine and Penidura, the second after a five-minute interval. Asked about the purpose of the injections, an ANM explained:

> *These two test doses are given to watch out for any adverse reactions to the drugs that the patients might develop, like vomiting or shivering. In those cases who reacted, an antidote had to be given to counteract the effect.... Penidura is a penicillin and an antibiotic. This will prevent any type of microbial infection either before or during surgery. This injection can be given at any time. Zylocaine is an anesthesia, and this injection has to be given at least 5 to 10 minutes before the surgery. This has to be given only near the naval region.*

Other injections that were given as a preventive measure included tetanus toxoid (TT) (0.5 milliliter), Avil (1 milliliter), and atropine (1 milliliter). The research team knew the purpose of those injections. As the LHV explained:

*TT is given to prevent tetanus; Avil and atropine are combined and given to prevent reactions like palpitations and also to take care of nervous breakdown and depression.*

If a client had no adverse reaction to the test dosages of zylocaine and Penidura, she was given a full dose (2 milliliters) of each, the zylocaine in the arm and the Penidura in the hip. Asked why Penidura was given in the hip muscles, the ANM replied:

*Penidura is in a powder form. It is therefore mixed with distilled water to form [a] 2 milliliter dose, and it is a deep intramuscular injection. Therefore it is always given in the hip, not in the arm.*

This information revealed that the health providers were knowledgeable not only about the purpose but also about the correct administration of the injections.

**Screening of Clients for Eligibility**

In all seven camps the medical officer determined that some sterilization candidates were not eligible because they exhibited symptoms of certain illnesses. An average of two or three cases were rejected in each camp. The main reasons were suspected tuberculosis, jaundice, acute hypertension, anemia, and uterine prolapse. It was encouraging to see that even under pressure to achieve sterilization targets, the surgeons rejected inappropriate cases in an effort to maintain an acceptable quality of care. The women who were accepted for laparoscopy at the PHC were an average age of 27 and had an average of 3.6 children, including 1.7 boys. Women in the outreach camps were, on average, three years older and had one more child.

**Sterilization Procedures for Instruments**

At the PHCs instruments were sterilized in autoclaves and subsequently kept in trays of hot water. At the subcenter instruments were sterilized in a pressure cooker and after each operation were soaked in hot water. Instruments used at the outreach camps were sterilized at the PHC and carried from there to the campsites, where they were subsequently kept in hot water. Of the five outreach camps observed, at least three had an acute shortage of kerosene, used to heat the water.

At the PHC and the subcenter surgical instruments were sterilized twice, both before and after the surgeon's arrival. During surgery one of the health providers constantly brought more hot water for the trays in which the instruments were kept. This precaution was not possible in the outreach camps. Because the surgeon, who brought the surgical instruments, invariably arrived at the camps late, there was not enough time to sterilize the instruments again before surgery commenced.

After each laparoscopy, the laparoscope was dipped in hot water and wiped with cotton to remove blood stains. Then it was dipped in Cidex solution for about one second and again wiped with cotton before being used on the next patient. If autoclaving or boiling is not possible, the recommended procedure for sterilizing surgical instruments is to immerse them in Cidex solution for at least 10-15 minutes. That procedure was not followed at any of the observed camps.

When an observer asked the surgeon about this, he replied:

> *Laparoscopes are very expensive and we do not have more than one set. So it is difficult to sterilize it for 15 or 20 minutes after each laparoscopy. Moreover, wiping in Cidex solution is enough to take care of cross-infection. We prefer not to boil it in water for 10 or 15 minutes; otherwise salt would get deposited and erode the lens.*

Inside the OT of the PHC, folded napkins were kept in the autoclave. Just before the surgery the ANM opened the autoclave, removed a steaming napkin with the help of forceps, and gave it to the surgeon. He used the napkin to wipe the patient's abdomen before starting the surgery. After using the napkin, he threw it down. For each new client, the surgical team used a new napkin from the autoclave. At the subcenter and outreach camps, however, this procedure was not followed because there was no autoclave.

Tubal rings and surgical instruments were kept in trays filled with hot water. The water was replaced after every three or four operations. The OT staff used aprons, masks, and gloves. In one of the camps, a male OT attendant used a scarf because there was a shortage of masks. In none of the three types of setting (PHC, subcenter, or outreach camp) did the OT staff change their gloves after each operation. From these observations, it is clear that surgical equipment and supplies-particularly masks and gloves-were inadequate. Gloves should be changed after each operation because unsterile gloves can transmit infection from one patient to another.

Besides instruments, the observers paid particular attention to the way syringes and needles were handled. We were shocked to discover that the surgical teams did not change syringes and needles between patients. At the PHC and subcenter the needles were changed after being used on three or four patients, but in the outreach camps they were not changed at all. Because of the threat of HIV and AIDS, corrective measures should be taken immediately to prevent this dangerous practice.

**Surgical Procedures Inside the OT**

The OT team consisted of at least six persons, including one surgeon, two LHVs, one ANM, and two male attendants. Team members had specific tasks. One person sterilized the surgical instruments, including needles, syringe, scissors, knives, forceps, and tubal rings. At the surgeon's command, another pumped carbon dioxide into the patient's abdomen through a small incision. There was little verbal communication between the surgeon and his staff because all were wearing masks. Most of the time the surgeon communicated through gestures and eye contact. One person helped the patient climb onto the OT table and positioned her for the operation. Her head was placed at the lower end of the table and her hips at the higher end.

In four of the observed camps, the surgeon performed a pelvic examination before starting the surgery. The LHV cleaned the patient's abdominal region with antiseptic solution, using long forceps and cotton. Next the surgeon made two half-inch incisions, one on each side of the abdomen. He pushed the laparoscope, along with the tubal ring that was fixed to its tip, inside one of the incisions. Peering through the laparoscope for a second or so, he located the fallopian tube and inserted the ring, then withdrew the instrument. The instrument was quickly resterilized. The surgeon repeated the procedure, attaching a tubal ring to the other fallopian tube.

One male staff member kept a needle and linen thread ready. He sutured both incisions and covered the wound with adhesive plaster. As with the syringes and needles, the suture needle was not changed after each operation. At the PHCs, it was simply dipped in hot water for a few minutes before use. At the subcenter, it was wiped with cotton and not even dipped in warm water. In the outreach camps, the same needle was used for all clients without any attempt to pre- vent cross-infection. The use of linen thread ensured that a health provider would have to follow up with the patients to remove the stitches.

Diazepam, a sedative, used to relieve pain, was administered by injection to the patient on the OT table after the wound was plastered. Fortwin, a painkiller, is recommended for use 10-15 minutes before the surgery. It was not given, however, and all the patients were crying from the acute pain of the surgery.

**Privacy for Patients**

In the PHC the OT had two windows, which were closed during surgery. The doors were left open for several reasons. Clients were coming in and going out every five minutes, and those who were waiting for their operations were told to sit near the doorstep of the OT. More- over, the OT instruments were shifted from the adjacent room every three minutes. The general public was prevented from watching the surgery from outside, but family members of patients could easily watch what was happening inside the OT. There was no way for auditory privacy to be maintained. Discussions taking place inside the OT, as well as the screams and moans of the patients, were easily heard from outside.

At the subcenter it was equally difficult to maintain privacy. The OT was small, and the doors had to be kept open. Family attendants waited near the doorstep. It was impossible to close the doors because clients were taken in and brought out every five minutes. The surgeon's voice and clients' cries were easily heard from outside.

Neither visual nor auditory privacy was possible in the outreach camps. The windows of the makeshift OTs invariably lacked shutters. Sometimes they were curtained to prevent curious onlookers from peeping in, but in most cases they were not.

Responding to our observer's comment about privacy, a medical officer said:

> *How can we maintain visual and auditory privacy? It is unthinkable. How can we prevent onlookers [from] watching what is happening inside? All these auditory and visual privacies are needed only in city hospitals. Here, rural women have accepted the reality, and they understand that such things are not possible.*

The OT staff made no attempt to protect the patients' modesty after surgery. The women's petticoats had to be loosened before the operation could begin, and in a few cases the OT team forgot to retie the petticoats afterward; in other cases a

male attendant was asked to tie them. When the sedated patients were lifted from the OT table and carried to the postoperative care unit, their saris were not properly arranged. Family members who witnessed this, and were able to intervene, hurried toward the patients and covered their bodies. Others watched with helpless embarrassment. The insensitive manner in which the women were carried by a male attendant or sweeper in the presence of family members, children, and the general public calls for a greater effort on the part of the sterilization camps to protect patients' modesty.

**Postoperative Care**

After surgery the patients had to be carried to the postoperative care unit because stretchers were nonexistent even at the PHC and subcenter. In the PHC the women were placed on a mattress in an open veranda. At the subcenter they were carried 30 meters away to a room in the police station. In the outreach areas they rested either in the open corridor or in one of the other rooms of the school building.

The minimal recommended period for postoperative care is four or five hours. This amount of time was not generally possible at the camps, given the crowded conditions and time of day when the patients arrived at the units. At the PHC, however, patients were given a choice of remaining there overnight or going home the same day.

According to the PHC's medical officer:

> *We keep the clients inside one of the rooms. We also give them mattresses and blankets. Nearby, there are hotels where the family attendants can go and have their night dinner and also get tea or bread for the patients. Some prefer to stay because they feel there is no point in reaching the house so late. Hence they stay back.*

The same medical officer remarked:

> *It is not a joke shifting 19 cases. Now the time is 2:30 p.m. From now on they are under observation and it will take easily three hours for them to regain their consciousness. Hence the first shifting will start only around 6:00 or 6:30 p.m. Dropping the client [in her village] and returning takes not less than two to three hours per trip. These clients have to be shifted in batches, depending on the*

*location and distance from where they have come. Now the problem is [that] we have to drop their family attendants also, and each client has to be dropped near her house and not on some main road or elsewhere.*

He added:

*We will not get [an] additional jeep because everywhere camps are going on. All medical officers are facing similar problems. Luckily, government functions or elections have not coincided with our camp. If it were so, we would have been in trouble because our jeeps would be withdrawn for election duties.*

Many patients, especially those at the subcenter and outreach camps, were discharged even before they had fully regained consciousness. When some of the women were moved to the vehicle to be taken home, they began vomiting.

Before they were discharged, the women were given 20 TMP Methoxaprim tablets (four tablets a day for five days), 18 analgesic tablets (three a day for six days), and B-complex and multivitamin tablets. No other postoperative advice was given to them.

Although the government's official incentive payment for sterilization acceptors is Rs 150, we observed that the clients at the camps received only Rs l35. The camps deducted Rs l5 to cover the cost of fuel used in transporting them to and from the campsites.

**Patient Follow-up**

The observation team accompanied the health providers when they returned to several outreach areas to remove patients' sutures. The observers randomly followed up 11 women who had undergone laparoscopic surgery three or four days earlier. On the day of the field visit the team accompanied a male MPW and an ANM to a village. As they arrived, the MPW and ANM had a whispered conversation:

*MPW: I left my instrument kit in the ayurvedic dispensary, and now what shall we do?*

*ANM: We are in trouble. Who asked you to leave it there? You know very well*

*we were going to the field for stitch removal, and how could you forget to bring the kit?*

*MPW: Please ask madam whether she can give [lend us] her jeep. I will get back within a few minutes with the instrument kit.*

*ANM: Madam, our MPW has forgotten to bring the stitch-removal kit from the dispensary. He has to go back to the subcenter village and get it. It is hardly 5 kilometers, and can you please give your jeep?*

When the MPW returned with the instrument, the group went to a client's house. Upon entering, the ANM greeted the woman:

*ANM: How are you?*

*Client: I am okay, by the grace of God.*

*ANM: Please lie down on the mattress or on a cot. We have come to remove the stitches.*

*Client: I am having too much pain. Please give me medicines. [Indicating the researcher] Is she a lady doctor? Ask her to examine me.*

*ANM: No, no, she is not a doctor. You please lie down.*

Meanwhile the MPW called the client's husband and asked for a steel vessel and hot water. When the husband brought those items, the MPW took out a needle, scissors, and blade and placed them in the hot water. He went outside and washed his hands for at least three minutes, using soap. Then he took the needle from the vessel and removed the stitches. He applied boric powder to the wound and covered it with a plaster. The ANM gave the woman analgesic tablets for her pain.

The team accompanied two male workers on another visit for stitch removal. On entering the client's house, one of the MPWs began the conversation as follows:

*MPW: Water please, and soap if you have [it]. I have to wash my hands.*

He went to the tap, washed his hands, using soap, and returned to the house. The house was dark, and the woman, in pain, was lying down:

*MPW: What, there is no electricity?*

*Client: No, there is no electricity.*

*MPW: Then what are these [electric] switches meant for, and what are all these wires meant for?*

*Client: I don't know, I am having pain.*

*MPW: Do you have a torch?*

*Client: We do not keep all those things.*

*MPW: Do you at least have a candle?*

*Client: I do not know where it is.*

*MPW: Okay, it is not possible to remove the stitches inside the house, because it is dark and I cannot see the stitches. Why don't you come out and lie down outside. There is sunlight.*

*Client: What! Are you going to remove the stitches outside? Everybody will be watching me. You please remove them here.*

*MPW: No, it is not possible because it is dark.*

The client got up slowly, went outside, and lay down on a cot. The area was partially surrounded by fencing, but neighbors were trying to see what was happening. The MPW removed the stitches within two minutes, dressed the wound, and left the place.

In both these cases it was a male worker who removed the stitches, and the situations in which the procedure took place lacked privacy. Thus the women's modesty was compromised both at the sterilization camp and again during the removal of sutures.

The health providers asked the 11 women whose cases we followed up whether they were having any problems after the surgery. Almost all of them mentioned backache. Other complaints were of giddiness and general weakness. Only four of the women reported receiving counseling at any time during their sterilization experience. All but three, however, said they were satisfied with the services they had received. Apparently their expectations were quite low; they had wanted the procedure, and they got it. The three women who were not satisfied with the services told our observers they felt they had been discriminated against because they belonged to lower-caste groups. They had not been given extra blankets or food, unlike other women.

**Conclusion**

Our research team observed a total of 82 women sterilized at laparoscopic camps in three settings in Vidisha District-19 at the PHC, 13 at the subcenter, and 50 at five camps organized in outreach areas of the district. From those observations we identified several aspects of the camps' operations that require attention if the quality of care provided to sterilization acceptors is to be improved.

The inadequate number of vehicles and their poor condition were a major program constraint. This was true in all three-program settings.

Given the program's emphasis on laparoscopy as a contraceptive method, the two surgeons qualified to perform this procedure were under great pressure. Their heavy schedules caused them to arrive at the camps late, creating problems for other camp personnel and a hardship for the acceptors, who had to wait long hours in discomfort. One surgeon routinely performed pelvic examinations as a preoperative procedure, but the other did not. Prospective acceptors were given blood and urine tests at only one of the outreach camps.

The surgeons did not have time to sterilize their laparoscopes between patients. In fact, several of the procedures for maintaining a sterile environment during surgery were questionable, especially in the outreach camps. For example, using the same needle and syringe on more than one patient without properly sterilizing them clearly could spread infection, with potentially severe consequences, given the emergence of the AIDS epidemic in India.

The surgeries themselves seemed to be done competently, but other aspects of patient care were inadequate. In particular, greater effort is needed to protect

patients' privacy-for example; by having female workers attend them in the postoperative care unit and handle stitch removal.

Postoperative care was best at the PHC and poorest at the outreach camps. Patients could stay overnight at the PHC, and the medical team led by the medical officer was there to attend to any emergency that might arise. At the subcenter and outreach camps, however, patients were given only three hours to recuperate before being transported back to their villages.

Counseling patients before and after the surgery and providing a visit by the medical officer to the patient's home about a week after the surgery would go a long way toward improving the quality of care and client satisfaction. Steps should be taken to improve the p health of those women who are deemed ineligible for sterilization because of poor health. In short, the welfare of clients should receive more attention than it does now.

These observations do not imply that staff of the PHC and subcenter lack the capability or desire to provide a higher quality of care. In difficult circumstances such as those that exist in the outreach areas, the best intentions are often defeated by inadequate physical facilities. All campsites should have water and a reliable source of electricity. In addition, if sites are selected that have public transport facilities and space for patients to rest after surgery, the program could operate more efficiently and provide greater client satisfaction.

The small number of surgeons who are trained to perform laparoscopies also appears to be a major problem. Other doctors at the PHCs were reluctant to receive the training for this work because they feared that they would have to attend the camps and their private practices would suffer. Perhaps an increase in the level of incentives would motivate more doctors to get training in laparoscopic procedures.

It is unrealistic to expect sterilization services to be brought to an equally high level of quality in the three types of setting (PHC, subcenter, and outreach camp), given differences in the infrastructure, resource allocation for health care, manpower, and logistics. Managers may have to focus their attention on the supply system- that is, on those elements of care that ensure acceptors' access to the services they need-while striving to offer the highest quality of care possible within constraints of the existing system. Commitment, leadership, and competency of medical officers who are responsible for PHC and subcenter services are crucial to the effective management of health care services.

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