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We and Our Fertility

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The Setting

Seeding

Building a perspective on 'Health' was a major purpose of the national meeting held at Jaipur in Oct. '89 - the first such meeting organised by women's groups. Here were all of us involved in different aspects of the same issue - actively thinking and acting on issues related to our health. Of course, there were differences too. Our backgrounds, our information base, our ways of campaign and struggle, our realities - all of them differed to a lesser or greater extent.

'We wish to know more about the exact techniques used in these new technologies like test-tube baby etc'.

'We feel that to discuss the issues involved in something like test-tube babies it is not necessary to know the exact technology. The objections are more at conceptual level - to the basic questions these technologies raise '.

'But unless we have this information, we find it difficult to even raise these issues in our areas. When we ourselves do not have this knowledge, how can we talk against the medical establishment on these issues'.

'We do not deny that information is needed. We just feel that our discussion here should not get caught up in this giving and taking of information. We should try and move ahead'.

This discussion went on. There was resentment at not having known and at not being told. There were efforts to understand each other. There were efforts to squeeze in some time outside of the session to learn about the body and the manner in which these technologies tampered with it. There were also promises made to give more comprehensive information. We, the city-based groups, the ones with a chance to get the technical details, undertook the responsibility to put together all this information

We wanted to talk about the technical details - not 'objectively' but in a 'subjective' manner along with our prespective about and understanding of these technologies. We strongly feel that this is the only way in which information can be given - along with its politics.

Conceiving

Words-tools of communication. The written word, is it a higher form of communication? And in that too, the written word dealing with science, technology and medicine - the highest, most complicated form. Accessible to only a few to think about, to ponder upon, to abstract from and conceptualise.Should this technical information be given in only the established form? Is it necessary to use the same established words and the same thrust? Do we have to stick to the same established form of representation? Is it not possible to make technical information less formidable without compromising on scientific details?

Questions after questions.....

We do believe that it is possible to talk of the most advanced technique in words that we use everyday. We do believe that how we arrange the information should and does reflect our understanding about it. We do believe that technical information cannot be given without analysing the social context in which these technologies are applied. For example, here it is essential to build up a perspective on reproduction - which in biological terms is just propogation of the species, but in actual life means much more. We do believe that it is necessary to analyse society's understanding of the issues and its evolution, before talking about the latest 'achievements' of science in a given field.

Beliefs and more beliefs....

With these strong idealistic beliefs and hazy confused questions we began the process of preparing this monograph. We began with the information we had read, learnt, experienced. We talked about and amongst ourselves, about and with others around us. And we found that the process of writing down, of putting down our ideas was difficult in the face of the reality around us.

Our realities:

'My menstruation got over and I got married immediately. What did getting married mean? What marriage meant to me, I was unaware. I don't think even my husband was knowing about it. I had seen my friends, even in movies, the 'suhagraat' is flowery beds and closed door on the screen. The story determines the marriage. That honeymoon night was peaceful; the direction stormy; symbolic in its depiction on the screen are the flowers getting dispersed suggesting a happy night.'

To this she reacted strongly. 'Dont talk all this, this has fooled me and my husband's notion of marriage. And made our lives miserable. Don't tell me, I got married 2 months back and I am pregnant now. The conception, I hardly know my husband, who appears to me a maniac, with his insistence on having intercourse all through the night, even during the day. Now, I am pregnant. What it means to me - a massive change in my responsibility. I am scared from the bottom of my heart. I don't know what my husband feels. He just suggests an abortion because it is easily available. He does not care about me. How can he bother about my body? But at least he is sure that child is his. One of my friends.....

'Her misery... the night of the wedding she conceived and what a tamasha! Her husband never believed in her chastity. Instead, he threatened to divorce her. She wants an abortion. According to him, her desire for abortion is confirmation of her affairs before marriage!'

K was preoccupied with the number of responsibilities she has to fulfil at a time, and all of them urgent in nature. Being in charge of the department she was supposed to be responsible for every small thing. She entered the hospital with all this in her mind, preoccupied, when that woman with her pathetic look and the small child in her arms pleaded for her help. Prior experience led K to believe that the woman was pregnant and wanted an abortion. Before that woman could open her mouth, K found herself asking her to come on Friday, till then nothing could be done.

The woman was not obstructing K's way, she was walking next to K without disturbing her pace, but kept shaking her head no,no,no. Seeing her vehement negative nods, K was puzzled. She stopped . The woman opened her mouth for the first time, "Doctor I want pills to prevent conception. Please give me some". K tried to explain to her, "Pills cannot be started anytime, when is your period?" "I don't want to take the risk, I want anything but conception", the woman kept on pleading.

K was disturbed by the woman's gesture and her urgency. She could imagine her problem, but all she could do was advise her on all the possible methods -- Copper-T, diaphragm, tubal ligation, etc. The woman who seemed to be very quiet and needy, took K's hand, "No Doctor, how can I undergo an operation? My husband does want children. My mother-in-law also won't permit. And to tell you the truth, I never was in need of such precautions. My husband was working in the Gulf, I have three children. Then spacing was possible, because my husband's interaction was minimum. Now he has come back".

K was engrossed in listening to her. The world politics in the Middle East was the root cause of this woman's problem and here all she could do was tell her about all the possible methods of contraception, A to Z! She realised she can do only that much, tell her all about contraceptive methods, what else? She can offer her, no choice but.....

This woman's ability to reproduce was being controlled by phenomena totally out of their control. What could K, a radical thinking doctor, with a political analysis of reproduction and related technology, do other than list out the cafetaria-options whether or not she agreed with them? The woman's desperation and her own resposibilities and lack of time had put them both in this no-option situation.

"I want to talk to you," She came and told me. I was puzzled, what does she want to talk to me about? She does not appear so visibly pregnant, but her pregnancy test has come positive. I only have given her the report. The ethics is not to talk about such reports. Though I feel that is the connection, I wonder what it might be. I have to go for a meeting, for a campaign against sex-detemination and sex pre-selection.

I calculate the time in my mind, and ask her to sit. She sits down but is hesistant to start. I ask her, "What is the problem? And how can I help you? I am not a doctor or social worker," my usual tape in such situation.

She started off at one point, "I want the address of the labs, where they carry out sex-determination". I keep quiet. First I feel very helpless, of all the technicians in the lab she has approached me for information of a kind, where I am actively involved in the agitation to bring a ban on such tests. I pity myself, not able to reach out or communicate with others what I believe in. I am in that puzzled state. My silence within me is taken as a signal that I am trying to remember, she values that, keeps quiet for sometime and starts again in the low tone of intimate conversation.

"I have two daughters, I am pregnant, I want to have a son. There is so much tension in the house, my life after both the deliveries is so miserable. I want to know the sex of my child."

I am listening, and I ask her, "Do you know what is the test? What it is for you to undergo such a test, at 4 months pregnancy?" She listens to me carefully and says with a firm note now, "I feel more humiliated. The problems you are talking about are to me, physical torture, and that is much more bearable, I am used to it. All women are trained in self-torture. My mother-in-law, she too has two daughters, can't she understand and isn't it painful for her? But she is the one who is leading this lobby against me."

I don't know how to answer her, her argument is totally rational, but my inner struggle is also accelerated. Why has she approached me of all persons. I feel, her struggle with herself may be the reason to come and talk to me. Maybe, but what should I do? What should I tell her? I am puzzled, but I decide to talk, "Whatever you are saying is true. I understand your problem, but as far as I am concerned, I believe girls are equal to boys, what difference does that make? I do not agree to this approach, and in every way all of us trying to say it vehemently on all platforms. We are doing consciousness-raising against them and you are asking me their address. Tell me, is it not possible for you to get this information elsewhere? Why did you opt for meeting me? She looked at me in disbelief and said, "I did not know what you do, but out of all, you seemed to be approachable and I was sure you would understand me."

She kept quiet for sometime, held my hand and left in silence. I don't know whether she underwent the test or not, whether she got the information or not. I don't know what she thought. I do see her on campus but she never comes near me, just an exchange of a smile has remained.

'Quarduplets are born to a woman undergoing IVF procedure. She wants to remain unnamed, she does not want to reveal her identity. The national news interviews the doctors who achieved this feat. The media go on and on about the accomplishments of the medical team. This is the team's first ever success in this area of treatment! It's looked upon as their contribution towards alleviation of the pain of the infertile. Their service to those women who have not been able to attain their 'primary identities' - that of being mothers! Nobody seems to think about the woman. Why does she not want to give her name, if she has achieved her desired motherhood!

How must she have undergone this pregnancy of 9 kgs weight?

Are these babies hers or has she given the womb and allowed the doctors to achieve this? Why is motherhood so important for women's identity, that they have to go through all that invasion of their bodies? What circumstances forced her? Is it possible to decide what her real choice is?

Carrying Through

The quadruplet triumph of IVF! Old concepts in new garbs! New and newer technology created to help women! It is this misrepresentation of facts that forces us to present the full picture. Twisting and turning women's needs to their own advantage, the promoters of such technology are pushing it onto us. Negating the woman, her body, her personality, technological options are being thrust on us as solutions to our very genuine social problems. We are almost being told that with the use of these techniques, we would find ourselves strengthened. That we would be able to solve our problems. That in these lies the path towards our liberation.

To refute all this false propoganda about us and our bodies we need to put down our understanding loud and clear. We need to say clearly how we think these technologies are manipulating our lives. We have to do it, even at the risk of sounding too unrealistic and idealistic. We have to do it, although we know that many amongst us today need these technologies to get out of almost life and death situations. We have to do it, even though on the face of it we may sound as if we are against people's choice while raising issues of this nature.

Our choices - the term itself is misleading. We have hardly anything to choose from. How does one decide: when the choice is between the damage to the uterus by the Copper-T, and damage to the body because of repeated childbirth; when the choice is between long term effects of injectables and implants, and the effect of a secretly performed, stick abortion; when the choice is between the physical tortures of the body undergoing IVF, and the mental torture the childless woman is subjected to; when the choice is between undergoing the humiliation of sex determination tests, and the daily humiliation faced in a society where only sons are counted as children; when the choice is between a secretly administered harmful contraceptive vaccine, and the continual sexual demands of an unco-operative male partner; when the choice is between undergoing unwanted sterilisation, and remaining jobless, in want, because of lack of work otherwise....

We really do not know what decisions to make in such situations. We know that actual life situations are much more complicated than even these either-or choices that we have mentioned. We are also aware that for most of us placed in any of the above, the easier solutions would be those which would give at least some short-term relief. All of us know that the choice thus made does not alter our situation per se. It just gets us out of a difficult situation into another. It does not alter our status as women in this society. It does not alter the variables that create such inequalities. In fact, we feel that most of the time it lands us into strengthening the status quo that has in the first place put us into this 'ditch or well' choice situation. And yet our situation as it is today, necessitates that we choose short-term solutions.

As women active in the women's movement our dilemmas become even more difficult to resolve. Being part of the women's movement, we have all at some point accepted the need for and wish to participate in collective struggles. In our personal lives, living our beliefs has been a difficult task but we have managed it to greater or lesser extent drawing on our own reserves and on each other's strength. Yet, compromises have been inevitable. Our situation has been such that many a times we have had to opt out for options which one did not agree to 'in principle'.

What we feel we have to be clear about is the implications of the options. Even though we are made to choose these options today, at least we should be able to say what we think is wrong, not only with the options but also with this situation that is making us choose between them.

And to be able to do this we need to build up a perspective. We need to analyse reproduction in its total context. It is important that we expose the myths of the technological solutions and also point out the fallacies in the formulation of the questions and the problems. Also we have to put forth and highlight our own understanding about our body and its mechanisms. Stating our evolved, collective understanding we feel is very important. Many of us have been aided in our personal struggles by this kind of sharing of opinions.

"We never discussed about our married life, the expression of our sexuality within our own groups. Once, few of us started the discussion on sexuality in an International Women's Day get-together. Few of us within the larger group. We asked for criticism and many did feel hurt. Yet, for me, the memory of that short conversation lingers on. "Reproduction needs penetrative sex. No reproduction, no penetrative sex." The comment struck me deeply and clarified many complexes in my mind. Sex without penetration, without fear of abortion, we as a couple had been practising for a long time. But I also felt that I have been establishing my right at the cost of my husband, as if it is only my question. In theory I always believed it is my right to decide when I want to conceive. Also of what kind of sexual expression I wanted. It is the right of women to do so. But still it created guilt, and I used to feel sorry for my husband for a long time. The guilt of that was deep rooted within me but that statement by one of our friends, really cleared the doubts in my mind. It could have been taken as an abstract statement of theory. Yet it helped me cope with and come to terms with my guilt of asserting myself and asking my partner to co-operate."

Many of us struggling in our personal lives with co-operative or non- cooperative partners have surely been helped with such voicing of ideas. Living our politics does lead time and again to situations in which our present beliefs come directly in confrontation with the years of socialisation in the norms of our society. Facing it squarely and moving ahead from such crossroads is vital. The development of a perspective is helpful and necessary in strengthening this aspect of our struggles. Struggles that are going on within oneself, in our very close, intimate relationships, in our families and other kinship structures with understanding and/or non-cooperative members, in our workplace -- be it in the home or outside, in this society which most

of the time works against our interests. Struggles that are being waged individually and collectively. All of these are, should be and need to be part of our overall perspective which 'we' have to evolve collectively.

This is the effort in this monograph on reproduction. Putting reproduction in a social context we wish to talk about the social and political controls that are being exerted over it. We wish to analyse the interventions, both pro- and anti-fertility. Not only their technological and biological problems but also their conceptual framework.

Although we are concentrating here in this monograph on how modern science understands our physiology and the technology that it has given rise to (apparently so that we could exercise some control over our wild, erratic reproductive ability), we do it with the understanding that unless we move out of the accepted framework and unless we question even what are today assumed to be 'natural' set-ups and structures in society, what we would continue to do would merely be selecting or rejecting one device or compound over the other. The philosophy behind the production of these devices or compounds would not even be questioned. Unless we question that we cannot talk of 'our' reproduction; we would continue to cater to 'their' reproduction through our bodies.

We are just beginning this process of formulation of our ideas of handling our fertility. We know that it is too early to look for concrete solutions and directions. We also know that with our varied reality and complex problems, it is impossible to arrive at a single alternative or solution. We however want to hereby begin the debate, needed before arriving at some consensus regarding our understanding of this 'handling' of our fertility and the concept of reproduction.

The Political Context of Fertility

In this power-crazy world where an artificially created difference like more wealth, or being born into a particular family of a certain caste or religion, or being born with a particular colour of the skin or in a specific region of the globe, can create such massive institutions of power wielding and oppression, what could be the fate of the relations between persons who differ biologically? Today's society is not only intolerant towards differences, it almost always creates structures, institutions and ideologies which are oppressive to the majority who for need of the right amount of control over resources, or for having a particular skin colour, for having been born into the wrong caste or religion, or for different genitals and reproductive systems are forced into being subjugated and dominated. It seems really difficult to trace the source of these oppressions and each one of us with our own coloured glasses to view things from would find our own explanations. In such a world where all differences are graded, where one is striving more and more towards reducing diversity in all kinds of species (including humans), where uniformity of a particular kind is being sought, how did the biological difference get projected?

Modern Biology acknowledges

Men and women are different sexes of the same species. The biological difference between them, apart from size, weight, etc., is mainly that women can give birth to other human beings, that they actually carry the young ones in their body which actively participates in the creation of this newer member of the species. Their bodies do have some evolutionary differences to facilitate this function, e.g., a wider pelvic girdle. They differ from men in the structure of their external and internal genital organs and in the total reproductive system. Their bodies are capable of performing the extra task of making space for nurturing and delivering another human being much in the same way as all females of every other mammalian species.

What is most difficult to accept is how this extra necessary capability that women had became a source of oppression rather than an extra, revered characteristic. What was it that turned this power into a necessary feature of an oppressed gender?

Pondering on the past

In the beginning, the process of giving birth would probably have been seen with some awe and respect, and like all other unresolved, unexplained phenomena, this capability too would be deified and looked up to until the man's role in procreation came to be understood. It was often ascribed to some divine, mystical power of creation that the female of all species had. The disappearance of menstrual bleeding a few months before the actual delivery helped make the connection between menstruation and childbirth, giving rise to beliefs like the curdling up of mentrual blood leading to the birth of a child. It also probably led to the taboos related to menstruation, some of which are followed in whatever form to this day.

Was it men's knowledge of their necessary role in procreation that changed matters? Was it the realisation that the women had no power of proceation without the co-operation of the men? Was it the understanding of his partial role that led him to want greater and greater say and control? Did it not also lead to complementary functions for women and men? And if it did, when did the complementary roles and functions get loaded with hierarchical values, developing into the present day power-imbalance based on gender? Was it the knowledge of relationship between the sexual act and procreation that led to a further total control over women's sexuality too?

One doubts if one can answer these questions. What one wants to do in raising them is to question the status quo and so to reclaim one's body and ourselves with it, and to redefine structures and personal relations so that the world will be a fairer place to live in and propagate. To begin this, however, we first need to understand what reproduction means in today's society and what repercussions this kind of an under-standing has on our lives and behavioral patterns.

Institutionalising reality

Today hetrosexual, monogamous marriage relationship is the norm for all women. There is usually no sexual expression of their choice within it and it absolutely does not allow expression outside its institution built to ensure paternity and man's genetic continuity. Whenever one talks of reproduction, this context cannot be ignored because that is what always determines the norms, the deviance, the health and the illness, everything. The context determines reproduction especially so for women -- who is and who is not fertile, who should and who shouldn't be, who is allowed what kind of control, who is more womanly, who can and who cannot have any sexual expression,..... So talking about reproduction is not just talking about male and female physiology. One has to talk about many more things. Inter-personal relations, concept of family, structures of society for childcare and rearing of children, women's sexuality, all such things are what contextualise reproduction, and set the direction of this knowledge and its growth and application.

Having borne it, women always had a sense of connection with the child. Maternity was hence a concept always there. It did not have to be imposed. Paternity, however, is something very different. Once a conception occurs there is no way of knowing a priori who the father is. Also when a couple mates, there is no way of knowing whether a conception has occurred. To determine the father of the child therefore all kinds of institutions had to be created. The purpose of these was mainly to ascertain that a wife had intercourse with only one man - her husband. Since men's identification with 'their' child was required, women's lives had to be controlled. Monogamy is the strict norm that evolved. Only the husband's sperm could enter a woman's body. Establishing paternity became a major force in guiding the norms for the institution of 'family'. This has become so all consuming a thought, that one thinks of children only in the context of a family. An often repeated joke which all of us would have heard establishes the pattern.

An ignoramus/sikh/moron...(the description changing according to whatever kind of superiority one accepts. We can simply call him a 'Man') is invited for his first party. He is, naturally, scared. He goes to a knowledgable friend, for some tips. The friend, a man of this world, says, "What is there to worry about? You go up to a person. First ask his/her name, then ask whether he/she has any children, how many, which school do they study in, and so on ---". The MAN is encouraged, dresses up and goes to the party. The first person he sees, he goes up to and starts his questions.

Man : What's your name?

Person : So and so

Man : Are you married?

Person : No

Man : How many children do you have?

And the audience laughs.

The idea of children with marriage is so ingrained that none of us think of asking an unmarried person whether she/he has any children and almost never miss asking a married couple how many children they have. Children have been equated to marriage and vice versa.

Although marriage almost always means children, how many children a couple would have and when, is very much determined by the nature of childcare and structures devised for it. Having a child is not just conceiving and carrying a pregnancy for nine months. The responsiblities and repercussions are almost lifelong. Caring and rearing of a human child is a long drawn process and so, the overall social reality in which the couple exists becomes important in decisions regarding reproduction.

Today, almost universally women bear the responsibility of looking after their children. Whatever be the nature of the kinship structure, be it a joint family or nuclear family, it is the women in those families who do all the basic tasks required for bringing up children. Also children have almost everywhere become 'belonging' of a family. One wonders what it would be like if childcare were a social resposibility and not confined to a family as it is today. Probably all couples would then not be made to bear the brunt of having full responsibility of bringing up another human being. Controlling reproduction would not be just women's problem. Probably it would change the overall outlook towards women and their bodies.

Sexual expression - within the institution

In the present structure where male children are looked upon as necessary for genetic continuity of the man's family, the woman, her person, her existence everything is negated. She is acceptable only as a wife with children. When entering marriage, her physical, mental chastity along with her physical beauty are all important criteria. The 'family', its name, its 'continuty' are all so important in our society that marriage is also not just a contract between a heterosexual couple wanting to procreate. It is made out to be a sacred knot, *जनम जनम का साथ!* Marriage is more an affair between two particular families. Norms prescribe not only who should have any sexual interaction, the extent and kind of people who can avail of this, leading to strict religion, community, caste, subcaste norms. Procreation has to be within all these prescribed tenets to ensure 'purity'(!) of the family/caste/sub- subcaste/community etc. Big battles have been fought and riots instigated to maintain this 'purity'!! Unblemished continuity of blood is more important than shedding someone 'else's 'blood.

Once one has entered into such an 'approved', 'well suited', 'institutionalised' heterosexual relationship, every thing is allowed so long as the couple has children and 'lives happily ever after'. At the same time, conceiving a child outside of marriage whether by choice or by force is considered the most terrible thing that can happen to a woman. Since her selfhood is determined only by whose child she is carrying, violation of her body is also defined accordingly. An example of this is how rape is treated legally.

Rape is defined as forcible penetration of a woman's vagina by the penis of a man who is not her husband. A husband could have penetrative intercourse with a woman against her wishes time after time. There is no question of her asking for justice or saying that she has been raped. She is in a legitimate institution where that man who is her husband has greater right over her process of reproduction than she herself has. If a woman is molested by a man other than her husband too, the ultimate punishment, even legally, is restricted to where there is proven penetration. The man or men could have inserted anything into her vagina, humiliated her no end, but all that is taken to be less offending than the prospect of her getting pregnant by insertion of the penis of a man who is not and cannot be her husband.

Ensuring the man's family's genetic continuity by legitimising penetrative sex seems then the major basis of an institution like the family. Satisfying men's sexual needs and procreating thereby seems to be the basic foundations of most marriages. Ideals of companionship, emotional intimacy etc., are never the tenets on which this institution rests.

A legal clause like restitution of conjugal rights in our personal laws emphasises that marriage has sexual relationship at its base. Once you are married to a person you have no right to say 'No', you have to satisfy the other's needs. If men's needs are accepted to be more, women many a times face the torture of repeated assaults, unmindful of their own needs until for them their pleasures are lost. Their joys and feelings about their own bodies and its satisfaction are ignored or never articulated and accepted. For them, the sexual act is one more chore like cooking, cleaning the house etc. are.

In such a situation, although controlling birth is a woman's problem and responsibility of children is almost totally hers, the act of intercourse itself is dictated by the husband. If she uses contraception it is to be of the kind that does not affect his pleasure. In any case she cannot use it without his permission. It's his children that she is bearing, so obviously it has to be according to his convenience, when he wants them, how many he wants everything according to him.

Sexual expression - setting the norms

The aspect of our life most affected by these strict norms for procreation, has been our sexual expression. Sexual expression of humans has a basis similar to the animal world in the sense that it is the heterosexual act of intercourse that leads to reproduction. The difference, however, is that the sexual urge of humans is not restricted to reproduction alone, i.e., it is not linked to estrus. The woman's cycle which has helped reduce possibility of conception to a few days in a cycle has at the same time been the target of all control. Biologically, as a species, we seem to have evolved a sexuality and sexual urge independent of reproduction, but socially we have always been forced to link the two. In all that is accepted as 'normal' and 'prescribed', establishing and maintaining this linkage or at least unstated acceptance of it is evident.

So homosexuality is nowhere the norm, although it is an accepted sexual expression for many individuals in all societies. It has been forced everywhere to be under cover, hushed up, practised yet never spoken about. To label it as deviant behaviour, as an illness is part of the process of establishing heterosexuality. Within heterosexuality, penetration by the penis is acknowledged as sexual expression. All other enjoyable physical experiences are not advocated at all. The link between sexuality and reproduction is thus emphasised.

Even in heterosexual relations, men not burdened with reproduction have relatively more free sexual expression. In fact, they are considered 'virile' with unending sexual

needs, urges and demands. Since their role in conception of a particular child is not obvious, their forays outside marriage do not apparently tarnish the integrity of the institution. In fact, these acts have to be accepted as arising because of a strong natural urge.It isn't in their hands!! So prostitution as a trade flourishes. Bigamy for men has sanction in almost all societies. Their continuous demands in marriage have to be entertained, that too on their terms. Marital rape is an unaccepted concept. Women devise ways and means through religion, tradition, ritual and children to avoid their husband's continuous sexual assaults

Women, on the other hand, have been labelled 'passive' with no sexual needs. Women are the ones forced to maintain the 'purity' of monogamous institutions established to safeguard the paternity of the child. There is no concept of their sexuality independent of their power of procreation. This concept of their sexuality has brought about the clear-cut divide between the 'good' woman and the 'bad' woman. The wife, the good woman is projected as a sexless being, a person fit to be a mother, while simultaneously the prostitute, a bad woman is set up to be a promiscuous woman with unending sexual need, totally unfit to be a mother. Their common oppression under patriarchy is never allowed to be identified. It is the passive sexual character and role of procreator that is labelled good and given social sanction and allowed to exist.

As women, we have lived with this kind of a divide. We have forgotten to look at our bodies as a whole or have never learnt to do so. Our bodies, with their capacity to reproduce and also to enjoy sexual expression, have been lost to us. We have been taught to look at our bodies as polluting. Every month, menstruation and taboos associated with it remind us of this. We have imbibed and accepted the fact that our genitals are only for men's satisfaction and our bodies for reproduction. Our fertility is being made into our identity. Even then, however, our much-controlled and automatically regulated, cyclical fertility has been portrayed as a 'wild fertility'. We have been told and taught that this needs to be regulated, not as per our or our body's wish but as decided by society and its norms.

To understand the interventions of modern medicine aimed at controlling our fertility and to critically evaluate their politics, we feel that it is essential for us to re-establish our bonds with our body. This does not mean only understanding the mechanisms of its various systems. It means learning to be comfortable with it. It also means reviewing our concepts of 'good' and 'bad', 'pollution' and 'purity' vis-a-vis our body. It means reframing knowledge of medicine regarding our body to understand our fertility, our sexuality and our body processes in our terms. What follows, is one such attempt at understanding our fertility and the process of conception.

Our Fertility Cycle

Pages from a friend's diary:

4-10-'84

Chhoti gave birth to a daughter. The news arrived today and sure enough began S's questions. First to Ma. 'Ma, where did Chhotimasi get a baby from?' 'God gave her.' 'How?' 'God can do anything. He just gave her.' 'But who saw him giving it?' 'I do not know. Let me do my work.' Ma was tired of her uncomfortable questioning but that did not deter S. She went on to Dada. 'Dada, where did Chhotimasi get her daughter from?' 'From the hospital.' 'Do they have readymade babies there?' 'Yes, of course. Why are you bothering your head though. Go out and play with your friends.' She did obey and go out to play. Much to my relief. All along I had been bothering my head about how I would give the right answer. But this was followed by a shock. I overheard her telling h friend, 'The adults in my house are useless. They do not ev know how babies are made'. I do not really know if I am hap or sad about her apparent lack of ignorance.

3-3-'90

Today has been a significant day. I cannot believe that S h grown up so much that I had to hand her a sanitary napkin today. Was reminded of the anecdote entered in this diary s years ago. I too have grown up in the last six years. Have shared with her, spoken to her in the best possible way. Yet I have this feeling that I could have done much more, that we need to do a lot more for S and me and many more growing women amongst us.

S, young one, reading your mother's diary, what you said six years ago makes me wonder -- is it that you know more than others of your age? Or is it that the environment is such that most of you are more exposed to these ideas? We live today in an age where all kinds of contraceptive measures are being advertised on Doordarshan. You have grown up in a period when sanitary napkins were and are being spoken about openly. But does this in any way guarantee that all of you 'know' what have been called 'facts of life'.

I also wander back to the days when I was your age. What did 'menstruation', 'pregnancy' mean to me and others like me then? Menstruation -- the facts about which I was never told by others around me until I was almost at the verge of getting it myself. How I identified it, however, was through the signals communicated amongst the girls when one of us got 'that'. It was never stated what 'that' was. It was just 'that' -- a hidden, unspoken yet important process.

We all knew that we were growing up. Breasts had started showing. I do not know, S, how you and your friends react to this. We were most of us ashamed of these growing things. A few of us changed our postures, our habits - almost willing these objects on our bodies to disappear. There was no enjoyment in it or in binding them as they grew almost out of size and shape later. I remember some of us vowing never to wear any 'bras' because it somehow signified that we had accepted these growing lumps on our chest. For us breasts meant a change in routine. No free jumping and running around with these things wriggling away. S, I do not know how you people view the situation today.

The older girls, the ones who had started menstruating earlier formed a group of their own. Those who did not know were still kids, in whose presence conversation had to be guarded. Some of us got our first introduction to menstruation there. Besides this, of course, one did see menstruation taboos being observed. Women in my neighbouring homes, my friends' homes just sat apart sometimes. Questions asked about this got indirect answers. 'It's a disease all women have. Do not be frightened of it when it happens to you.' My mother herself had consciously stopped 'sitting apart', once she got out of the joint family set-up.

In that environment I finally got my 'chums'. But they hardly appeared to be something to be chummy about, something not to be scared about! The blood was appalling. And to think of it happening every month! 'Carefree' was hardly the state after that. My free movements, bindhaas attitudes, playful, active character got affected somewhere. My friends today tell me how it was as depressing and painful for all of them. The ignorance, the discomfort are all that one remembers.

Simultaneously, however, grew our interest in boys. Talks and twittering about their sprouting moustaches, cracking voices! Social norms prevented mixing, even in schools. No question then of sharing the trauma of entering adolescence even with your most intimate, childhood confidantes. And there began the other set of stories -- of how one gets pregnant. Again our teachers were from amongst us.

S, I do not really know what growing up is today. For us (and this we have found almost everywhere), contact with boys meant getting pregnant. In some places it was believed that if a boy touched your breasts you got pregnant; some believed it happened only during your periods; some felt any touch could lead to a pregnancy. The anxiety on not getting periods on time and the pain on getting them made life quite miserable on the whole.

Conception was so simple and romance hence was idealised. S, I cannot share my ideals of marriage with you. They seem so naive today. There was a lot of companionship and sharing envisaged. Marriage seemed more or less inevitable and children would necessarily come after marriage. What reproduction was, how my body would conceive, why it bled every month, what afffected my ability to be pregnant -- all these were questions I was never encouraged to ask. I realise today after talking to others that for most of us things were similar.

We know ours is just one kind of experience. Maybe for others things were different. Some might have been forced to face the facts early in life. Living conditions and other factors would have helped them get some practical knowledge. Even today, things would not be uniform for all. Not all young girls would be as 'knowledgeable' as you, S. One knows of

girls observing segregation while living with 7 to 8 membered families in one-room tenements. We also know of young men and women ignorant of all body processes.

For us the journey has been a long one -- from the understanding of 'that' as a shame, a curse, a horror -- to this stage where we wish to understand our menstrual cycle, our body processes, our fertility and our infertility. All this so that we can be in harmonious union with an important aspect of our life. The journey has been difficult at times; at times, enjoyable. The destination we have reached today is however something we cherish and wish to share. Our knowledge of our body's routine cycle -- the internal processes that go on and their manifestations as we experience them. Our knowledge of the 'simple' process of conception -- of our fertile periods and the well balanced chemical processes.

For most of us marriage automatically meant children. However, how they came into existence was something each one of us had to learn on our own. Those individual experiences could be long stories by themselves. The sum total of it was that intercourse between a woman and a man led to conception of a child. The ejaculate from the man's body travelled to the woman's womb.The sperm given by the man combined with the ovum in the woman's body to produce an embryo which grew in the woman's womb to become a baby after a nine-month period. The connection with menstruation was only this -- that only after one started menstruating could one be pregnant and that during pregnancy one did not bleed. What was not very obvious was -- how, when and where in the body did the sperm and the ovum get produced. These were questions to which we tried to seek answers.

Production of the Sperm

Sperm production is a linear process. The main male reproductive organs are visible (visible reproductive organs are called external genitals). Man's external genitals are the penis and the scrotum, the saclike structure suspended beneath the penis.

Inside the scrotum are two round structures -- the testes or testicles. The testicles have two types of cells. One group of cells produces the hormone testosterone. This hormone is absorbed directly into man's bloodstream from the testicles. It is responsible for body hair (including pubic hair), change in voice and awakening of sexual interest.

The other group of cells produces immature sperm cells. This group of cells is located in the testicles in coiled microscopic tubules called seminiferous tubules. Two hormones FSH and LH (more about them while we talk of the production of ovum) are released from the pitutary continuously after puberty. These help in the development of the sperms and are necessary for the process to continue. The sperms leave this germination point, and are not motile at this stage. Contraction of delicate muscle fibres push the sperm from here out along a special path -- a microscopic tube about 20 ft in length called the epididymis. Under the microscope it looks like a strand of nodules.

Slowly, over two weeks, the sperms pass through the epididymis, and it is during this passage that they achieve maturity and their famous motility. The mature sperms are

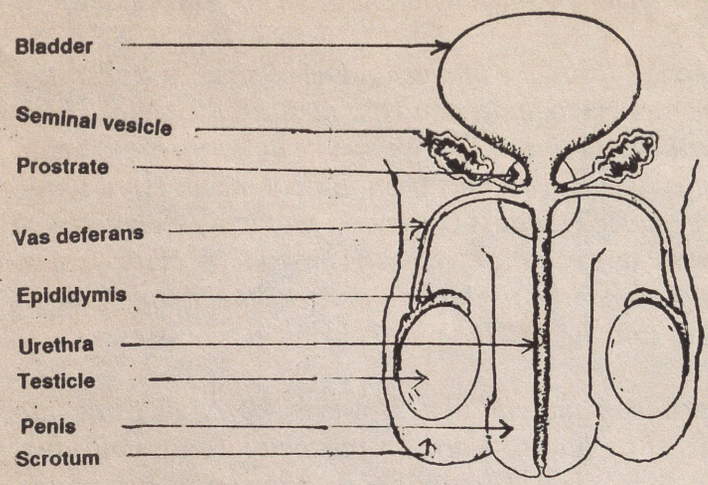


Fig. 1 The male reproductive organs

stored at the end of the epididymis where it joins the vas deferans. They are not stored there indefinitely; new sperm cells are constantly produced and mature sperm are removed periodically, even daily.

Mature sperms enter the vas deferans in preparation for ejaculation. A vas deferans runs from the end of each epididymis upwards into the abdomen. Each vas is a sheath of veins, arteries, nerves and connective tissue known as spermatic cords.

During orgasm, orgasmic involuntary muscle contractions are produced. The sperm then passes through the vas deferans and mixes with other fluids from accessory glands, especially from the prostrate and the seminal vescicles. This mixture is semen and 95 per cent of it comprises the secretions from the prostrate and the seminal vescicles; only 5 per cent comprises the sperms.

Production of the ovum

Unlike the man's linear system of sperm production, a woman's body has a very obviously cyclical rhythm. The most obvious, menstruation, occurs after about every 28 days. This periodic time of course, varies from one woman to another. But besides this bleeding there are many more cyclical patterns in a woman's body. Her body produces only one egg on an average in each cycle, and the lifetime of the egg is usually only 48 hours.

Do you realise what this means, S? The omnipresent fear of getting pregnant which all women go through right from teenage to menopause is actually related to just those 48 hours per cycle! Most of the time a woman is incapable of conceiving. Let us try some quick calculations! In a month a woman can get pregnant on only about 2 days in a month.

In a month -- 2 days of fertility

In an year -- 24 days of fertility

In 30 years of a woman's average reproductive span : 24 x 30 = 720 days about 2 years.

This means that the fear that a woman lives with for thirty years (almost half her life) is actually related to just those two years. Her whole life is controlled and regulated by these 2 days of fertility in a month! Anyway let us go further into this wonder that is a woman's fertility cycle.

To begin with -- the female reproductive organs. The uterus is flanked on each side by an ovary. Ovaries are sites where right from birth, lakhs of immature eggs are stored in sac-like structures called follicles. A fallopian tube near each ovary connects it to the uterus and is the path which the matured egg passes before reaching the uterus. The lowest point of the uterus, called the cervix, protrudes into the vagina. The sperm ejaculated into the vagina travels through the cervix and the uterus into the fallopian tubes where it mates with the egg and fertilises it if the conditions are conducive.

What is not usually mentioned as part of the reproductive system and organs is the hypothalamus and the pitutary -- organs that regulate and signal secretion of hor-

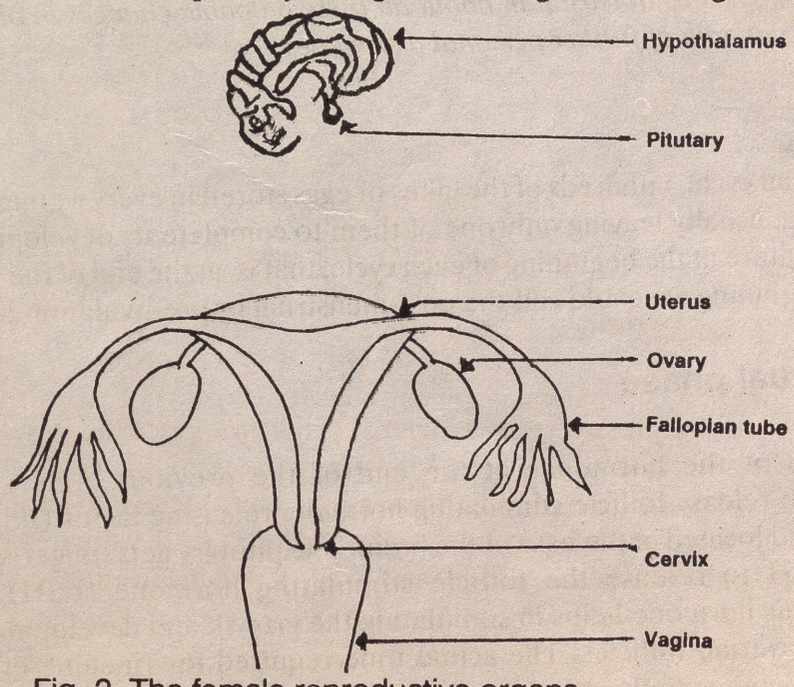


Fig. 2 The female reproductive organs

mones. Hormones are chemicals carried by the blood and their blood concentration levels actually begin and end the different periodic processes inside the body. These are vital organs for maintaining a balanced, regular, self- operated fertility cycle. Each cycle is the sequence of the ripening of an egg, its release from the ovary (ovulation) into the fallopian tube and then its fertilisation or destruction. Besides, each cycle also involves corresponding changes in hormone levels, the nature and kind of secretions ranging from the menstrual blood to the white discharge from the vagina, and other changes in the body like temperature, other external features etc.

S, once I heard someone referring to 'that wonderful thing -- the white discharge', and I was shocked. To me it had been something worse than menstrual blood, because no one ever spoke about it. It just made me feel damp and itchy and smelly. It left stains on my panties which I had to sit and scrub everyday. Sometimes the dampness down there made it almost impossible to walk because of the rubbing, scratching and inflammation of the skin in the inner portion of the thighs. There was some kind of secrecy about it too. All I could gather was that having too much of this discharge signified some kind of an illness. How could such a troublesome thing be called wonderful? And how could it help in any way?

It hasn't been too long ago, S, that we too have come to know it as a wonderful indicator of changes in our body. It is almost a liasion between our exterior selves and the internal changes which take place. It has been a journey from ignorance to understanding. Something taken to be dirty, troublesome and irritating, when looked at from a different perspective and in a new light, appears to be something that has strengthened us. It made us more synchronised with our own bodies, and also helped us establish our lives and life styles with less and less dependence on invasive technologies. Before we go on about our changed viewpoints let us at least talk about all these palpable changes in one periodic cycle so that we can talk of further personal discoveries.

In each menstrual cycle, hundreds of the lakhs of eggs stored in every woman's ovaries start developing, usually leaving only one of them to complete its development. The eggs begin to mature at the beginning of each cycle, that is, at the end of the menstrual period. This beginning we could call the post-menstrual or pre-ovulation phase.

Post menstrual phase

Concentrations of the hormones at the end of the previous cycle signal the hypothalamus to release follicle stimulating hormone releasing factor (FSH-RF) to the pitutary gland located at the base of the brain. The pitutary gets triggered because of this FSH-RH to release the follicle stimulating hormone (FSH) into the bloodstream. This hormone helps in stimulating the growth and development of the egg-containing ovarian follicles. The actual time required for ripening of the eggs varies from one woman to the other.

As the FSH concentration increases, and reaches a threshold peak level, the actual maturation of the follicles begins. This also signals the secretion of another hormone estrogen from the follicle. The estrogen level in the blood stream rises until it reaches a certain stage which then acts as a signal for the pitutary that the follicles are stimulated. The FSH production is then automatically reduced and instead begins the secretion of another hormone, the lutenising hormone releasing factor (LH-RF) from the hypothalamus to the pitutary to trigger the release of LH. The estrogen concentration level thus acts as a negative feedback mechanism for both the pitutary and the hypothalamus to stop production of FSH and FSH-RF, respectively. If the estrogen concentration level was maintained above this threshold, FSH would not be released and follicle maturation would not begin.

The purpose of LH the lutenising hormone, is to boost a single follicle into the final stage of maturation. In case another follicle gets matured and fertilisation occurs for both, the woman delivers non-identical twins. So this is almost the pre-ovulatory phase in which preparation for ovulation is done.

One follicle is matured to the required degree and FSH, LH, estrogen levels varied in a way to aid this process. Besides this, the rising concentration of estrogen signals the formation of an uterine lining necessary for nurturing the implanted embryo later on. What one would experience this period as, is very much determined by certain

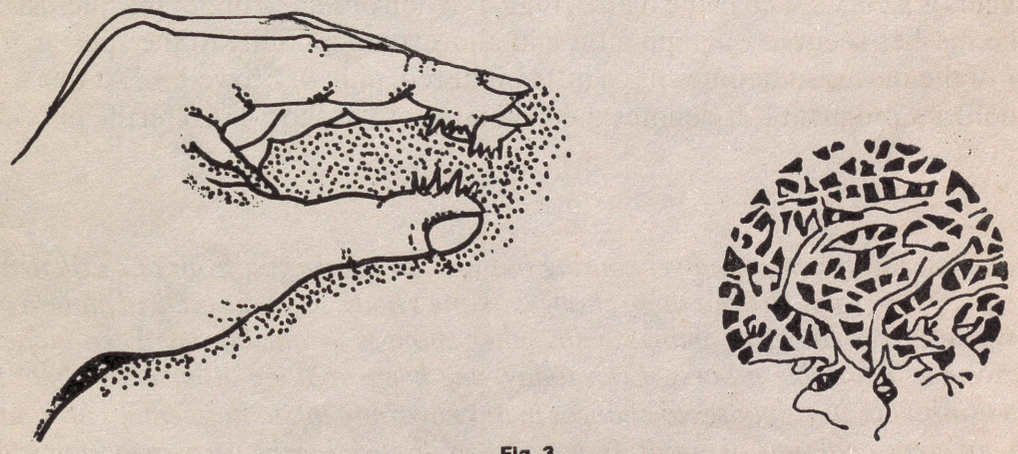


Fig. 3

other changes. The estrogen concentration is very important for all the variations in the nature of the secretions and cervix position.

Most of this period the feeling around the vagina is dry. As the estrogen level rises there is secretion in the cervix also called the cervical mucus or white discharge. Its nature, that is, its consistency, changes with changing estrogen concentrations. Initially, it is usually seen as a white or yellow, sticky, tacky, opaque substance. It is also quite thick and makes tiny peaks when it is placed between fingers and the fingers separated.

This early mucus shows dense, tight-knit, meshlike formations when seen under a microscope. It almost kind of plugs the cervix and is obviously impervious to the

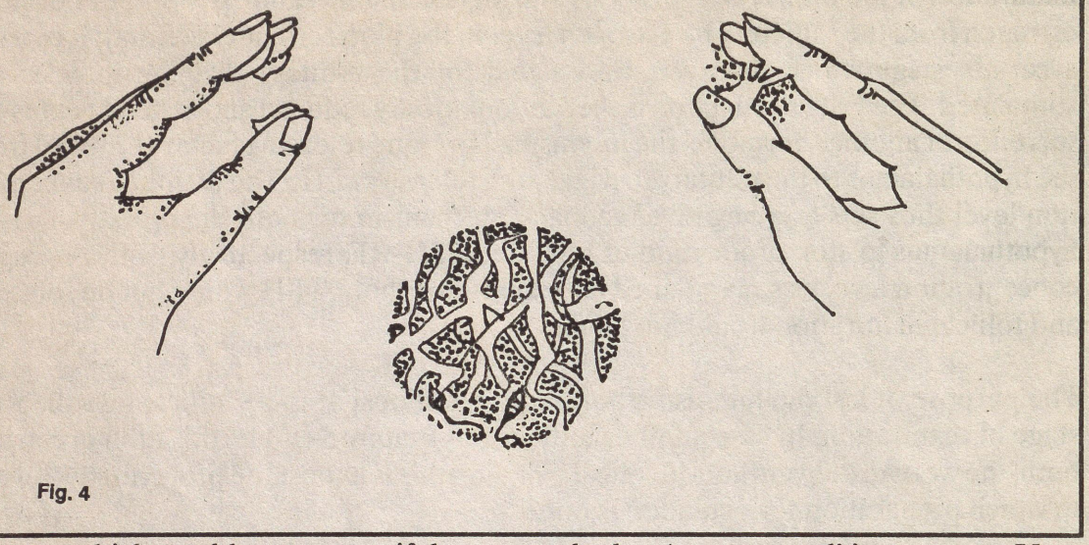


Fig. 4

sperms which would try to enter if the woman had an 'unprotected' intercourse. Upto this stage the woman is anyway in her infertile phase.

Slowly though, this early mucus changes its consistency along with the estrogen concentration. It is now a developing mucus -- thin, watery, and cloudy looking. It is perceived usually by a feeling of wetness in the vagina. Its nature when drawn between two fingers is again as seen in the figure (Fig. 4). When observed under the microscope too, the meshes seem to open up a bit and allow some mobility to the sperms. The colour of the mucus sometimes has a little bit of red, pink or brown too. At this time, one could get pregnant -- it denotes the beginning of the short-lived fertile period.

S, reading all this might sound very boring but we can assure you from our experience, that actually being able to trace these changes in one's body, to see its cyclical pattern and to correlate these biological changes with other changes in our life has been quite an educative and enjoyable process. Even today, one keeps making discoveries about the body one inhabits, its responses to changes in our environment, to happenings around us and to our emotional state of mind! And one keeps discovering the periodicity with which every part of the body responds. Susceptibility to viral infections, fatigue, enthusiasm, energy all seem to be linked somehow to the status of the body and the concentration of the hormones in it. Medicine and biology become closer to life as lived by us instead of being looked after by 'experts'.

Ovulatory phase

Once the mucus is in the developing stage, the follicle has matured and at some point, the egg finally erupts from the ovary. The tentacle-like structures forming the 'trumpet-like' ends of the fallopian tube next to the ovary, instantly grasp the egg and whisk it into the interior of the tube. This exactly is ovulation, and this process would take at most half a minute.

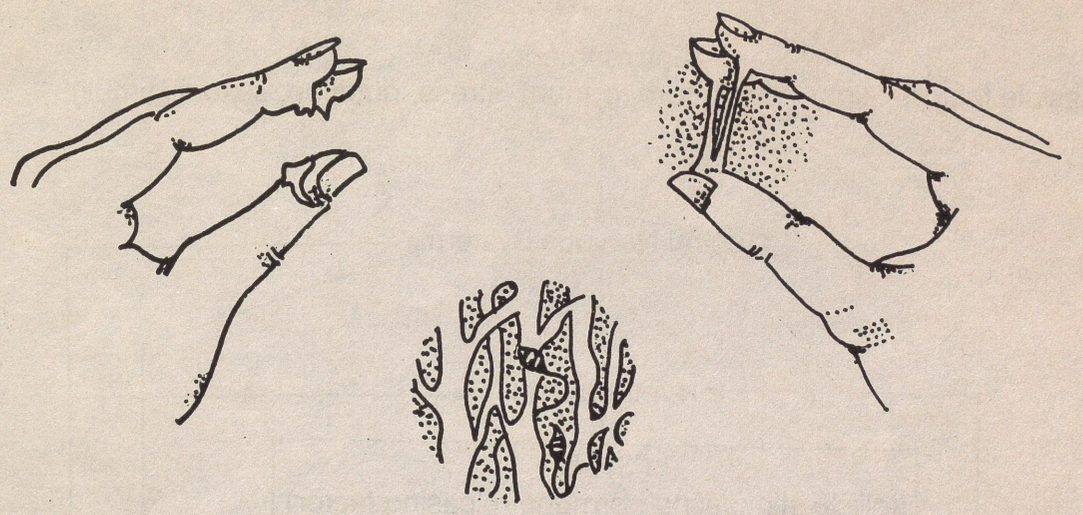


Fig. 5

Just prior to this release of the matured egg from the ovary, the nature of the mucus chages to what is called the peak mucus which is slippery and lubricative in nature. It's usually completely clear and shiny and it is quite profuse at times. Microscopically it looks as if the strands have aligned themselves parallel to each other, allowing easy entry and access to the sperms (Fig. 5). Obviously this is the most fertile period in the whole cycle. The LH level is also at a peak just before ovulation. It starts reducing sharply once the egg is released and that of estrogen starts falling gradually.

The ovaries usually ovulate alternately. Some women also have been able to identify which one of their ovaries has ovulated in a partiular cycle. A slight pain in the region around the ovary has been felt and identified as being caused by the release of the egg from the follicle. Other changes that women have noticed have been related to changes in mood, tenderness in the breasts, a general feeling of being slightly bloated up, ... these signs vary from person to person and can be detected by each woman individually by observing her own body patterns. Exact ovulation time might not be detected, but surely one can bracket the period in which one is fertile and hence prone to conceive in case of an intercourse.

To think that all along we had neglected this white discharge and had woven stories of conception around 'that'. As teenagers, we were certain that it was the touch or the proximity of boys during our menstrual periods that led to pregnancy. Most of our taboos were all also related to menstruation, weren't they? In fact, on reflection one of us jokingly remarked that to get rid of these technological solutions of harmful contraceptive devices, all we had to do was shift our concepts of taboos and pollution. Shift them from menstruation to ovulation! Such jokes apart, don't you too think S, that it would help you much more to understand the whole fertility cycle instead of being aware of just the most obvious visible part, namely, menstruation? And that brings us to the final part of our story of the fertility cycle.

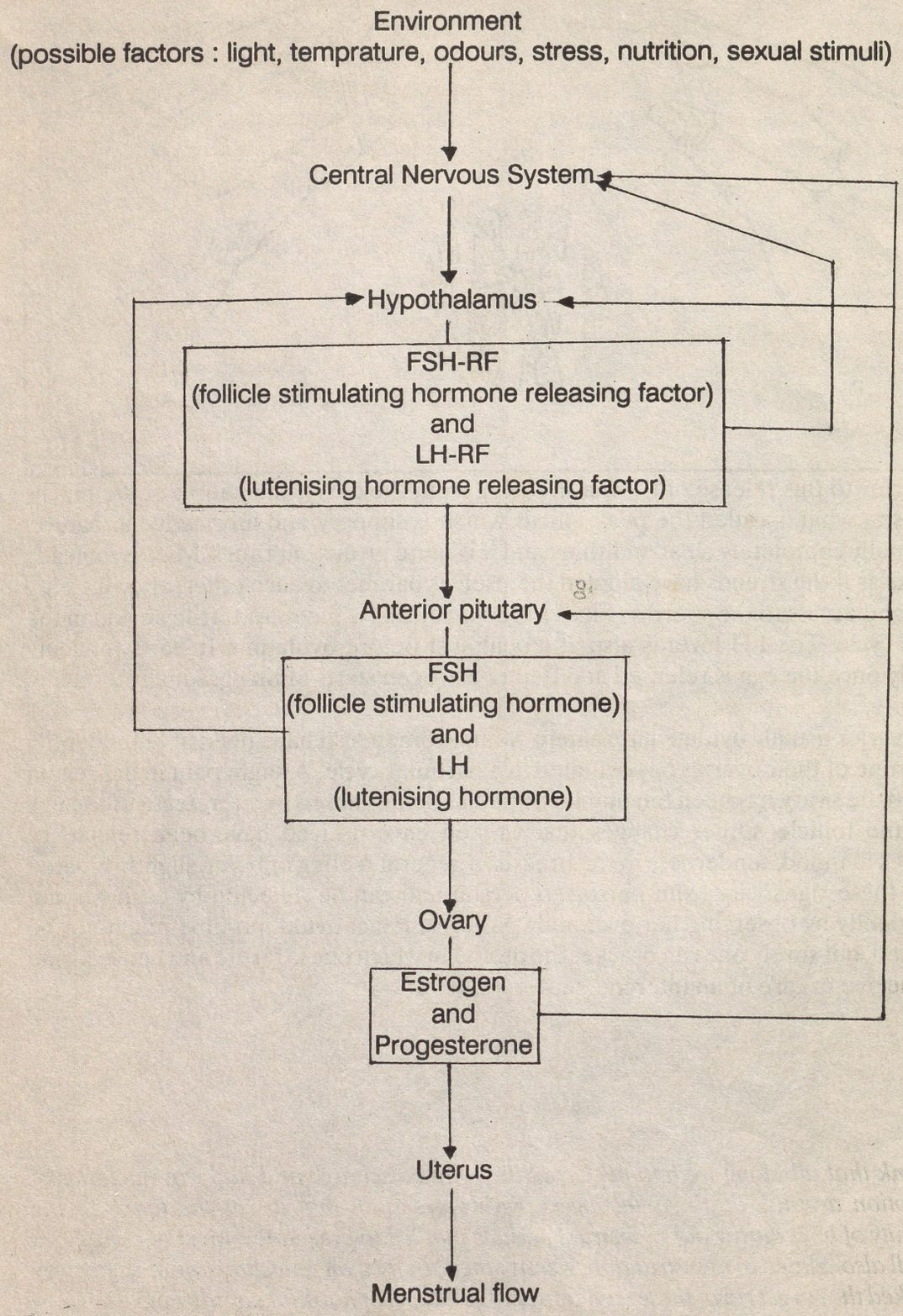
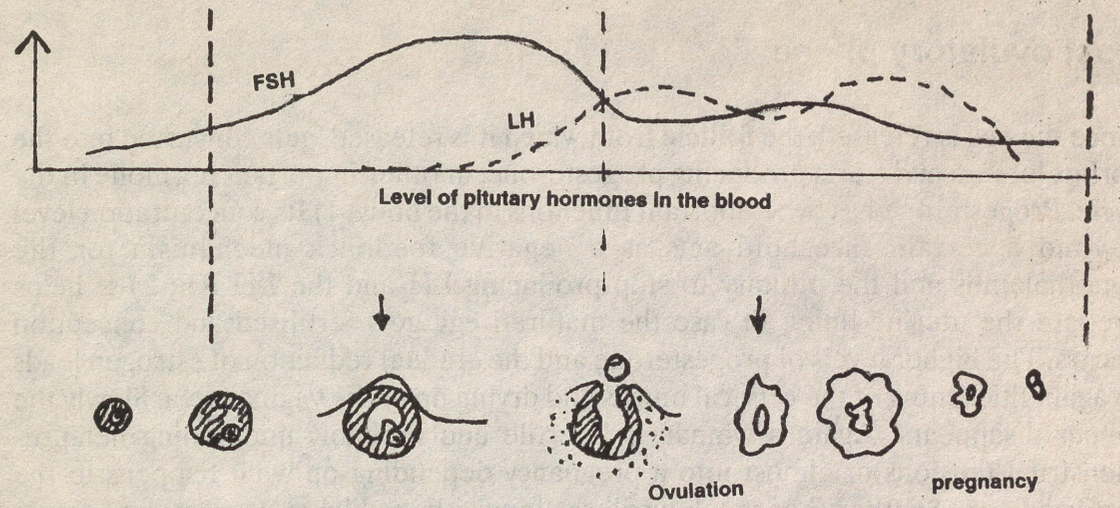
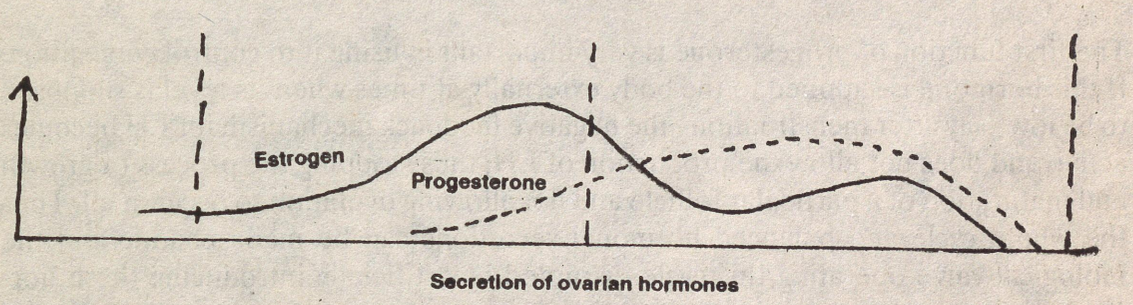
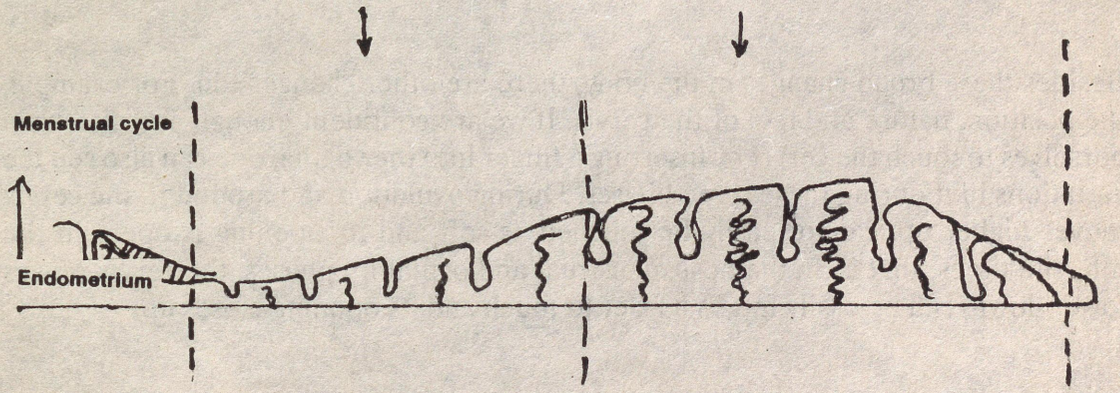


Fig. 6 Interrelationships and feedback mechanismsof the menstrual cycle







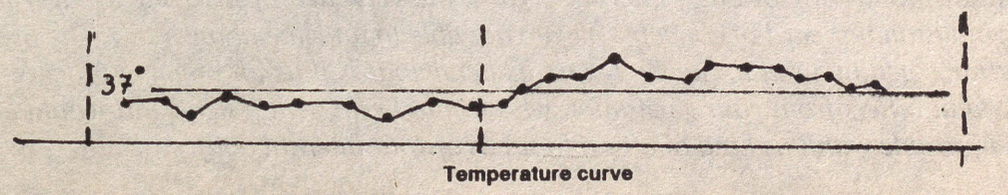


Fig. 7 Period Estrogen phase Progesterone Phase

Post ovulatory phase

Once the egg is released, the follicle from which it is released, gets converted into the corpus luteum and starts producing progesterone, another important hormone in the cycle. Progesterone has two important functions in the body: 1) Its concentration level beyond a certain threshold acts as a negative feedback mechanism for the hypothalamus and the pitutary to stop producing LH and the LH-RF; 2) It helps prepare the uterine lining in case the matured egg gets fertilised and conception occurs. The higher levels of progesterone and the gradual reduction of estrogen leads to again thickening of the cervical mucus and drying up of the vaginal area. Slowly the mucus disappears. Again a woman is infertile and probably undergoing her pre-menstrual tensions or almost into a pregnancy depending on what happens to the fertilised egg. Another change taking place alongwith the higher progesterone levels is the basal body temperature. It shows a rise with a rise in the progesterone. Usually it remains high if the progesterone levels are high.

The first function of progesterone is very important in using it to control conception. If this hormone is supplied to the body externally at times when its level is supposed to be low - say after menstruation - the negative feedback mechanism for LH becomes active and does not allow the production of LH, thus stopping the process of growth and maturation of a particular follicle and not allowing ovulation to occur at all. Thus the whole cycle and balanced hormonal secretions can be made chaotic and the biological valve operating this cycle disrupted by artificially introducing these hormones into the blood stream at wrong times.

Besides these broad changes in the body, there are other changes too. For example, the position, nature and feel of the cervix. If we are confident enough and also train ourselves to touch the cervix by inserting a finger into the vagina, one can also see the variations in it during these three phases. During ovulation and around it, the cervix moves higher up, cannot easily be touched, is soft and its opening is open. In the infertile times, that is, in the post-menstrual and ovulatory phases, the cervix moves lower down, can be easily felt, is harder to touch and its opening closes up.

S, this seems to be difficult to try out for many of us even today. Even for those of us who have access to private space, clean enough surroundings and an opportunity to do this kind of monitoring of one's internal organs, the very idea of inserting a finger into the vagina is an unheard of concept. We are not able to imagine doing it too. The process of learning, getting used to our body and its behaviour is thus an ongoing process. Maybe you and others from your generation who would begin with a headstart would be more comfortable with this kind of an exploration of your internal body parts.

Meeting of the egg and sperm

When the fertilised egg matures and is released from the follicle in the ovary into the fallopian tube, if this egg encounters a fresh, motile, fertile sperm, it has a chance of getting fertilised. It is not necessary that the sperm enter the body on the day that ovulation occurs. Some of the sperm can survive for longer. There is a provision in the body to hold the sperm that enters the body prior to ovulation. There are openings in the cervical walls called the cervical crypts (Fig. 8) Many of the sperms entering the body enter these crypts. They are like temporary storage cells from which sperms are released slowly over a period of time about 8 days. These sperms then may meet the egg in the tube and may lead to fertilisation.

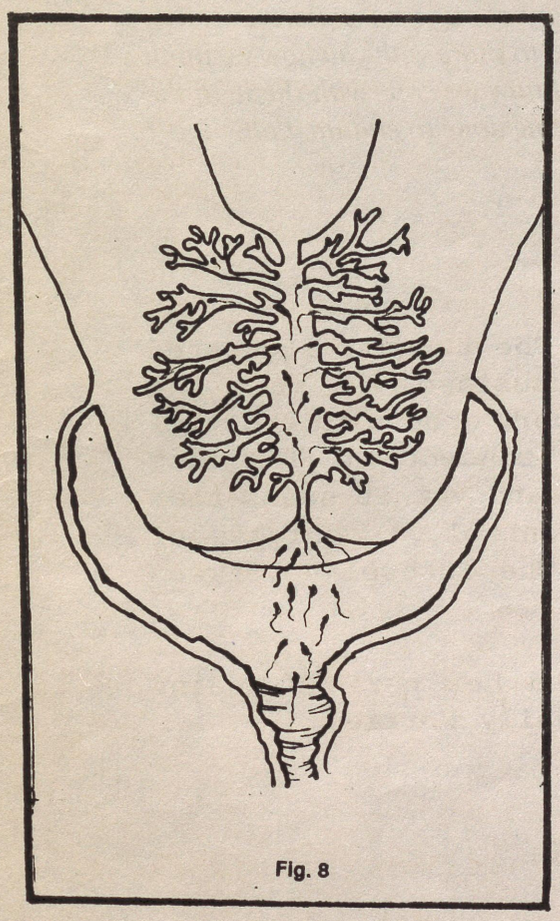


Fig. 8

Besides the secretion from the cervix, there are other secretions from the vaginal walls too. These are usually acidic in character and this acidity is maintained with the help of bacteria present in the vagina. The acidic medium is hostile to the sperm and yet they do manage to survive in it too. Some changes have been observed in the nature of vaginal secretions too in a cycle, but no definitive study proves or explains them yet. During intercourse there are also some other secretions which act as lubricants for the act of intercourse itself.

If everything works out favourably, there is a chance that conception occurs. If the egg gets fertilised, the secretion of progesterone continues. It also induces the secretion of another hormone, the human chorionic gonadotropin (HCG). HCG is similar in character to LH and so further induces production of progesterone at the uterine lining, thus making it possible for implantation to occur and providing nourishment to the embryo that travels from the tube into the uterus and implants itself on the prepared uterus. The lining has secretions of its own which help nourish the embryo and help it grow.

If the egg does not fertilise, however, the production of progesterone goes down. This stops the growth of the uterine lining. In fact, whatever growth may have taken place on the lining through the whole cycle, stops and the lining itself slowly starts getting dislodged. As progesterone and estrogen secretions stop and their levels go down, this lining gets dislodged totally, and gets removed as menstrual blood during the

menstrual period. The menstrual flow thus has some of the vaginal and cervical secretions, blood, and parts of the lining (appearing as clots).

The low levels of estrogen and progesterone that are reached at the end of this cycle also give an indication to the hypothalamus and the pitutary subsequently to get active again and begin secretion of the FSH-RF and FSH, thus taking us back to the beginning of a new cycle, or forward into the next cycle. The next cycle need not be exactly the same as the earlier one. There could be changes due to variations in the physical, emotional environment that we live in, there could be natural variations even in the absence of major changes outside us. From one of us to the other also there could be large changes. None of us might be able to always locate exactly all the phases of the cycle. Our collective knowledge, however, helps us correlate our experiences, 'modern' science's understanding and our explorations with one another to strenghthen us and our struggles in the long run.

S, we have rushed you through this somewhat long history of our own explorations. We would have liked to say much more. We would have liked to share with you how we think of menstruation today, of the pre-menstrual tensions, of how we cope with them, of the menstrual cramps, of pain and discomfort, of what is being done to endure it all, ...

31-10-90

S came for the health meeting today. She herself suggested it. Her curiosity, freshness and enthusiasm did make the session very lively and helped us gain more ground in evolvi our understanding of reproduction and conception. The last few months have been very invigorating and yet it seems that we have only just begun. Powers of control, techniques of control, our choices, our realities, The interplay between all of them , leaves me quite baffled.

Chhoti has written that she has missed her periods again. Wonder what is wrong with her. I am really worried.

Their Politics of Our Fertility

"Population control refers to a large scale social policy of limiting births throughout a whole society or in certain social groups, for the purpose of changing economic, political and/or ecological conditions. Population control is concerned with divisions on the level of the whole society".[1]

Myth of Population

What class, race or nationality we are born into, it seems decides whether we are prone to producing too many children or too few. The problem, for example, of most of the developing world is posed as that of over-fecundity. We are told that the cause of our problems is that we are producing too many children. Our nations and hence we would 'develop' more if only we could control our fertility! The developed nations also are not satisfied with their women's fertility. There the stress is that there should be more of their kind; their women are not producing as many as the nation needs! One wonders why it is that individuals' needs do not match what are claimed as the nation's needs. Some how it is never questioned why our needs do not match with those of society. Why is it that no one is bothered about why in some situations more children are needed and why in some others people refrain from bearig children? Why aren't these reasons probed into and their solutions sought? Why are we instead coerced into their solutions for us?

This coercion, not always so obvious, is almost always the usual practice for the population control policies of the state. At a time when abortion was being denied to women in the North (under the pretext of it being against religion), in other parts of the globe extensive population control measures were being set up. Women's demand for birth control methods was being used against the poor, 'unwanted' sections by enforcing sterilisations and other harmful contraceptives on them. As C. Sathyamala puts it,

"It took mainly two forms - opposition to birth control and pro-abortion movements (both very much part of the women's movement) in the West and the aggressive promotion of birth cntrol in the third world, along with indirect arm-twisting methods of getting the third world countries to adopt strict population policies".[1]

Based on a Malthusian understanding that the world's problems arise because we have too many of the 'wrong kind' of people, we however, have a long term program regulating all the population that can exist on this earth.The theories which aim at controlling the growing numbers of the poor are all neo-Malthusian, which state that the cause of all poverty is the tendency of the population to devour the surplus. We are being told continuously that it is because of the high populations in our parts of the world that we are not able to prosper.

Reducing our number then is seen as a panacea for all the myriads of problems before us. The underlying idea is not to question the system at all. There is nothing wrong with the way things are, the only problem is that some of us have too many children! Moreover, the ones who have more children are poor, and the cause of their poverty is that they have more children than they can afford. So the responsibility then is of the individuals for their reckless behaviour. The blame shifts from norms and practices of the society at large, to the individuals.

Dividing us

The concentration of resources is never questioned. Their distribution is not doubted. There seems to be a single standard solution, and that is "tailoring the labour force to the demands of the economic system making promises to change everything without in fact changing anything". This solution, just as it finds it the fault of the individuals, also ensures that the people would not start rising up against and questioning the existing system. The stress is that nothing is wrong with society as it is today other than the fact that we have too many people on this earth. The 'developed' North blames countries from the South[2] for their evergrowing population without ever questioning their own over-consumption of the planet's resources.

> *"If the standard living of an average American or German is generalised for the five billion people of this world then the existing energy resources of this planet would be over in nineteen days; but even if the privileged one-fourth of the world's population, who consume 80 per cent of the world's wealth continue at the present rate of consumerism, the world's oil resources will be finished in about fifty years. We would then need two more planets; one for more resources and two to dump our waste."[3]*

In fact, unemployment and poverty lead to unhealthy conditions and hence to higher infant mortality. This reduced chance for the survival of infants leads to producing more children. Low paid labour implies that more people who can work are needed so that the net income is a little more adequate for survival. Children are not a burden, they are a necessity in some social situations. All this is too complicated a logic for population controllers who have such simple solutions! It is not important for those who are confident of and aim at finding a single overall solution. All these implications of being poor, unemployed and less privileged are ignored, and what is stressed and accepted? That these conditions lead to more sex and hence greater children! The underlying assumption is that people do not understand their situation and they will never do so either. The methods used for control, then also reflect this understanding, or rather the lack of it!

Far from understanding people's need and real-life conditions which lead to more children per family, the attitude is that of ridiculing people's situation. Because of lack of proper employment and entertainment, the less privileged have nothing else to do other than have sex and produce children -- such is the logic accepted by the proponents of population control. A TV serial showed some time back was explicitly based on such notions. The serial portrayed that a strike in the factory led to all the worker's wives getting pregnant. This is considered sexual expression -- that which increases manyfold under conditions of unemployment and poverty! This is the perspective with which contraception is portrayed as a need by the population control experts.

Tools of control

When birth control is being achieved or propogated with such a lop-sided anti-people understand, obviously it has a lot of problems and can never fulfil the needs of the people, least of all of the women in the population. It has just one aim in sight -- to reduce the population of a section of people, whether or not those people themselves want to or not. Obviously the needs of the people, their reality and existence which demands more number of children are not even considered. Without attending to these genuine needs of the people if the target is to reduce the number of chilren per family, coercion -- implicit or explicit -- is the only way in which it can be done. A single standard solution is to be applied to all people in very diverse and different realities; what emerges is the convenient, coercive, simplistic approach that is adopted.

People have to be either bribed into accepting what the controllers want as if it were their own need, or forced explicitly or implicitly into doing what the controllers want. So, the constant propaganda about how a small family is the happiest or how the big family lacks so much (typically, an overcrowded low class home contrasted with a 2-child or 1-child middle class house); about how all this is good for the child and the nation; and, most important that achieving this middle class dream requires nothing more than a few pills, or a weird looking device all inside your body, or 'nirodh' - the never explained device or some equally vague but always simple measure. Of course, you (the woman addrssed) may have some little menstrual disorder or aches and pains, but that is nothing compared to the pain of poverty one leaves behind and the middle class happiness one magically obtains.

And so, next in line we have the incentives. Getting a permanent sterilisation done gets a reward, delaying a child after marriage gets another one, limiting one's family size gets yet another. Not only is the person rewarded, but also the one who has managed to convince the woman, or the man, or both. These are incentives. They work the same way as a bribe would. The controllers are getting their work done and hence are offering monetary compensation for it. And yet, we are told that it is finally the need of the people and it is for 'their' good. What a benevolent State we have; not only does it provide people with what they need, but gives them an additional bonus if they fulfil it!

The worst of all is the explicit coercion. The Emergency period in our country abounds with stories of forced sterilisations, especially for men, where the person concerned

had no choice at all -- people were just rounded up and sterilised. It isn't, however, as if such events were restricted to the period of emergency. In so called 'free times' also, to cite one instance, we heard the famine relief work in Rajasthan getting linked to sterilisation, i.e., women would not get the work unless they agreed to get themselves sterilised.

Again there is a whole army of health workers, the mediators between the controllers and the people, who are included and co-opted into the arm- twisting tactics. They are given targets to fulfil -- numbers -- of women/men sterilised, of loops fitted, of pills distributed, always numbers, the larger the better . These targets are linked to their promotions, to their increments, to their jobs, to their livelihood and living. Naturally they become effective arm-twisters. And now, there are efforts underway to induct whole cadre of women health workers who would 'effectively' persuade women to accept all these methods.

> *"The State's emphasis on women targets and women motivators is a cause of feminist concern because of the distortion of human relations which the coercive, target-oriented campaign brings along. When motivators are women, be they the health staff or primary school teachers, they are constantly threatened with dire consequences such as job transfers, sexual harassment, humiliation and delayed salaries if they fail to fulfil their targets.*
>
> *These women, with the proverbial sword over their heads, are forced to see every other woman in the village as a potential target. All their conversations, whether at the doorstep or the village well, invariably ends with motivation for FP. Little surprising therefore that the village women resent these motivators and consider them as scheming nags. The entire fabric of woman to woman relationships is eroded in this situation, with each party outsmarting the other whenever possible and harbouring deep rooted resentment mutually."[4]*

This then is population control enforced by the controllers in the interest of the people and their needs. Something which has been advocated as liberating, especially, for women from the drudgery of their miserable lives. This, however, is just one facet of the two sided coin. Controlling fecundity against people's wishes and under the false cover of alleviating poverty and misery is just half the story. The other half, the other side of the same coin are the controls over infertility or more appropriately control through infertility treatments.

In the countries from the North in particular this kind of approach and attitude is more evident. Along with the strong anti-abortion movement in most of these places, the stress is on highlighting women's role as mothers. The fetus is ascribed all the rights of an individual. It is given powers of existence that take priority over the mother's wish and willingness. The woman as a person has been made secondary to her identification as a mother. She is made to feel incomplete unless she procreates and produces a child of her husband's. The bond of marriage is not strong enough unless there is one's own genetic child to cement it. The all-out propoganda is about fulfilling one's duty by society and producing children who could survive better in today's society. Here too the emphasis is on white, middle class women having children. The

natives, the women of colour who also happen to be the poorer ones in the society, instead bear the brunt of anti fertility programs.

Whether State policies are pro-fertility or anti-fertility, they definitely do not reflect individuals' needs. Besides, the eugenic selection regarding who should have children and who should not is also operative all the time. In a country like India population explosion has been identified as a major issue by the State. Yet an expensive 'test tube baby project' which consumes a large chunk of the whole health budget and caters to only a few individuals who can afford it is also funded by the State itself, supposedly to help the 'infertile'. Similarly in other countries where the upper class, white women are almost being forced into motherhood, the coloured women, the poorer section are still facing massive sterilisation abuse. The first restriction on child bearing was in making it acceptable for women in monogamous, heterosexual relationships. Only children born in such situations were accepted socially. Further restrictions came through anti-fertility and pro-fertility programmes. Children born to a certain section of these families were welcome, others were not. Some were forced to produce children, whereas others were forced to stop producing them.

The fear that is associated with the new reproductive technologies, those that are being advocated today as 'hope of the infertile', is that of a newer kind of selection. These aid, help and pave the way for further selection on the basis of prevailing norms of acceptability. They not only select who can have children, they also select the acceptable characteristics of these children. Use of this technology takes away all control from the hands of the persons undergoing it and places them totally in charge of the doctors and technocrats. Their decisions are totally monitored by the people administering the technology. The role of the individual in procreation is totally negated. In the face of such control, no individual woman is left with any choice over her body. The anti- or pro-fertility stance of that society and norms of normalcy and acceptability it sets up in that social structure determine the nature of control over fertility that is available to different women in that society. However, negation of woman as a being is inherent in the attitudes and policies of today's world. The biggest aide in re-emphasising them and strenghtening them has been modern science and technology.

Modern science and control over fertility

> *"The basic approach of 'modern' science has been fragmentative and reductionist. The effort has always been towards understanding the overall behaviour of a system by breaking it up in a linear, unidimensional manner. To understand the material world we proceeded from the macroscopic properties - the overall behaviour - to the microscopic constituents. From the molecule to the atom, to the electrons, protons and neutrons, and further down to elementary particles, the method of science has been to divide, subdivide, break, fragment and thus understand the basic constituents of matter. This approach of science insists on looking at things and phenomena as aggregations of basic building blocks."[5]*

In keeping with this, reproduction is also understood as the male and female reproductive systems, that is, the organs that are so identified as the parts of the system. It is

understood in a straight, narrative, clinical manner as the story of conception. It is a simple process in which an egg in a woman's body matures, gets released, gets fertilised with an incoming sperm and gets implanted onto the uterus. From this viewpoint, control over this process is seen as possible at every stage. To control fertility, all one has to do is stop any of these processes from happening, and to overcome infertility, any one or more of these processes have to be aided to occur either within or outside the human body. In the typical scientific viewpoint of modern medicine, even the integration of this human process with the rest of the body and the other systems is not important. To consider the question of the social context and environment in which it takes place is totally out of question. The problem identified is conception and that has to be aided or prevented.

This control is achieved through methods that are claimed to be neutral and objective. There is no place for subjectivity in these methods of collecting, analysing, disseminating and applying knowledge. And yet repeatedly, one has encountered situations where being neutral has meant accepting the status quo or working along prevalent norms. It isn't that science evolves in a vacuum. It is very much rooted in the society and its norms. Neutrality is the garb under which, those in science can escape being forced to question social reality. This is achieved by 'experts' who are the owners of this new body of knowledge, and who consider the 'non-experts' to be totally under their control. Experts who function in a way that most of the times helps strengthen the institutions of power and helps re-establish existing norms. Changing people's attitudes and ways of thinking has never been an aim of 'neutral' science. Neither have people's experiential knowledge or evolving of a people-oriented approach been of any importance to 'objective' science. The biases within science and its applications are best exemplified in the science of medicine which has been directly dealing with people and their lives. The experiences of the campaign against high dose EP combination drugs are typical of these medical methods.

The EP drug case: Emotions on trial

The high dose estrogen progesterone (EP) combinations were introduced in the mid-60s and have since been used for pregnancy tests. Studies all over the world indicate probable occurrence of malformed babies with exposure to these drugs in the first trimester of pregnancy. Subsequent to these findings, the drugs were withdrawn or banned in the UK, Brazil, FRG and various other countries. In India too, in 1982 the Drug Controller instructed that a warning be put on them against their use in pregnancy tests. In 1983, they were banned altogether in keeping with WHO and other health bodies' recommendations.

Three drug companies - Unichem, Organon (now Inferon India Ltd.) and Nicolas - went to court and obtained a stay on the ban arguing mainly that the drugs are required in the treatment of secondary amenorrhea (delayed menstrual periods) and other menstrual disorders. Consumer and health groups went in appeal to the Supreme Court arguing (a)that the drugs were widely misused, (b)that in spite of the warning doctors continued prescribing it, (c)that alternative methods of treating secondary amenorrhea were available so that the drugs were not essential, (d)that with the sorry state of monitoring and regulation of drugs, it was better to stop the production and distribution of a harmful, non-essential drug than to let it remain in the market as a

potential hazard for our next generation. The defence of the drug companies remained that they were just producing an essential drug and that preventing misuse wasn't at all in their hands and in any case not their concern.

The Supreme Court ordered a Public Enquiry into the matter with participation of interested public interest groups. We, reprenentatives of activist groups, had attended the final hearing held at Bombay. Below are some of the impressions that have remained with us and give an indication of the clash of understanding and experience; needs and interests.

A fanatastic lecture with beautiful slides on menstruation is shown and the essential role of the hormones estrogen and progesterone in our body is elaborated upon. The commentary is accurate, the tone is well practised and the delivery excellent.

An old doctor in his khadi clothes is calling out to a fifteen year girl and her mother to come forward. She is a young girl but her physicaly deformed body and the burden of the responsibility of growing up in this world is part of her small, burdened figure.

The Drug controller looks in the direction of the women's groups and comments, "Do not be emotional. We are discussing technical matters here. Please keep emotion out of this."

The eminent gynaecologist talking from his gut, agitated, the oath of the father of modern medicine is part of his oration. He is emphasising and re-emphasising the importance of the drug and of their efforts in helping women lead fuller lives.

A sudden noise.The workers of the drug company producing these high dose EP drugs have come to appeal to us. They will be jobless if the production of this particular drug is stopped.

We are all discussing later over a cup of tea. What is the role of high dose EP drugs for us? We also seem to be partially influenced by the kind of pleading by the proponents of these drugs. After the presentation, it sounded as if it is a miracle, as if it is a life saving drug, as if secondary amenorrhea is a fatal disease and EP the only remedy! Their 'objective', 'statistics ridden', 'factual' presentation of information makes us feel unsure about our 'subjective', 'emotional', 'experiential' information.

Very obviously most of the doctors and the drug companies held similar views about the drug. For the doctors, secondary amenorrhea was the identified problem. Diagnosis was that it was caused by some upset hormonal balance. Naturally enough, the solution was to treat these hormone levels to induce menstruation. What happened when the secondary amenorrhea was due to pregnancy? There is a possibility that an abortion could occur if EP was taken fairly early. But it was also possible that it would not induce menstruation and harm the fetus instead. The fifteen year old girl was suffering the effect of such high dose EP taken by her mother.

In a society where pregnancy tests are not easily available the EP tablets were very popular. Some of us have also used them or at least have been recommended to use them by friends and aquaintances. Their ability to diagnose pregnancy was known and popularised but the warning of it giving rise to deformity in the fetus is something not

known to most people. Taboos related to diet are very strong during pregnancy. Most of them are related to deformities in the child, e.g., not allowing a woman to eat food exposed in an eclipse is a commonly observed tradition. But these are observed along with a faith that medicine cannot do this kind of a harm. So high dose EP tablets are consumed but other kinds of prohibited food avoided.

For the doctors this seemed to be a problem out of their purview. Their identified problem was somehow starting menstruation in women whose periods had been delayed. What people did with the drug devised for this purpose was never their concern. Tests meant for detecting genetic abnormalities in the fetus could be 'used' for sex determination and selective female feticide. What could the doctors do about it? Their task was never to change existing norms of society. Neither is their emphasis ever on explaining the mode of action of most of their medicines. Due to this, medicine today hasn't catered sufficiently to transforming people's or society's ways of thinking. In fact such a change has never been aimed at. If at all it has occurred it is just a 'side-effect'!

Taboos related to menstruation which have been prevalent in almost all sections of our society, have continued even today in the most progressive, technologically advanced, urban metropolitan culture too. The understanding of the menstrual cycle which has been used in all hormonal contraceptive methods and infertility treatments like IVF, has never trickled down from the experts or rarely contradicted social practices. We live in ironical situations where people on the one hand observe all taboos related to menstruation and yet frequently use the pills (created by an understanding of the menstrual cycle) to postpone their periods mainly to be able to abide by the taboos of religion! We continue with our age old concepts of menstruation as polluting, as dirty and the only recognised aspect of women's fertility. That ovulation is related to fertility, that this ovulation is what needs to be tackled for both pro and anti-fertility methods is information that has not been felt important enough to be explained. Understanding the fertility - infertility cycle in the woman's body could lead to much better birth control practised both by men and women at least wherever such co-operation is possible and feasible. But that has never been the aim.

During the course of the hearing, we were continuously asked to be objective, not to be emotional! The technical presentations were 'objective' with facts, figures, graphs, tables. But the objectivity is confined to these things alone, that is in negating the subject of the medicine, in negating the user, the patient. In its basic principles, the objectivity cannot be retained. Thus science's definition of disease and disability is not as objective as the scintists would have us believe. In a certain context disease is that women are getting pregnant, whereas in another it is that they are not able to conceive. Drugs used on women in ths South can be considered unsafe for women in the North. Thus EP was banned in most countries from the North, but here we had eminent doctors justifying their use in the South claiming that it was essential. How secondary amenorrhea was treated in countries where EP drugs were banned, was information that was not considered important.

On top of this, we were being told that we were talking without sufficient information, that we did not know, that we were getting carried away by our emotions. Women talking about their experiences with the drug were ignored or asked not to be

emotional. Proofs were required for every statement made. Proofs in numbers, in accepted scietific patterns and jargon. People's experiential knowledge about the body and its functions are not part of the scientific, technical information which is considered valid knowledge by the medical community. So, often our concrete experiences with drugs are considered 'psychological 'effects . We are neurotic and fussy because we are talking of effects that are not supposed to be seen Not only that, we are also told that to get what we want, we need to suffer some discomfort!

This is very much in keeping with the 'sacred' character of modern medicine and science, with the notion that it is only the preserve of a few and that only the initiated can understand it. The stress is totally on non-participatory medical help -- the doctor knows. The patient cannot know . This is the paradigm. Within it our methods become more effective, only as the error on the part of the patient is reduced -- by reduction of her involvment. The human error is minimised. Doctors' errors do not count. They are the holy representatives of science, demi- gods, hardly human! representive s of god ! They are hardly human!

All this is reflected in the way that women's reproduction system is controlled by modern medicine. That there are whole persons of whom these systems are a part is a fact that is overlooked. Headaches, depressions, reduced libido, weight gain, bloatedness are all side effects which are taken casually and considered unimportant. The unsaid or sometimes even explicitly stated understanding is that 'controlling women's fertility is something for which 'a small' price has to be paid of course, by the women. It is after all her need! Either a need to have sex without it necessarily resulting in a child or the dire need to have her very own biological and genetic child.

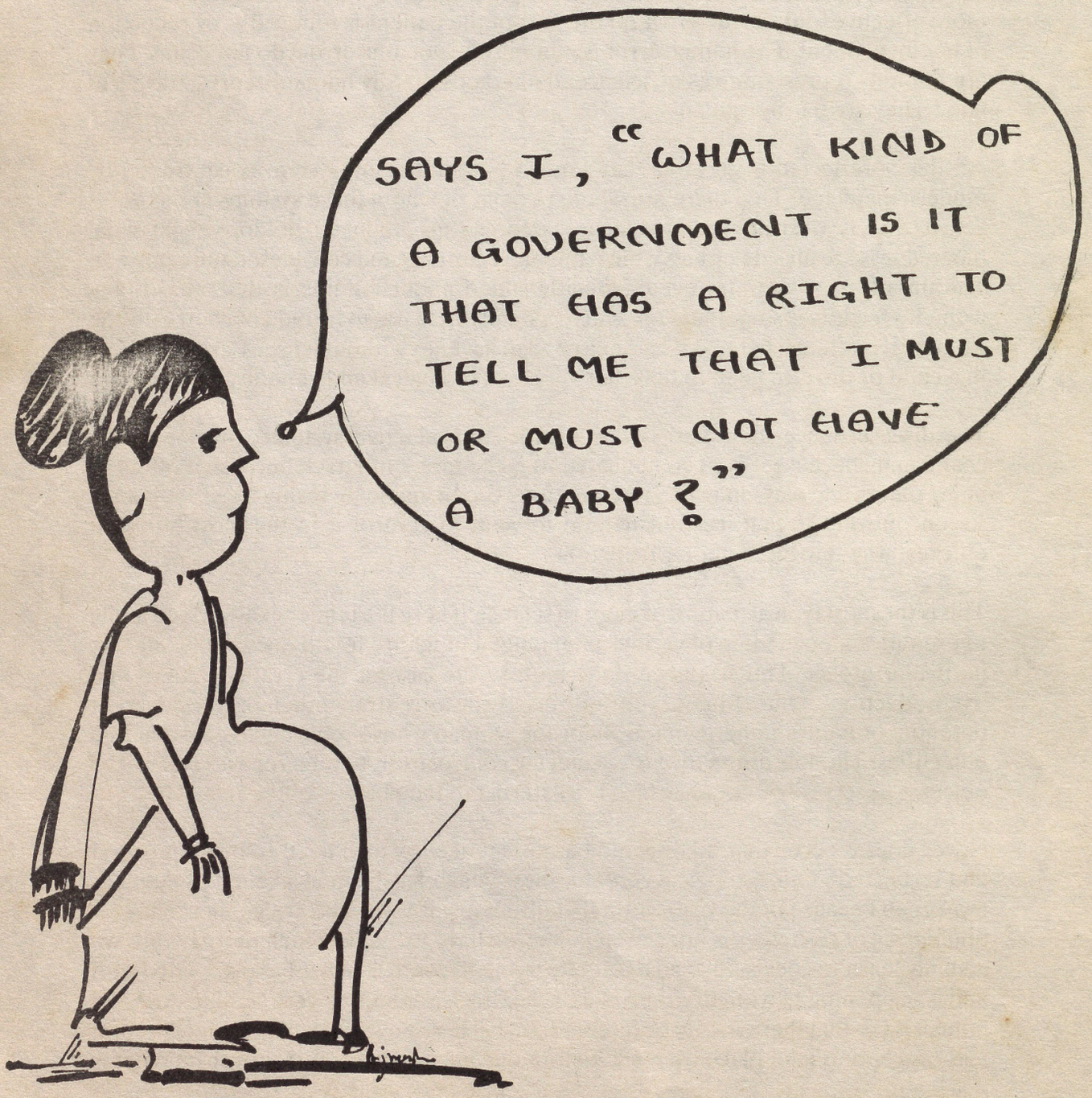
The disease hence identified is the 'erratic' reproductive system of women. It is challenging because it is so complicated. It is the target of attack because it offers so many places and ways in which interventions can be made by technology! It appears so 'uncontrolled ' that it is but natural to want to control it in the most efficient, quickest way -- without her participation.

This is the most typical feature of modern science. There is a tendency always, all along to use our understanding of various phenomena in nature to attain control over that particular aspect. This has been done both in the case of the erratic 'Nature' and 'Reproduction'. Our effort never is directed towards strenghthening the inherent potential of nature in her complexity or the woman whose reproductive system one objectifies. The sole aim is towards achieving control over, to intervene and adapt the object -- necessarily to needs which are external to the object.

Never does it occur that there could be mutual needs which need to be understood and respected . Our ecological consciousness which has been awakened of late, has awakened because of the realisation that ultimately it is we who are going to suffer if plundering of resources is not checked. Yet we have to evolve much more before we actually learn to coexist instead of blindly trying to control. What has happened with and is happening to women's reproductive ability is something very similar. At every point it is felt that there should be intervention because how can ovulation, fertilisation and conception take place correctly before our having total control over it. What is

'correct' and 'right' is that which is achieved through teconological and other intervention.

The question today before us is, is this how we want our bodies to be controlled? Is this the mindset in which we think birth control of our choice and need can evolve? What is and has been our idea ofbirth control? How do we understand this idea of control in the context of our control over our lives and bodies?



Interventions in Fertility

Knowing exactly how the body functions, modern medicine and related technology invariably attempt to set right any kind of 'malfunctioning' or 'functioning not required by the body'. As its newer, inner aspects became known, repreoduction has been progressively considered to be a disease. Hence intervention into its processes has been attempted all along by medicine. Once the process and chemical nature of hormonal changes in reproduction was known, emphasis of this intervention shifted largely onto chemical methods of different kinds. Physical methods to prevent mating of sperm and ova which are least invasive are also used, but the emphasis and direction today remains based on newer revelations and newer aspects of intervention being explored to such an extent that it can create havoc in the process of reproduction.

The biases in the research are, however, obvious especially in research and development related to reproduction. There is hardly any research in male contraception, basically because medicine very much accepts the social norm that reproduction is women's responsibility. The challenging, complicated nature of women's reproductive system also offers many a challenge and opening to intervention. Amongst the other norms medicine accepts are ones related to sexual expression: that penetration is the only accepted form of sexual expression; that the virility of men is very important, so nothing which supposedly interferes with their sexual pleasures can be advocated. So research is directed towards methods that allow penetrative sex without interfering with men's enjoyment. This and the fact that it is essentially women who have to bear the child, leads to the present research where all controls over fertility are directed towards intervention into actual processes within women's bodies, to the extent of making it a biological prison for them.

The solitary aim is controlling fertility, no other effects are considered important. What is most evident and troubling is the bias in the research, not only against one sex. Drugs banned in certain countries of the North are freely used in our part of the globe. Results of many animal trials are ignored and direct human trials undertaken. Pro-fertility research is being carried out in laboratories directly on human embryos and ovaries. The total approach is also short sighted; long term effects cannot be studied and so are just ignored, and even their possibility is kept from the users of the procedures.

We wish to trace here these interventions in the process of reproduction. Whether the technology be used to stop conception or to induce conception, we believe that the understanding, the concepts and the method of approach are the same. Hence we do not wish to divide these technologies into new and old. The so-called new technologies differ from the old in just considering absence of the fertility to be a disease. Otherwise they are just two sides of the same coin. Our treating them together is to emphasise this understanding. We do consider at length the technical details as well as accepted technical problems of these interventions. Our stress, however, is on

highlighting and specifying the problems as we have understood them with each one of these interventions.

If there were no egg and/or no sperm produced in the bodies of the couple undergoing intercourse, there would be no offspring -- no reproduction. Hence we first talk of methods that intervene in the hormonal cycle; these methods usually aim at preventing of ovulation if birth is to be controlled and at inducing ovulation if a birth is wanted. There are no regular, practised methods for tampering with the male hormones to do the same thing to the sperm. So, our focus is on the myriads of ways in which a woman's menstrual/fertility cycle can be tampered with.

The next kind of interventions are the introduction or apparent removal of barriers. Here, an egg and a sperm are either not allowed to mate or forced to do so. Known for many years, the methods have been neglected and are not being researched much. The surgical methods of tubectomy and vasectomy, in a sense block the movement of mature ova and sperms, and we consider them under this kind of intervention.

Another kind of methods, especially of contraception are the ones that act after conception. These include devices to be inserted in the uterus, which, using the hostility of body organs to foreign substances, make it react and prevent implantation of the fertilised egg. Still, these devices only physically change the uterine environment. However, the latest trials are on immunological methods which prevent formation of a chemical necessary for implantation.'Fertility looked upon as a disease' -- a concept not so very clearly stated has been clearly emphasised by the nature of these immunological methods of control.

Finally, the method used even after implantation -- abortion. A controversial 'birth control method' practised for many, many years. The method used when no other method seems suitable, when no contraceptive is available, when the procedure used has failed,.....a method used -- anytime!

Interruptions in the rhythm:

The most clearly identified and recognised aspect of a woman's reproductive ability has been her menstrual cycle. Disappearance of the menstrual period prior to giving birth to a child has helped make the connection between reproduction and menstruation. And yet, to women themselves too the knowledge regarding menstruation has always remained a mystery. Religious ideologies have either glorified that ability or looked down upon it as 'pollution'. Control over women's ability to reproduce and their own mental identification with the concept of pollution is an universal characteristic. This unifying aspect of a biological process in women became a target for science to play with and manipulate as scientific development allowed access to this long time mystery. The stress was never on unravelling the mystery or helping women gain a 'scientific 'understanding. The knowledge and significance of the cycle was simply made use of. The knowledge was implemented immediately to control this natural cycle which was a part and parcel of woman's body. The taboos that had united women world over were now displaced by technology that was based on the same phenomena but was divisive.

As we have seen earlier, the menstrual cycle is a delicately balanced hormonally controlled mechanism in the human body. Its cyclical nature with a specific periodicity has allowed our reproduction and sexuality to get delinked. In each cycle there are just 2 days in which the egg is in any position to get fertilised and implanted. The whole regulation is managed by the concentration of the concerned hormones in the system. This allows a large number of points for tampering with and disturbing its balance. Usually combinations of estrogen and progesterone are used, both to avoid ovulation as well as induce superovulation. The concentrations of these combinations and their method of administration is what varies from one method to the other. Naturally then, the effects are also different and varied but have this common characteristic of disrupting the normal hormonal cycle and creating chaos in the menstrual cycle of the woman. The effects of these combinations and the reasons for their development are what we have tried to cover here. We begin with contraceptive methods based on this understanding and then move on to the projection of this knowledge in handling problems of infertility.

A pill a day ...

The everyday pill is mainly a combination of estrogen and progesterone. As we have seen in an earlier chapter, the formation of the lining is dependent on progesterone, and ovulation is regulated by the estrogen and progesterone levels. The earlier pills contained high concentration of estrogen, which caused problems for women using the pills, causing blood clots and affecting blood circulation, and sometimes resulting in death also. The levels of estrogen were found to be very high, and with successive formulations these levels were lowered.

The control over one's own fertility by affecting ovulation, a method which is also independent of the male partner's knowledge, was looked upon as a liberating power by many women. To take the pill and achieve control over their body function was a welcome fact. This choice of controlling one's own fertility, the technological tool available to women, really gave them strength where the choice was not forced on them. This has, however, not been the case in developing countries, where controlling women's fertility was earnestly desired by the State. Population control policies used this tool widely and coercively. The choice for some women became a coercion for others, causing a rift at the global level. The sense of strength to a few became a point of interference by State in the lives of coloured women and women from developing countries. It became an active agenda of the family planning institutions, whose only aim in such interventions was to increase the effectiveness of the drug. The pill and modifications in it really became the aim of policy planners.

"My honeymoon was over within 2 days. The problems forced me to fight with my husband and his planning of 15 days went phut."

"*Being educated, I had romantic notions, of mating of souls and all, devoid of such physical interaction. My husband through his doctor friend introduced me to pills the first day of marriage. Two years of continuous use, weakened my uterus, causing problems for me to retain the fetus.*"

Oral Contraceptives: the pill

History:

In 1960, the Food and Drug Administration (FDA) of the US Government approved these agents. They were estrogen progestin (synthetic chemical substance similar to the hormone pogesterone) combinations. As the side effects became evident the estrogen progestin doses were adjusted to minimum optimum concentrations to get maximum contraceptive effect and 'minimum accepted' side effects.

Commonly pills today contain 30 to 50 micrograms of estrogen and 1 gm or less of progestin. In 'minipill' there is no estrogen. They contain only 1 gm or less of progestin.

Description of the contraceptive:

These are sugar coated, one fourth of the size of an aspirin tablet. These pills are arranged in rows. One cycle consists of 21 pills but to maintain the continuity 7 more red coloured iron and Folic acid pills are added.

Method of use:

It is required to take one pill a day starting from the fifth day of menstrual period preferably at a fixed time. Regularity in taking the pill daily is necessary for contraceptive action. In case one is unable to take a pill for a day it is necessary to take two pills the next day and if this happens for two consecutive days then two pills each have to be taken for the following two days. A break for a period longer than this nullifies the contraceptive effect for that particular cycle.

Mechanism of action:

A constant maintained concentration of estrogen and progesterone in the blood has an inhibitory action on FSH and LH secretions of anterior pitutary and thus the production and maturation of follicles is affected. Thus the egg does not get produced. A regular intake of these hormones through the pills helps achieve this. At the end of 28 days there may or may not be withdrawal bleeding.

Side effects:

Cardio-vascular system complications
Cervical cancer
Increased blood pressure
Increased blood glucose
Increased liver disorders
Reduced lactation
Higher risk of ectopic pregnancy
Breast tenderness
Weight gain
Headache and migraine
Bleeding disorders

Caution Signals:

Severe *A*bdominal pain
*C*hest pain
Severe *H*eadache
*E*yeproblem (blurred vision)
*S*evere calf pain

These five symptoms may mean severe trouble. First letter of each of these symptoms means 'ACHES'. Even if one of these 'ACHES' signals appears it is necessary to stop taking the pill.

"I never liked the idea of anything hanging in my vagina, I detested the idea and so I preferred pills."

"Tampering with my hormonal cycle -- I was warned by my mother not ever to use it."

"Regulation of menstrual flow and drudgery did appeal to me after its use."

"I took pills to regulate my mensus once or twice and then my unbalanced hormonal cycle took such a long time to get restored!"

"Not as a contraceptive but for postponing my menstruation. So many women using the pills broke my resistance to take them. I consider it very normal."

"My, my! I was enlarging like a balloon! I used to feel so detached from my body. Breathing heavily, feeling heavy in and around my pelvic girdle. At first, I really enjoyed the weight gain, and now, see what has happened to me!"

All these experiences are self explanatory. Birth control is the aim. For that, playing with the hormonal cycle of women and causing them problems -- from traumas, a shock of disproportionate weight gain, disruption of their normal hormonal balance, to the greatest 'evil' for a married woman, problems for her fertility in future.

Pills had just one objective which was controlling the disease of fecundity. This concept of disease is further evident in the language used by medicine. Women using the pill and all other contraceptive measures are also termed -- patients!

The problems with the pill that were identified are very interesting. One was the hormone concentration. The other was the continuous participation by the user. Of course, it was not necessary to explain the mechanism of action to the women for it was not at all essential in consuming one pill a day. The participation of the user was only in being regular about taking the pill. It was necessary only that women remembered to take a pill everyday. All kinds of methods were devised to help in this. Although 21 pills are necessary per cycle, 7 more pills are added to make it a complete cycle. To ensure the success of this birth control measure, medicine and the industry are willing to go to any extent. Coloured arrows and indications are also made for women who might not be able to read! In spite of all this, women are still unable to maintain regularity, it is too cumbersome to supply them every month, or yet again in some societies women want to use a contraceptive measure unknown to their partners, so the method of consumption had to be altered. The basic philosophy of action i.e of preventing ovulation has been retained, only the method of delivery of the hormone combination has been altered in the later development of the long term hormonal contraceptive measures.

There is another interesting aspect of the pill. It has had a tremendous impact on the social context in which it has been popularised. For women from the developed countries, it came as a liberating force as stated earlier. It heralded the sexual revolution. For the first time, one heard of ability to have sex without being forced into procreation, and that too, even when the male partner was not supportive. The earlier use of cumbersome methods like high concentration vinegar, sugar, salt solution, jellies leading to further drudgery for women was apparently solved by a single sugar-coated minute pill. After the initial euphoria however came the backlash of this sexual revolution. Women realised much later the effects that all the chemicals pumped into them had on their bodies. Nobody had thought and warned them about it.

The greater shock was however of a different kind. What had been thought of as liberating became more oppressive. Non-procreating women were considered free and available for sex all the time. Women found it more difficult to say 'NO'. In marriages too, women's responsibility for contraception got emphasised further. Why would a man now give up on his sexual pleasure and comply with barriers when all that needed to be done was his wife popping a pill? The powerlessness of women got further emphasised. The technology, supposedly having a liberating potential, further

harnessed women to subjugation and domination. Not only that, their bodies and systems got all messed up with the chemicals that disrupted their cyclical rhythms.

In India, we still have the Family Planning programme pushing oral contraceptives (OCs). The dwindling market in the North obviously has led to countries like ours receiving aid -- of the pills. No wonder we keep seeing Mala-D advertised as the most effective, efficient method flashed on Doordarshan. Ironically, the pills are anyway popular in our society. Not so much for contraceptive purposes, but for adjusting the dates of the period to maintain the purity of religious ceremonies. Taboos of menstruation are so common in our societies that pills based on 'rational' knowledge of the cycle are used commonly by many women to maintain the irrational concept of pollution believed in by the society at large!

A needle every three months ...

To rectify the ills of the pills we were gifted with the injectables. The hormonal imbalance and problems thereby were not considered important. What was taken note of and improved upon was the problem in using the contraceptive. If it was difficult to use the contraceptive, birth control could not be achieved and since that was the primary objective, there could be no option but to see that it was used.

One of the problems identified with the pill in this respect was that it had to be consumed daily. The rectification sought was through the long acting injections. Injections are something which assure three to six months of contraceptive effect after each shot. The administration then has to be just once in three or six months. The other aspect in hoping to popularise this birth control method has been the fact that an 'injection' is considered a more efficient system of cure in most societies. The general belief (in India at least) is that if a doctor gives you an injection, you are sure to get well or, at least, you have been treated well. So, it has been assumed that an injectable contraceptive (ICs) would be better accepted.

These injectables faced strong resistance from women's groups in the North and the South. The story begins with the controversial drug Depo Provera which has been banned in the U.S.A. since 1983. Before that it was banned in Peru in 1971 because of observation of nodule formation in the rats during rat trials. Since then however, the drug is still available in 80 countries mainly from the South. The major drug companies who market it there have, however, not been able to get it approved for sale in their home countries.

An interesting aspect of research has been seen in this case. For years, positive results of drug trials on animals like beagles and others were the green signal to go ahead with human trials. Then, if questions were raised about the drug, justification was given on the basis of these animal trials. In recent trials on beagle dogs (the usual mammal undertaken for study), it was observed that there were some tumour formations after introduction of the hormones. Eager to implement these new wonders of science, the doctors involved were now willing to ignore these results by saying that 'humans are not beagles'. The logic now was that beagle dogs are very different from human beings, and so the negative results of the drug observed on them would not necessarily be seen in the case of women -- for once women undergoing trials were being referred

Injectable Contraceptives (Only progestin contraceptive)

History:

In the period 1953-57, the research in injectable contraceptives reached the final stage of production. This was also the time that the pills were introduced. They were simultaneously produced in Germany (as NET-OEN) and in the USA (as Depo-Provera). It was observed that all hormonal contraception with only high concentration of progestin caused irregular menstrual bleeding. Addition of estrogen in the OCs reduced such irregularities to an extent. This led to acceptance of estrogen progestin combination pills. In the USA the Food and Drug Administration (FDA) banned the use of injectables. It, however, allowed export of these to other countries.

Chemical Composition:

NET-OEN contains Norethisterone Enanthate (200 mg) and Depo-Provera has medroxyprogesterone acetate (200 mg), both long- acting synthetic progestins, in an oil-based solution.

Method of use:

These are deep intra-muscular injections to be administered on the fifth day of the menstrual cycle. NET-OEN needs to be given in two divided doses on both the buttocks every 60 days. Depo needs to be given similarly every 90 days.

Mechanism of action:

They act at the level of the hypothalamus and the pitutary. The high level of progestins in the blood acts as a negative feedback mechanism affecting the production of FSH and LH and their respective releasing factors. Thus these make the cycle en-ovulatory.

Besides, they reduce the mobility of the fallopian tubes so that they do not carry the matured egg. High concentration of the progestin makes the cervical mucus scanty and thick thus creating a sperm barrier. Lastly, the uterine lining also gets affected making it unsuitable for implantation.

Side effects:

Menstrual cycle disturbances
Weight gain
Fatigue
Anxiety/depression
Headache/dizziness
Decreased libido
Decreased high density cholesterols indicating increased risk of cardio-vascular diseases
Heavy withdrawal bleeding
Metabolic effects are not studied
Carcinogenic effects are not studied

Caution signals:

'ACHES' (as in OCs)

to as human beings. Now, when animal trials were giving adverse results, they were telling us that animals are not humans and so these animal trial results were of no consequence! It is after all in their hands, since they have the technical expertise, to decide when research on beagle dogs is applicable to women and when it is not.

In keeping with this logic NET-OEN (another of the ICs similar in action to Depo Provera) was introduced in India right upto stage-IV trials. These trials were opposed by Drug Action and Women's Groups. A petition was filed asking for a stay on the injectable being introduced into the mass FP programme. This was five years back. Nothing conclusive has happened so far[1]. The research trials have continued and have been conducted with cash incentives for those who volunteer to allow testing on themselves.

"No one at home knew I was using a contraceptive", says X who had not been allowed to use any birth control method by her family.

"In the beginning, I would get my periods every two weeks. Then I did not get it at all for two months. A pregnancy test was negative, but I stopped the injections."

"I did not want the loop or the pills because my relatives and neighbours always complained about them. So when they showed me a needle I chose it."

These are all quotes from women participating in the trials[2]. It hardly seems that an informed consent has been necessary for all these trials. There is also a telling experience of Stree Shakti Sanghatana from Hyderabad when they were campaigning against NET-EN. "In April 85 (they) learnt of a camp in a rural health centre to inaugurate a 12-month programme using NET-EN. A team of five feminists travelled there to request the doctors not to carry out the trial. The doctors in charge of research professed that the ICMR had pronounced the drug to be 'safe'. After arguments the camp organisers eventually suggested that both the doctors and the feminists could explain their viewpoint to the 50 women assembled for the trial. After being made aware of all the side effects and long term implications only five women volunteered..... The paramedical staff who had been assigned the task of bringing 50 potential acceptors stated that the women had not been told that the purpose was a research study. None of the women there were aware of the side-effects and they said had they known, they would not have volunteered".[3]

So much for 'informed consent' and birth control measures which would help women have control over their reproduction! The campaign against injectables has highlighted this issue of the right to know too. Stress has been laid on users knowing the results of previous trials and possible side effects for them. Instead, complaints like menstrual disorder are ignored, other upsets in the body system are dismissed as minor ailments and an easy way of birth control proclaimed as achievement. The chaos created in the body because of disruption of the cyclical process is considered psychological, trivial and definitely not worth discontinuing the device.

A shot every five years ...

Similar in their basic ideology to the injectables are the subdermal implants. Implants are basically small flat capsules packed with the hormone (progesterogen), which are inserted just under the skin on the arm of the user. They release the hormones regularly, slowly and continuously maintaining the hormone levels in such a way that ovulation does not take place. So a woman with an implant inserted in her exists for years with no normal ovulation taking place in her body.

Implants are longer acting in that their contraceptive effects last for five years. They too make a total mess of the cyclical hormonal cycle. Their positive points claimed by the promoters are the same as those for the injectables. They need to be administered even less often - once in 5 years is all that is needed. They are placed under the skin in such a way that they can be hidden from those who would oppose the use of any contraception. It is basically assumed to be less of a bother to both the user and the giver. For the latter it might be so, but surely a woman whose body has to continuously bear the excesses of this slowly released chemical, it is really no freedom. It is for her just a change in the kind of drudgery.

Hormonal Implants

Background:

The first success in the search for long-acting hormonal contraception was the manufacturing of the injectables. The drawbacks identified by the researchers with these long acting measures were as follows:
1. The progesterone level rises suddenly after the injection is administered, but it rapidly comes down in a month or two. At certain periods it reaches a 'dangerously' low level giving rise to ovulation. (Failure of the contraception seems to be more dangerous than the havoc created by the high level of the hormones in the body!) and,
2. The injection requires to be repeated every two or three months.

To rectify these drawbacks the implants with 'zero-order' release rates and a five year effectivity were developed in 1960.

The figure compares the progesterone level in each of these hormonal contraceptive methods.

Description:

They are made of silastic material and are 2.4 mm in diameter 3.4 cm in length. Either the silastic capsule is filled with the hormone or moulded into solid rods impreganated with the hormone. The hormones used are ST1435, Norgestrienone or Levonagestrel.

Method of use:

An implant is to be introduced in aseptic conditions only by a medical and trained person using local anesthesia and a guiding trocar. Either two rods containing six capsules are introduced side by side or in a V-shape in the interior portion of the arm or the thigh. Once introduced it is effective for 2-5 years. It should be removed only by trained person, again in aseptic conditions and under local anesthesia.

Method of action:

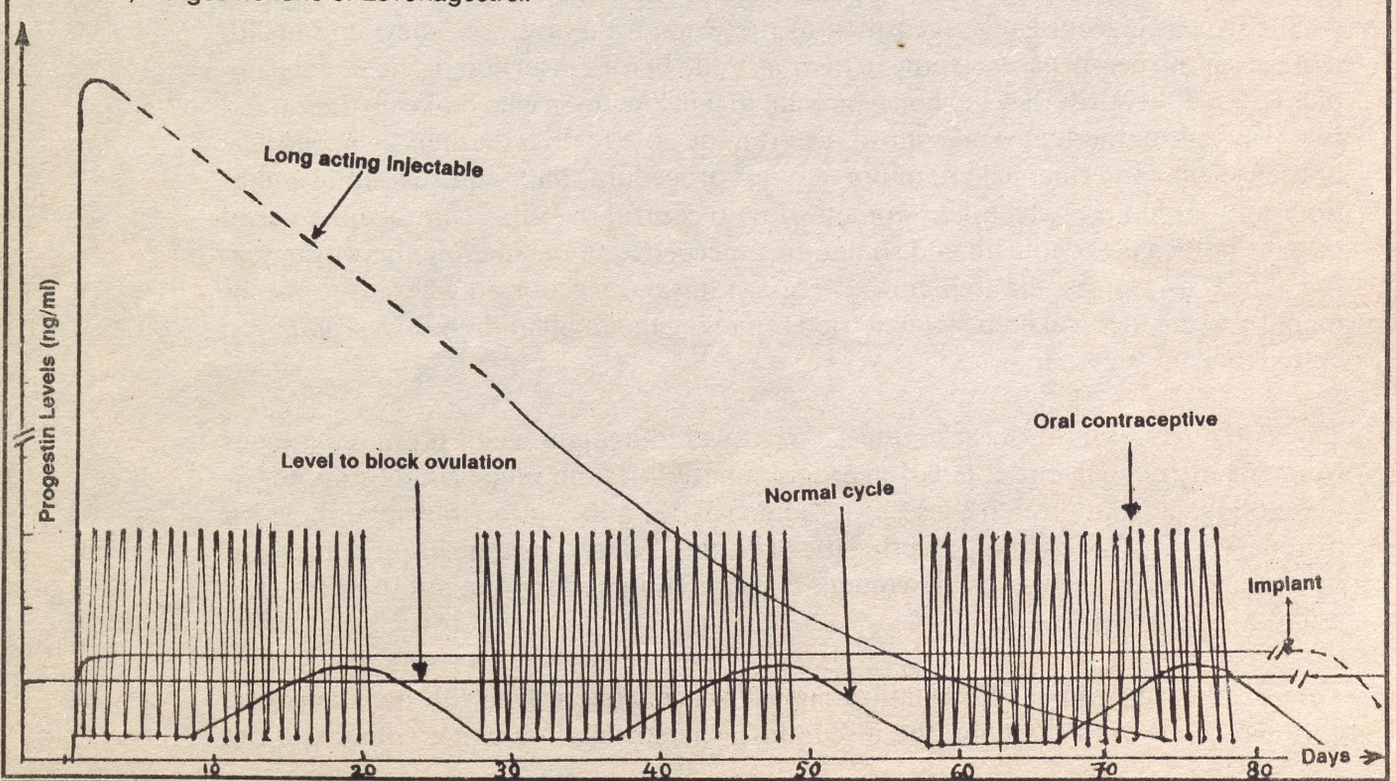
The progestin is released slowly and steadily maitaining the level in the blood just above that required to suppress ovulation thus making the cycle en-ovulatory. This also reduces the motility of the fallopian tubes and makes the cervical mucus thick and scanty causing difficulty in sperm movement.

Side effects:

Menstrual disturbances
Headache/nervousness
Weight gain
Infection at the implant site

Caution signals:

'ACHES' as in OCs



The use of implants in India has not been recorded as well, as have the detailed studies on the trials conducted in Bangladesh. In India, it was tested but we do not know the results of the trial, nor do we know the exact follow up procedure that had been adopted. In Bangladesh it has been a part of the agenda since 1981 but the actual trials began only in February 1985. The superiority of such drugs which is stressed so much lies only in their being long acting, needing less motivation and so, essentially the right choice for FP programme; the clinical trials themselves were not considered important enough. A study[4] of some of the NORPLANT users by a voluntary organisation UBINIG again showed the same state as for injectables in India; none of the women were aware that they were participating in a trial, or that they were being experimented upon. In fact, there was hardly any follow up care.

"After I have taken the 'seekhs' (needles) I felt aches in my body after six months. I cannot look upwards, I do not have any appetite. I am going to die. My menstruation is very irregular and during last Shab-e- Barat (a religious occassion) I had menstruation for two months at a stretch."

"I did not get menstruation for two years since I have taken this 5 year needle. Now I have aches in my hands, legs, and I feel weak. I cannot explain; it is a terrible feeling."

"Since I have taken the needle, I get menstruation which continues for 12 to 13 days together. When I took the 3-month needle, I had regular menstruation but now I had bleeding, clots of blood going at the time of menstruation. I feel pain in the body. I put kerosene oil on my body for aches and pains; when I go near the stove to cook, I see things double. I cannot go near the fire. "

In spite of such severe complaints, women who could manage to go back to the health centre, were given no follow up care. They were treated with vitamin pills and with pain killers. Although what was supposedly going on was a trial, reporting of health problems was discouraged. According to the women themselves, "they (the health workers at the centre) are friendly in their attitude before insertion of the needle(implant), but afterwards they did not even want to talk". Women who make up their mind to go off this method have no control over it to be able to do it on their own, because both insertion and removal are minor surgical procedures and require aseptic conditions and skilled help. Helpless women with no control over this contraceptive used in their bodies pleaded with and sometimes succeeded in persuading the workers at the centre to remove the implants. There are instances reported where because of inability to get medical help, women tried removing the implant themselves, and even ended up with severe injuries.

This is the situation in the trial phase. What would happen when these techniques would be included in our population programmes? With the single aim of stopping or preventing conception that these programmes have, and the terrible state in which women who are forced into accepting the procedures live, such dangerous contraceptives cannot be in the interest of women. They are suitable for population control, not as methods for birth control.

There is a strange love-hate relationship that each woman has with her menstrual periods. Along with the pain, the discomfort, the social taboos that come with the

menstrual bleeding, any disruption in its cycle and in the quantity or kind of bleeding becomes a cause of great concern. A normal, regular cycle and flow is an indication in a sense that this system in the body is working well. Any change leaves one baffled, out of control, disoriented, and with a feeling that something is terribly wrong. We know through our bodies that it isn't those few bleeding days alone that are altered at such times. The whole cycle and the associated changes linked to the well-balanced hormonal triggers are all disrupted and affected. In gaining apparent control over our ability to reproduce, over our fertility, such methods land us into loss of control over our basic, normal processes. Our body is left with a loss of even the control that it possessed!

The test tube cure for infertility

At the other end of this control is treatment of infertility. The cause of the infertility is not at all important in the treatment. So, for a wide range of physiological problems, be they of the man or the woman, the 'treatment' is -- somehow getting the wife pregnant. This exotic scientific 'achievement', called by the very scientific sounding name 'test tube baby' is one such method. This is a landmark in the way science has developed. Conception is now alienated totally from the bodies of the copulating couple. The name sounds exotic, and yet the procedure exceedingly simple in principle. A test tube is one of the simplest apparatus handled by all of us who have had an elementary course in science. It has also been for most of these persons, a site of some exciting and interesting chemical reactions. A baby in a test tube gives a feeling of a mixed kind. On one hand, it seems a very simple procedure, and at the same time it also gives a sense of disbelief and achievement that an hitherto hidden procedure taking place in the darkness and mysteriousness of the woman's body can now be made to take place out in the open, in bright light, in a clear glass test tube.

It seems to be a solution for all problems related to a childless couple. To couples who have tried all methods of producing one's child, (IVF) in-vitro fertilization is being offered as an ultimate cure. It is also being projected as a simple technique with a sure-shot success as far as the user is concerned. It is presented as a miracle in the doctor's hands, with very little trouble for the woman who is to get pregnant. The usual media coverage is the scientific feat of the doctor. The woman is eclipsed by the happy doctor and the fruits of his/her labour i.e the baby (babies usually). The saga of IVF is much more than all this.

IVF literally means fertilization outside the body. So it is the process of fertilizing an egg and a sperm outside the woman's body. The complete process involves various steps all of which are outlined below[5].

Evaluation: The woman is evaluated both medically and socially. Social norms are as stringently applied by technocrats to decide who should benefit from such technology. Most countries have fairly stringent laws and rules to decide who would be allowed to use such technology. It's usually just-married, heterosexual couples who are allowed access to any child-giving technology. The physiological problem in such cases is hardly what decides whether IVF is to be used or not. Initially it began as a technique in case of blocked fallopian tubes because of which the sperm never reaches the egg. The idea then was to extract the matured egg directly and get it to mate and fertilize

outside the body. Slowly, the causes of infertility for which IVF is being used as a 'cure' have gone on increasing, and today it is also many a times used for sub- fertility of the male partner.

Controlling Ovulation: Described as both 'complicated and experimental' and 'straight forward and routine', this comprises both physical and chemical manipulation of the woman's body. Rarely is the matured egg from the regular menstrual cycle of the woman, extracted. Usually, using drugs similar to different hormones involved in the menstrual cycle, the whole cycle is stimulated and controlled. The timing of the ovulation is controlled many times so that the egg is not missed and so that there isn't much discomfort -- to the medical team involved. Also, drugs are given to produce more than one egg in a cycle, that is the woman's body is made to superovulate. These days 'superovulation' is aimed to the extent that even more than 10 eggs mature.

The woman's body is subjected to these drugs and thus exposed to various kinds of long term effects too. Since the procedure is still experimental -- again a fact rarely spoken about -- each IVF team tries out its own combination of drugs trying to find those which offer control and yet do not interfere with the implantation of the embryo which most of these drugs seem to do.

"Yet another woman was given Clomid (a drug used for superovulation) with a typical 'let's see what happens if ...' attitude. She remembers:

'I started with one tablet a day but when the ultrasound check-up revealed that my eggs did not grow properly, I was told to increase the dosage to four tablets a day. The attempt had to be abandoned: my ovaries swelled considerably and despite injections to release ripe follicles no mature eggs were recovered."[6]

Besides being packed with drugs, the woman also has to undergo daily monitoring which is increased eventually to twice a day. Urine tests and/or blood tests are carried out to measure the hormone levels in order to pinpoint the time of ovulation. As the time nears, ultrasonography is used to measure the size of the follicles. This obviously is not possible unless a woman reschedules her whole life to match this routine.

"I felt so nervous and tense all the time I really doubted it would work. Somehow I managed to juggle work, house-work, taking the kid (her child from a former marriage) to school and then rushing to hospital every morning for a whole month for blood tests, urine samples and ultrasound. And often my veins would not come up ... I remember worrying so much that because of this it would not work and I had to give up. You see it depends on each procedure; if part of the procedure doesn't work you are a failure again!"

Such women are then termed 'committed' to the program, but basically most of them now have to be 'committed' to the full-time occupation of conceiving a child, forgoing all other interests and plans.

Egg Retrieval: Eggs are usually removed from the ovaries before they leave the follicles. Laproscopy, an invasive investigative procedure is used to scoop out the eggs. It is a surgical technique requiring general anaesthesia. Sometimes, the doctor succeeds in getting the eggs; sometimes not.

Laproscopy

It is essentially an investigative procedure used for any investigation in the abdominal cavity. It (essentially) uses an optical device called the laproscope which has a bundle of optical fibres made of quartz bundled into it. Those fibres help light to pass along directed paths. Besides the fibres, the laproscope also contains a combination of mirrors and lenses which facilitate viewing the area that is lit up by the light passing through the fibres.

The procedure should be performed under general anaesthesia, but many a times 'to avoid complications of anaesthesia' it is also performed under local anaesthesia. A small incision is made in the subumbilical region. A wide-bore long needle is inserted through this incision, directing it towards the pelvis, away from the great blood vessels. About three litres of inert gas like carbondioxide or nitrous oxide is then pumped into the abdomen. This distends the abdomen and separates out organs to be able to get a clear view of the organs in the cavity.

The needle is then removed and a trocar put in carefully. The cut should be just sufficient to allow insertion of the trocar. The obturator is taken out and a laproscope is introduced into the trocar. The light through the tubes of the laproscope lights up the cavity and allows viewing of the abdominal cavity which has been blown up by the gases.

In case any surgical procedure is needed to be performed, a second incision is made just under the previous one, through which the surgical instruments can be introduced and necessary surgery performed, e.g., in the case of removal of eggs from the fallopian tubes, a small scoop is put in the second incision and the matured eggs scooped out.

Once the surgery is over, all the instruments including the trocar are removed. The abdomen is slowly pressed to expel the gases. A stitch may be necessary depending on the size of the incision.

Complications:

The use of anaesthesia could lead to hypo ventilation or cardiovascular effects.
There could be tears in the tissues surrounding the organs where the laproscope is inserted.
Perforations in the organs.
Problems due to aeration and excess pressure created on the walls of the cavity.
Infection at incision site.
If size of incision is not proper, there have been instances of the trocar even falling in and piercing some organs inside the cavity.

There are other methods too, but they are not as successful. They do not succeed in extracting as many eggs, and have the potential of damaging other body parts like the bladder for example in the trans-vaginal ultrasound directed oocyte recovery (TUDOR).

Semen Collection: About two hours before the retrieval of the eggs, semen is collected from the male partner. He masturbates into a sterile cup. He is helped in this by provision of pornographic magazines and posters in that room! This alone is his contribution to the whole process, even when IVF is being used for sub-fertile sperms, i.e, essentially for male sub- fertility.

Fertilization in vitro: If eggs are retreived, they are stored in an incubator in a culture medium. Semen is placed in a petri dish with the eggs in a culture medium which mimics the woman's internal body environment. It also contains some antibiotics which are necessary for in-vitro survival of the fertilised egg. If fertilised, the single egg cell starts dividing, into two cells, then four cells and so on.

This is the sequence of acheiving in vitro fertilisation. It is one part of the story of a test-tube baby. There is no baby as yet. But eager IVF practicioners wanting to sell their technique use this stage to calculate the success of the procedure.

"A live and well child is after all the only 'real' measure of success for a birth technology which purports to assist the production of children. However, IVF doctors worldwide, in order to cover the fact that IVF is a 'failed' technology, prefer a much more complicated system. Some measure success by egg-collection, others count bio- chemical pregnancies (a rise in beta-human chorionic gonadotropin levels, falsely signalling a pregnancy), ectopic pregnancies (approximately 6%), spontaneous abortions (approximately 11%) and the onset of what they call a 'clinical pregnancy' (a misnomer: it means that the transferred embryo has successfully implanted itself in the woman's womb for at least five weeks of its nine-months-long growth period) - even though 30 - 50 percent of all such pregnancies in progress end with a miscarriage. Some clinics even call stillbirths (miscarriages after 20 weeks of pregnancy) as 'success'."

Calculation of the success rate is thus a long story of manipulation by itself. No one wants to disclose what success means to them. Success for doctors is surely not the same as that for women. In any case, all the eggs retreived (which is only a fraction of the eggs that got matured) are subjected to fertilisation. And not all of them, get fertilised.

Embryo Insertion: Whatever be the number of embryos fertilised, they now need to be inserted into the woman's womb. The terms used for the procedure are embryo transfer (when eggs are donated by some other woman) or embryo replacement when they are not. Since an embryo is not taken out and then replaced back in, insertion seems to be a more appropriate term. All fertilised embryos are inserted via a catheter pushed through the woman's cervix. Of these, the hope is that only one of them would get implanted. But as has been seen, the chances of a multiple pregnancy are very high. Recently, in India we had the case of a woman having borne quadruplets after an IVF procedure. So, multiple pregnancies is a risk that any woman undergoing IVF has to be prepared for.

At this stage, even more drugs are administered to prepare and aid the woman in implantation of the embryo. It is quite possible, after all this, that no embryo gets implanted and hence no pregnancy results. The chances of a miscarriage after implantation are also high. Besides, the procedure though called simple requires a lot of skill and also has the possibility of resulting in an ectopic pregnancy because the embryo is just pushed into the uterus. In Britain in 1987, live birth percentage per treatment per cycle for all IVF centres was 8.5percent - a dangerously low rate even for developed countries. And yet in wanting to push the procedure instead of saying openly that the procedure has almost 95% chance of not being able to give a couple a child, we hear the doctors harping on the success rate. We have no figures for India, but surely the status would be similar if not worse.

"I felt like a baby machine; no one was interested in me as a person. I was just a chook with growing eggs inside - and if they didn't grow properly then it was my own fault."

"When I was told after the third attempt that my eggs weren't good enough and that I should give up, I was shocked and utterly devastated. I remained deeply depressed for more than a year and I was suicidal a lot of the time. I felt such an abysmal failure, a

barren woman unable to give my husband a child and my parents their grandchildren. I had even failed technology."

This high failure rate and misplaced investment therein, is however just one aspect of all the problems and issues that techniques like IVF raise.

The torture of women's bodies ransacked by all kinds of drugs and chemicals is something that cannot be quantified. Going through continuous, invasive monitoring and testing is also something that the individual has to bear. To relieve the woman of the social pain that she undergoes because of not having a child, here is greater physical pain that her body is subjected to. We are not in any way curing the cause of the social pain. Instead we are creating more disorders and disrupting much more in her body for which also we shall have no cure or remedy. This method in no way cures women of the pathological cause for infertility. She is just being given her biological child; she still remains as 'infertile' as before. It gives women no better understanding of their bodies. In fact it makes them even more alienated and distant from it due to the erratic behaviour of the body because of the drugs pumped in.

The procedure further makes women 'mothers'. Identity of woman as a reproducing being or as one whose only role in life is procreation is emphasised when the procedure is such that it requires full 'dedication' and 'commitment'. By its very nature it eliminates any chance of a woman doing and achieving other things. Motherhood is 'the' career for women - - that is the message flashed. The procedure seems to be treating the disease of infertility with very high tech approach. And yet infertility - the medical condition is hardly the target.

Discussion of prevention of causes of infertility is not necessary, once it is decided that the causes do not need to be rectified. Environmental toxins, inadequate health care, doctor-induced infertility (often from continuous exposure to some contraceptive procedures) can all continue as they are. The solution to the need for one's biological/genetic child is IVF. Discussion on why men and women feel such a great need for a biological child is no longer relevant.

The more frightening implications are in the future possibilities made available by techniques like IVF. The eugenic applications are much more than just the selection of who should be given access to the technology. With the kind of control that the doctors possess, this level of selection is automatic. The procedure does not end with deciding who can have children. It goes ahead to decide what kind of children they should have. Once the embryo is out of the womb, it could be tested for various genetic traits and once again the doctors/scientists, in keeping with the social norms, could select the ones that should inhabit this world. With changing concepts of disability and handicaps, more and more would be deemed unfit to inhabit this world. No one wants to stop and see how we are creating a world which can be inhabited by only a few members of our species.

The point that we would like to emphasise and end up this section on is as follows. An understanding of a woman's menstrual cycle had been used to have control over women's ability to reproduce. Making women understand their menstrual cycle has never been an approach. Although being portrayed as 'needs' of women, these

technologies have never developed keeping women's interests as primary. As we have seen, women's needs have been created to suit other interests. The basic understanding that is prevalent is that 'fertility' - its existence or absence - is a disease. We, women, are made to feel diseased and hence in need of technological intervention. Modern medicine, like any other modern science believes in quick, invasive, chemical intervention with minimum possible active participation by the patient. And so its technological feats are those that fit in with these basic criteria.

This then is the overall scene of pro- and anti-fertility methods offered by today's science and technology. The story of menstruation which has been identified very early in the cave art portrayed along with cycles of the moon, today has 'developed' so much in a span of just about 50 years. Is it truly development?

Physical Impediments

Barriers can act in two ways. First, by preventing the sperm from entering by actually physically putting an obstruction in the way, or secondly, by introducing a chemical into the vagina which would either be hostile to the sperm moving in or kill it in its path. Various kinds of barriers have been developed over the years which use both these actions. So we have the sponge, or diaphragm, or the cap -- all with some spermicide coated on it, so that the sperm is both physically obstructed and/or killed before it makes any headway towards the egg. The other alternative is to have a sheath for the penis, thus again obstructing sperm from entering the woman's body. The condoms are barriers to be used by men and have been the oldest known devices.

Somewhere however, these methods are not promoted as much, and they are also less acceptable to people who are to use them. As far as the condoms go, although they are the simplest and easiest form of contraception, they have very low acceptability because they are to be used by men. Where social norms prescribe reproduction and hence control over it as women's duty, expecting a man to even think of making any effort to see that conception does not take place, becomes impractical. Also, since virility is equated with his manliness and prowess, both important characteristics for his ego, man does not tolerate any marring of sexual pleasure. A thin sheath on his penis would not give him the pleasure that he wants from a sexual intercourse! Also it is considered a big interruption to put it on during the intercourse. The condom has been advertised a lot in our FP programme but with no explanations of its mode of use. One is always left wondering what is the way in which this magic device acts. At an international conference in Bangladesh, women from different parts of the globe shared similar stories about how 'nirodh' failed for a man although he 'used' it regularly; how he used it varied from keeping it with him during intercourse or wearing it on his thumb (because that is how it had been demonstrated to him)!! Even if these are exaggerated versions, they are indicative of the level of understanding.

When there is such ignorance about reproduction and no attempts to explain or make one understand, one can quite visualise the problems with female barrier contraceptives. At least men's genitals are outside the body and handled every day. Women with their negated sexuality and prohibited handling of 'that portion' down there find the use of barriers even more difficult. We have been taught right from childhood that it is not correct even to touch our genitals, forget fondling them or exploring them.

Female Barrier Methods

History:

In 1838 a German physician invented diaphragms.They were popularised in the early 1880s and were discribed as Dutch Caps or Dutch Pessary. Various chemicals like cocoa, butter, vaseline, salt, vinegar,etc., were used as spermicides along with the diaphragm to increase the contraceptive effect till the spermicidal jelly was invented in 1940. Since then, the spermicidal jelly is smeared on the inner side of the diaphragm. The cervical caps were also invented around the same time.

Description:

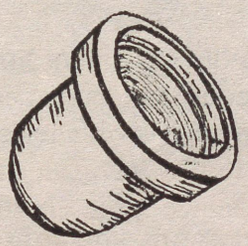
A diaphragm is made of soft rubber in the shape of a concave dish, 55 - 95 mm in diameter and is available in a range of sizes and in 3 rim styles -- the flat spring rim, coil spring rim, and arcing spring rim types. The flat type has a soft spring but coil and arcing types have increasingly sturdier springs in the rims. Cervical caps are similar to diaphragms but are made of firmer rubber, are thimble shaped, are 25 - 32 mm in diameter and are also available in a range of sizes. The rim is thick and firm with a small groove running along it.

Method of use:

According to the size of the pelvis and the shape of the uterus, an appropriate diaphragm is chosen. The user requires to learn the insertion from a trained person.



Diaphragm



Cervical cap

Before using it, it has to be smeared along the rim on the inner, concave side with spermicidal jelly. The diaphragm is to be held between the thumb and the index finger tightly so that the shape gets elongated and it is easier to insert through the vagina. It is slowly pushed in with the help of the index finger until it fits tightly in the vagina in such a way that it covers the cervical opening. It should be kept in place for 6 - 8 hours after the intercourse is over. It may be washed with warm water and soap but can't be boiled. For the spermicidal jelly to be effective, it should be inserted not more than 6 hours prior to the intercourse.

The cervical cap is to be inserted similarly with spermicidal jelly. It fits snugly by suction on the cervix. It is more difficult to use than the diaphragm because its removal is more difficult. Sometimes a thread is attached to the rim to help in its removal.

Mode of action:

It has synergesic effect of both the barrier and the chemical method. It does not allow the meeting of the sperm and the ovum by preventing only the entry of the sperms into the cervix. The sperms can remain lingering in the vagina and so can enter the cervix if the barrier is removed soon after the intercourse. Stray sperms that may cross the barrier are taken care of by the spermicidal jelly.

Contraindications:

Allergy to rubber or spermicidal jelly.
Repeated urinary tract infections.
Anatomical abnormalities like uterine prolapse.
Inadequate vaginal muscle tone, deep laceration or sore in the vagina or the cervix.

Caution:

If left in place for a long time, it can give rise to toxic shock syndrome.

Besides, most women do not have access to the kind of privacy that is needed to actually explore and understand the genitals. When this is the situation it is almost certain that for women to accept barrier devices which they themselves have to insert is difficult.

'I can't even think of putting my finger in my vigina. The diaphragm looks so huge. How could I possibly use it?'

'The very idea of me shoving something into my vagina and letting it remain hanging there is repulsive. I would never do it'.

Besides women's lack of acceptance, problems with these barrier methods are also those of distribution. They obviously do not promote corporate interests as much as the drugs used for controlling fertility. Worse, they leave total control in the hands of the couple. The couple is free to determine when to use them and when not to. Obviously such measures which are controlled by the users cannot become part of a coercive, target-oriented population control programme. All female barrier methods were never recommended in the family planning clinics and health centres. Of course the reasons given are very different, e.g., it has been tacitly assumed that it is because of women's inability to handle these devices and general social rejection of them that the FP programme had to turn to hormonal contraceptives. But it remains a question whether it was just this, or the more important fact that control could not be kept in the hands of the population controllers and hence such methods were never sought to be popularised.

It isn't just the planners. It has been the whole approach of medicine and medical technology to avoid involvement of the user. The user-giver divide is complete. In no sphere of modern treatment is the user taken to be responsible, capable of learning and understanding. In fact, the user is totally negated. This becomes more obvious in reproduction. Using a barrier needs a lot of co-operation between the partners and also a general understanding of one's anatomy; this is claimed to be an impossible task. The condom had been discovered 250 years ago and has been reported as the first officially discovered contraceptive; this oldest form of contraception known is today declared inefficient. Women have been trying out, though on a trial and error basis, various materials as barriers. Different herbs, oil dipped rags, all kinds of things were tried by desperate women to control their childbearing systems. A lot of these did create problems of infections and cramps. Instead of using the new knowledge of materials to help women improve upon these devices, we find the focus shifting to other methods. And so, today barrier methods, which were the ones people themselves tried and experimented with, are said to be 'inefficient' because people do not use them.

We have found materials to withstand temperatures as low as that of liquid nitrogen or as high as that of molten metals. We have discovered materials that can withstand high pressures and hold vacuums. We have created materials which are highly non-corrosive and do not affect the material that they hold. We have manufactured materials like semi- conductors which have helped reduce large circuits to micro-chips. We know of materials using which one can achieve the effects of a molecular sieve..... Yet we are unable to find materials which would be fine, thin, light, non-corrosive to the organs and tissues inside our body, impermeable to a highly motile sperm and easy to keep clean and hygenic. Not only that we cannot find them, we do not feel it important enough to carry on such research. Instead of finding newer chemicals to disrupt the body's balances and cycles, why don't we concentrate on finding materials totally impervious to the sperm so that one does not need to use chemicals as spermicide along with the barriers? Spermicides and jellies which reduce mobility or kill the sperms can also be harmful to the internal organs of the woman's body. One wonders if such kind of research is not possible, or if it just does not interest those doing and aiding the research.

Sperm through a syringe

Stopping the sperm and egg from meeting is one way of preventing conception. Similarly, aiding these two to meet would be methods preventing infertility. Artificial insemination has been one such earliest known methods. Performed successfully some 100 years ago, the technique is simply injecting sperm into a woman's vagina using a syringe to do so. As a technique, what one needed to know to use it was hygienic ways of collecting the sperm in a syringe and the right angle and position in which the syringe had to be introduced into the vagina. So with some amount of understanding and care, it was possible for individual women to inseminate themselves.

Ideally speaking, as far as the technique went, its knowledge could give a great amount of self-determination to women. Since the procedure could be handled by women themselves with some co-opeation from male friends, it meant a lot of control to women. They did not need a husband to have their own child; they did not need to be in the institution of marriage to produce a child; they did not need to relate sexually with a man to be able to carry and experience a pregnancy. This method in itself thus had a great subversive potential. It not only challenged the necessity for various patriarchal institutions, it also almost went against the basic philosophy of children as a means to carry on patrilineage.

But this is where, very clearly, the hold of the prevalent norms on technology comes to the forefront. The only requirement for this technique would be availability of sperm. Any fertile sperm would help impregnate a woman. In fact in case of a couple not being able to conceive, if the problem were with the husband's sperm, this would naturally be the method suggested. Instead of the husband, a donor's sperm could be used to impregnate the woman. This is called artificial insemination by donor whereas donation by the husband is called artificial insemination by husband. Two accepted terminologies for one technique AIH and AID. It's not just a difference in name, it is a total difference in degree of acceptability.

Where AIH seems to be more open and above board, AID as a 'treament for infertility' has been performed furtively, secretly and without any one's knowledge. So much so that many a times even the woman was not told how she had been 'cured'. Using general anesthesia, freshly collected sperm usually taken from the medical students around, was pushed into her. In societies where problems with the man's sperms were identified as questions about his virility and hence his 'manliness', where it was not possible to comment on the capability of a man's sperm without the risk of hurting his ego, and where a man's ego is to be carefully looked after, naturally AID was done under utmost secrecy. Also, AID goes against the accepted ideological reasons for having children. Children are most of the times conceived to ensure genetic continuity for the man. It is to maintain lineage of the partriarchal family that monogamy is enforced. Determining the paternity of the child has been one major factor detemining the nature of social institutions. How does an unregulated, uncontrolled availibility of a technique like AI fit into such a social milieu? It becomes instrumental in a challenge to and subversion of prevailing norms. And in such a situation all the powers to be and the custodians of 'sanctity' of existing institutions play their powerful rule in 'socialising this subversive sperm'[8].

There is an all-out attempt at regulating the technique of AID. Most countries are passing laws banning the use of fresh sperm. The fact that sperm could be frozen and stored at -196°C and then thawed and used for fertilisation of an ovum is also known for the last forty years. Places where such facilities are available have been called sperm banks - places where men's sperms can be stored frozen in straws at -196°C. Apparently, women who have no problem in conceiving or who have not been able to have a child because of some problem with the partner's sperm could come to these banks and obtain frozen sperm. The fact is that the concept of a sperm bank has not gained as much popularity everywhere. Techniques like IVF - a failed technique, have been invested in much more and advocated to a greater extent. In a country like India the first sperm bank has opened only recently in Bombay. Couples having problems with the man's sperms have opted to go in for IVF instead of AID. A much more complicated technique and one which creates problems for the woman's body, which does not even guarantee a 5 per cent success rate is being advocated instead of a simple, almost self-administrable technique like AI.

And yet in this insemination, it is the frozen sperm which is being accepted, at least to some extent, rather than the natural sperm. The reason given is that it helps check for the AIDS (aquired immuno deficiency syndrome) virus. Sperm stored is checked after the incubation time period of the AIDS virus i.e after about 40 days. If the virus is detected, that sample of the sperm is rejected and disposed off. The sperm that is stored is that which tests AIDS negative. So here in this way one is ensured sperm free of this fatal virus which is not possible to do in case of natural sperm. But this is the reason given; there are other reasons. One can try and match the donor with the acceptor parents so that the child resembles them. Other qualities of the donor like his I.Q., professional status etc. can also be ascertained and carefully weeded out! In fact the Bombay sperm bank advertisement asks for, 'healthy, upwardly mobile (sic), intelligent professionals with an untarnished background.....'!!

These later reasons give a greater insight into why the frozen sperm is preferred over the natural. The sperm bank offers a chance to choose. The very purpose for which most reproductive technologies are meant which is of being able to produce 'selective progeny'. The sperm can be chosen from a certain class, race background because that sperm would be more superior! One could also seperate out the X and Y chromosomes so that then one could select the gender of the child to be born. Endless possibilities for selection offered by a sperm bank which itself is selective about the sperm that it stores!

Most importantly, through the frozen sperm and the sperm bank, we find ourselves once again in the hands of the 'experts'. A technique which could very easily have been carried on by people, is then very much in the control of the technocrats once again. They had been called upon once again - to make important decisions this time. Whose sperm could be stored? How does it qualify with the norms of a 'good' sperm? How much does it match genetically and otherwise with the acceptor couple? Who should be the recipients of the sperm from the bank?

This last, choice of recipient is, applied universally. All sperm banks regulate who the acceptor can be. Single women have most of the times been denied access to sperm from the banks. Once again, it is the fertility of the heterosexual couple that is being

catered to. The patrilineal family structure is being reinforced. A husband-wife couple with a child or two. It is this monogamous heterosexual couple alone that faces the anxiety and pain of being childless! Individuals in any other kind of living arrangements either do not deserve a child or their need for having children is totally neglected. All technological interventions are tailored to treat the ailment of childlessness for a heterosexual couple and to provide for genetic continuity to ensure patrilineal descent in such families. So we have careful matching of genes with those of the husband's in case of techniques like AID where this kind of continuity cannot be ensured. It is such requirements which make it necessary that simple techniques get more and more complicated and out of control of ordinary people.

Blocking the 'tubes'

Tubectomy and vasectomy are the two methods that prevent the passage of ova and sperm from the woman's and man's body respectively. These are almost permanent, surgical contraceptive measures. There is a possibility of reversing the procedures but since the reversals are complicated and surgical procedures themselves, they are not generally used. These can hence be termed terminal methods.

The procedure for both is of blocking the tubes. In case of tubectomy, the fallopian tubes which carry the matured egg from the ovary to the uterus are tied up so that the sperm is not allowed to meet the egg in the tube. Similarly in vasectomy, it's the vas deferens that leads the matured sperm from the epididymis to the urethra that is tied up.

In both the cases, the matured egg/sperm that are produced are naturally dissipated within the body. In no way does this affect any of the hormonal changes. The fact that the fallopian tubes are situated deeper in the abdomen, makes tubectomy a more difficult procedure. Vas on the other hand, are situated just under the skin of the scrotum and hence can be easily reached. Yet, vasectomy, a much simpler, shorter, less problematic procedure has been less accepted than tubectomy because of the generally held belief that reproduction is women's responsibility.

Sterilisations have been most popular in the FP programme. Most surprisingly, in the '70s the stress of the FP programme was on vasectomies. The period of the emergency, however, was the worst ever period in the history of the FP programme when mass vasectomies were performed on men under coercion. There are horror stories of that time of how men were just dragged against their will and sterilised, of how some of them were operated upon more than once, of how young men with no children were also forcibly taken to the camps and sterilised,..., the stories go on. The excesses, however, were a major cause of the fall of the then ruling government. Since then no later FP policy has included vasectomies as part of their targets and programmes. In fact, today, even the statistics of the number of vasectomies performed annually are not collected.

The shift has, however, not been away from sterilisations nor from coercive and target oriented sterilisations. It has been towards tubectomies. The incidents that took place in Rajasthan about two years ago, where the EGS employment was linked to getting

a tubectomy done, or meeting of targets by operating on a woman more than once are no less gory.

Sterilisations -- once and for all procedures -- are naturally attractive to the planners for whom achieving targets is the only goal. Similarly, resistance to such kind of coercion is the most natural reaction of the people. But along with this, has been propogated a myth that a vasectomy reduces libido in men or that it affects their virility. This probably stems again from the conventional attitude that men do not need to take responsibility for reproduction.

Vasectomy

It is a surgical contraception method for men. It blocks the vas deferens thus blocking the passage of the sperms from the epididymis to the urethra.

Procedure:

All precautions taken prior to any surgical procedure like history of allergies, diabetes, hypertension, etc., are essential here too. A small incision is made on one side in the identified region of the scrotum. The vas is identified by slowly feeling the tube. A small portion of it is cut, tied and often coagulated and the incision sutured. The procedure is repeated on the other side too. In all it takes about half an hour. Both the vas can be tied using just one incision also.

Some care needs to be taken after the surgery. Rest for two days and no heavy exercise for about 8 days are required. The scrotum needs to be supported for about 10 days and ice packs applied to it to avoid bleeding and swelling. The area also has to be kept clean with the help of an antiseptic.

An important point that needs to be explained is the fact that a man is not sterile immediately after the vasectomy. Some sperm could be stored in the passage prior to the tying up of the vas. It is safe to let some period of two to three months go before he could participate in unprotected sexual intercourse.

Complications:

It is a very safe procedure and has very few complications. Some minor ones like smelling, discolouring and discomfort can be reduced by some post-operative care. Other major but rare complications are infection, epididymitis, granuloma, etc.

Caution signals:

High fever
Bleeding
Excessive pain and smelling

"*He got the operation done. And yet I have got pregnant. Doctor, please save me. I swear by my child that I have not even looked at another man.*"

This distressed voice is heard quite often. One can quite imagine the plight of a woman put into such a situation. It happens if the precaution of not having unprotected intercourse for the prescribed period after the operation is not observed. Sperm matured prior to the operation sometimes get stored and active for a few days leading to such failures. A miscommunication of this vital information could cause trauma to the persons involved. Hence, necessary precautions during and after the procedure are a must to avoid such problems. Sometimes, though rarely, the operation also fails, again causing such situations.

Tubectomy

Tubal ligation involves blocking of the fallopian tubes by ligation, chemically induced coagulation or mechanical occlusion with clips, bands, rings. These can be done in two ways:
(1) through the abdomen,
(2) through the vagina.

1) Abdominal tubal ligation

i) Mini laprotomy: It is a relatively more traditional procedure with no specialised skills required. After aseptically cleaning the site on the abdomen where the incision is to be made, local or spinal anaestesia is administered. A 1 to 1.5 inch incision is made about 2 to 3 inches above the pubic bone. The tubes are picked up after separating the skin, muscle and omentum(?). The tubes are ligated or cut. If cut, the ends are sutured away from each other. This is to avoid the possibility of the rejoining of the tubes. All layers cut then need to be sutured back including the skin.

Instead of cutting or ligating the tubes, they can be infiltrated with chemicals which chemically coagulate that region in the tubes. Thus about 0.5 cm of the tube on either side is destroyed using chemicals.

ii) Laproscopy: Laproscopic procedure is followed (see box on laproscopy). A forcep is introduced through the second incision. The oviducts are grasped and using a band or a clip, the end of the tube nearer to the uterus is occluded. Besides the usual complications of a laproscopic procedure, in this case specifically, there could be uterine haemorrhage and/or perforations.

After the procedure, at least two days of complete rest is required Intercourse is to be avoided for a week. In case the operation is performed five days after the mentrual period begins, there is no necessity to have protected intercourse. Serious post-operative complications that could require madical help are fever, fainting, severe abdominal pain and bleeding from incision, etc.

2) Vaginal ligation

i) Culdotomy: The woman is made to lie down in the lithotomy position, that is, on her back with her legs separated, raised and placed in stirrups hanging about a foot or so above her. Spinal or general anaesthesia is given. Small incisions are made in the posterior portion of the vagina. Each oviduct is then brought into view through the vagina, pulled out and ligated. This procedure has high risk of infection and haemorrhage.

ii) Culdoscopy: In the same procedure as above an optical device called the endoscope is used to view the insides.

3) Hysterectomy

Hysterectomy or the removal of the uterus itself was a popular method of contraception in the USA. Even now some women get it done to avoid future problems like cervical or uterine lining malignancy, pelvic relaxation and other uterine problems which would require hysterectomy eventually.

Use of this procedure as a contraceptive measure may however be uncalled for because it is a major operation with many more complications and much higher mortality. Also, the cost and time of recovery is also very high. Psychologically too, removal of the uterus could be distressing.

Sterilisation is an option that many couples would choose on their own, after having had a family size of their choice. It is when it is a forced 'option' that even its minimum, voluntary acceptability gets reduced. One needs to oppose this coercion, make it a known fact that vasectomy is a simple procedure and also improve upon methods for tubal ligation so that people's choice becomes more of a choice.

Refusing implantation

We consider here two kinds of methods that prevent implantation of the fertilised eggs. One comprises the whole range of intra-uterine devices that basically mechanically disallow implantation and the other comprises the new immunological approaches still in the trial stages.

Safe protection by foreign device

Biological sciences depend very much on other natural sciences for their theoretical and practical understanding and in their process of finding solutions. Explicit examples of this are two methods of preventing conception. One is the bodily prevention of the mating of the ova and the sperm by the use of mechanical barrier devices like the diaphragm and the condom. The other includes devices which prevent implantation of the embryo by mechanically or chemically creating a hostile environment in the uterus.

The devices used for this are called the intra-uterine devices (IUDs). These devices do not directly affect any link in the menstrual cycle, that is, the ovulation cycle, but they do cause changes in actual menstrual flow. As the name suggests, these devices are placed in the uterus, so the formation of the uterine lining and the natural surrounding of the uterus is altered by these devices to affect implantation.

The IUDs have been modified through the years, although to date their exact mode of action is not known. Earlier devices like the Lippe's loop were such that the device had large surface areas. Then realising the effectivity of copper in rejecting implantation of the embryo in the uterus, devices like the copper-T were devised. The most recent development has been of the progestin releasing devices which had a double action. They mechanically affect implantation and also the progesterone levels, thus altering the hormone balance as well.

In a generalised sense, the action of these devices has been understood as follows. In a sense, the human body has a mechanism to protect and resist by differentiating between its own body products and foreign bodies. The body reacts to the foreign body which is present by first showing a local inflammation. In case of the IUD, the local inflammation varies the uterine atmosphere by effecting a change in the pH. This chemical change triggers a mechanical action thus causing muscular contractions of the uterus and hampering the implantation process.

These devices, though different, thus have an action similar to that of the other hormonal contraceptive measures. Though locally placed in the uterus, their mechanism also involves a generalised body action. The immunological reponse is required from the body, causing a greater blood supply and an inflammation at the site of the device. This further leads to a greater menstrual flow - a common complaint of IUD users. Also, there exists a possibility of an immunological state of shock being experienced by a few women.

All this is explained off as something that one needs to put up with once IUD has been chosen as a method of contraception. The comment of the inventor of the IUD is telling in this respect, "It is the individual who has to choose her own ideal method." Thus the experimentation is done at an individual's risk, more so in case of the IUD, since the reaction of shock is specific to only a few individuals.

"*I think the cause of her infertility is her previous exposure to the loop.*"

"*No everyday 'khatkhat'. One has to just observe the thread, that is all.*"

The IUDs

History:

The first Intra-Uterine Device (IUD) was made up of 'silk-worm gut' during 1909-1930. This gut was encircled around an alloy of silver and copper. There was a need to use an inert material instead of a material like silk-worm gut and thus Margulies spiral, Lippe's loop, safe-T coil appeared. These are called the first generation IUDs. The need to reduce the size and simplify the shape of the IUDs was felt because the earlier ones gave rise to heavy bleeding and abdominal pain. New devices required to be smaller but that meant lesser surface area for contraception. So some chemical action was added - these are known as the second generation IUDs. Amongst these Copper-7 and Copper-T have fine Copper spirals around the stem of the device. Progestasert-T is a third generation IUD with progestin stored in its stem.

Description:

All these IUDs are made of inert material. First generation IUDs were large, available in two sizes and had a thread at the end to enable checking by the woman. Second generation IUDs are smaller in size with copper wire encircling the stem and have two plastic threads at the end to help a woman check. Progestasert-T looks like copper-T without the copper wire. It is impregnated with progestin.

Mechanism of action:

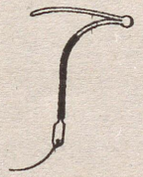
First generation IUDs: They are large and almost cover the whole space in the uterus and thus mechanically interfere in the process of implantation.They also increase the motility of the uterus so even if the fertilised ovum finds some place in the uterus, the increased motility of the muscles dislodges it.
Second generation IUDs: Though smaller, they act in the above two ways. Further, formation of copper ions changes the chemical nature of the uterine mucus and makes it chemically hostile to the sperm.
Third generation IUDs: Mechanical action is again the same but the stored progestin is released slowly as in implants. This high level of progestin thickens the cervical mucus and also suppresses ovulation.

Side effects:

Acute backache
Increased menstrual flow
Intermittent spotting
Perforation of the uterus
Probability of the dislodging of the device into the abdomen



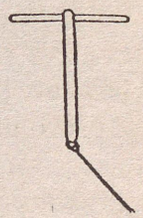
Lippes Loop
1964



Copper-7
1973



Copper-T
1976



Progestasert
1976

"Irregular menstrual bleeding is the cost that I have to pay for this control over fertility."

"With this loop permanent backache is with me. "

"She lost the track of the thread hanging down and the loop entered into her abdominal cavity. Now she has to undergo surgery."

All these are experiences of doctors, experts or users. The unknown and generalised action of the loop is the reason for many of these complaints. What one clearly knows about them is that they affect and intervene in the process of implantation.

We have seen the advertisements of these devices everywhere because they have been projected as simple, mechanical devices. 'Tambi vapra, sukhi vha' (use copper-T and be happy), says the popular advertisement on State transport buses which run to remote villages thus making this running advertisement a part of the catchy popularising strategy. It is considered to be a harmless device. The incentive has been now reduced and in fact it is being forced on women who wish to avail the facilities for childbirth or MTPs at general hospitals.

It has been advocated as a spacing method, inspite of not knowing its long term effect on the fertility of the woman. Women unable to keep track of the thread hanging in the cervix have faced situations where the IUD has dislodged itself and entered other parts of the body. Having been left unattended and neglected in the uterus it has created perforations leading to other severe infections. Continuous discomfort to a woman's body and even serious resultant disorders caused by the IUDs, whose mode of action is yet an unresolved mystery have to be tolerated because whatever they succeed in doing or not doing, they have a 98.1 per cent success rate in preventing conception! This seems to be the basis on which IUDs are being popularised. Basically , the 'disease' of fertility needs to be controlled -- by hook or by crook.

Immunising fertility!

The concept of fertility being a disease is today being exemplified further in the anti-fertility vaccines (AFV) that are in the second stage of trials in India. A new method of controlling fertility with a totally new approach. Looking at the chaos that intervention in the menstrual cycle created, this new method has now been launched which need not necessarily alter the cycle as such. Before going into the details of the AFV we would like to see what is the concept of a vaccine itself.

Vaccines are compounds made of protiens which create a resistance power in the body. They have been used so far in preventing a disease from spreading. An important aspect of preventive medicine, vaccines basically contain the disease spreading germs, the antigen, in small concentrations. Our body reacts to these antigens by producing antibodies whose presence then immunises the body from any attack by the actual disease germs from the environment. So far vaccines have been developed for 20 kinds of bacteria and viruses.

The action of a vaccine thus necessarily needs a disease against which the body is to be immunised. In the case of an anti-fertility vaccine what then is the disease? Is it fertility of the male and the female body? If that is the case then what is the cause of this disease? The causes will be those that help in the process e.g., hormones that help fertilisation, or those that aid maturation of the egg and the sperm, or those that prepare the uterus for implantation of the embryo,... any of these could be identified as the antigen. Then the cure or the immunisation has to be against formation of one or more of these hormones. The task of the AFV would be to immunise the body that is create anti-bodies against these so called antigens. So, now we have developed to such an extent that natural processes in our body have been called or termed diseases and treated accordingly.

With vaccines it is possible to control both male and female fertility. Yet there isn't much headway on the male vaccine much in keeping with the general trend of conrolling fertility only or mainly through women's bodies. In fact, an article by Speiler in the WHO bulletin makes the attitude very clear,

> *"Whether vaccines involving sperm antigens would be more appropriately used in women or men remains an open question at this time. However, as it appears most likely that their use in women would involve the fewest complications and potential hazards, the best approach would probably be active immunisation of the female or a passive local delivery such as vaginal administration of the anti-sperm antibody."[9]*

Anti-Fertility Vaccines (AFV)

Principle:

In the process of reproduction many substances are produced. These are proteins, used at various stages. Such natural proteins can also be used as antigens in vaccines so that the body is immunised against them by producing antibodies which neutralize the proteins and thus affect reproduction. HCG is such a hormone produced by the trophoblast body before implantation of the embryo. Besides HCG, various other proteins identified for producing vaccines agaist them are those produced by the egg membrane, the sperm membrane and the zona pellucida.

It is necessary that the proteins used as antigens should be related only to reproduction. The antibodies should not react against any other hormone in the body. Also, the number of the antibodies produced should be just enough to prevent reproduction. Moreover, to give them an antigenic quality, the proteins have to be associated with known antigenic substances like tetanus toxoid, cholera vaccine, etc.

History:

In India research on anti fertility vaccines has been going on since 1975. Two chains of HCG, a and b, with tetanus and cholera toxoids have been tried. The b chain has been found to be more effective. The problem with the a chain was that the vaccine also acted against the hormones LH and FSH, causing a disturbance in the menstrual cycle, and also against the thyroid hormone.

Action:

HCG is a hormone produced by the follicle after release of the fertilised egg. HCG is brought to the ovary through the blood, and the ovary then produces progesterone, progesterone stops the menstrual cycle and prepares the uterine lining to receive the fertilised egg. HCG is therefore crucial to reproduction. The antibodies produced against HCG stop this process of the fertilised egg being received by the uterine lining, i.e., stop implantation. The anti-HCG vaccine has to be given once a month but research is on to develop vaccines which could even lead to almost permanent contraception.

Right now trials for the female vaccine are in the second stage in India. Earlier in the 70s also an anti-HCG vaccine adjoined to the tetanus toxoids vaccine was abandoned. Now, fresh trials sponsored by the WHO have begun again since 1986. The first stage trials on 76 sterile women have been completed. Although all of them did not take the full required dose, it has been observed in 13% of the cases that the anti-HCG vaccine created antibodies for LH too. This has been a point to take care of in developing an AFV, that the antibodies created should not affect any other similarly structured hormone in the body. HCG and LH are similar in structure and so the fear of the anti-HCG vaccines acting against LH too is very high.

The concept of developing an AFV is however, very appealing to the family planners. Immunisation is an accepted programme by now and this enhances acceptability of

this contraceptive measure. Also their distribution seems to be easier because in any case the AFV has to be adjuvated to another disease vaccine like tetanus toxoid, cholera etc. Since the basic immunisation programme is an integral part of the health care system, the distribution of the AFV also gets taken care of.

And yet, these very criteria which make this method of contraception popular with the planners, are a cause of great concern to us. Being aware of the coercive nature and anti-people approach of the FP programme, tremendous possibility of misuse and arm-twisting tactics seem to be inherent in the use of vaccines. For example, administering of other immunisations could be linked with this much in the same way as MTP and childbirth facilities are today linked with IUD implantation or other contraceptive measures. Worse still is the possibility of anyhow immunising a certain population without their knowledge. In any case, the concept of fertility as a disease itself leads to methods of control in the hands of those who define it as a disease in the first place.

Travel from a choice to a right

As we have grouped the different methods of interventions, the last in order is abortion. A method used after conception and implantation.

The brutal ways and means by which abortion has been acheived since ages is ghastly. Getting rid of the implanted fetus is the only aim and it is carried out by any means. Indicative of this are the specimens in the pathology museum - a uterus pierced through by an iron rod, a uterus pierced through by a knitting needle. The traditional methods of eating raw papaya and similar 'hot' things is still a part of our reality. Development of technology has led to early detection of the pregnancy, and thus reduced the risks involved. The actual technique of abotion has also been simplified. There are various techniques available for abortion at different stages of the pregnancy.

Techniques apart, abortion has been a highly controversial issue in the North. Women's demand of right over their bodies and right to abortion have been confronted by the so called pro-life moral and ethical issues. The debate has centred around the personhood of the fetus - can one consider a fetus a person; when does the embryo attain personhood? The woman who is carrying that embryo, her personhood of so many years is negated brutally in this process. It is, however, in keeping with the prevailing notions of science which reduce all systems to smaller, fragmented units. To this science, the uterus is just a room for the embryo and it defines the existence of the woman. So abortion is anti- life of the embryo. These arguments happen to match with the moralistic, religious notions about life.

As far as the South is concered, the liberalised, legal sanction to abortion has definately reduced the risk factor. Appealing advertising techniques have been used to popularise abortion as a birth control method. Suburban train compartments in Bombay usually have at least one such advertisement.

Abortion

History:

Induced abortion has been an age old practice that women have followed using mechanical or chemical methods, whatever would have been the government's policies. Women have used certain herbs, seeds, fluids - to be applied locally or consumed orally. They have used mechanical methods like tying nine yard sarees around the abdomen for three days continuously or put a neem twig in the cervix to dilate it. This could have caused abortion, infection or just mechanical injury to the women's body or even resulted in death of the woman.

Medical methods:

They basically involve application of various chemicals to dilate the cervix, destroy the fetus and to induce uterine muscular contractions so that the uterine contents are expelled. Laminaria, a prostaglandin E2 suppository can be used to dilate the cervix. Saline and urea injected into the uterus act as feticides. Finally some other prostaglandins applied or pelleted vaginally cause uterine contractions. All of these could be used in permutations and combinations. This is a very painful procedure because of continued bleeding from and contractions to the uterus for 7 - 8 days.

Surgical methods:

These involve surgical, mechanical methods of expelling the contents of the uterus. There are various procedures which are chosen depending on the stage of the pregnancy.

1. Menstrual regulation: It is an easy OPD procedure for very early abortions, i.e., those done within 6 -14 days of missed periods, even before pregnancy tests could be positive. Here the uterine contents are removed by use of suction. No dilation of cervix is necessary. Immediately after the procedure, one could have complications like bleeding, shock and trauma. In later life it could lead to: i. Increased tendency of abortion; ii. Premature labour in subsequent pregnancy; iii. Infertility; and, iv. Risk of ectopic pregnancy.

2. Vacuum curettage: Evacuating of products of conception by creating negative pressure in the uterus. It can be done upto 13 weeks of gestation under local anesthesia with all aseptic precautions. Gentle dilation is given to the uterus or laminaria may be placed 6 - 24 hours prior to the procedure. A vacuum curette is introduced in through the cervix and negative pressure is created by syringe, electric vacuum pump or foot pump. In the end a sharp curettage is done.

3. Dilation and curettage (D & C): Only a sharp metal curette is used instead of the vacuum curette. Gentle dilation is given in the increasing grades, and then sharp metal curettes are used. It requires larger dilation and is more painful. General anesthesia is necessary. It may also result in less complete uterine evacuation.

4. Dilation and evacuation (D & E): It's an extension of both D & C and the vacuum curettage. It is done for a 13 - 16 weeks gestation even may be upto 20 weeks. The cervix requires more dilation since the products of conception are much larger. A crushing instrument is used followed by a large bore vacuum curette.

5. Hysterectomy: It is a small C-section intra- abdominal operation involving general anaesthesia and prolonged recovery. A small 3 -4 inch transverse incision is taken on the skin above the pubic region depending on the size of the uterus. The uterus is opened and the products of conception scooped out.

These surgical methods have been listed in the increasing order of complexity. With each the probability of complications of the kind indicated under the first procedure viz., of menstrual regulation, goes on increasing and so do the risks involved to the woman undergoing the procedure. An earlier abortion is hence safer to undergo.

These advertisements highlight the convenient location of the centre, the quick procedure and the low cost. It is openly advocating the merits so that women could go ahead and abort unwanted pregnancies. Making it sound simple, ignoring the woman involved, the number of times she might undergo it, why she has to do this to her body are all aspects which promote the use of abortion as a method to control the family size.

So abortion is not a moral issue as far as Indian society is concerned, but it is more than that, because the policy makers have used it to liberalise abortion policy. By the MTP Act of 1971, abortion was legalised to control the rising number of 'septic'

abortions all over the country. This, coming from a State with such a general anti-women's health stance, makes it difficult to accept this reasoning. Further, though it was liberally available in India, its availibility was conditional. The conditions were broad enough to allow any woman to have access to abortion, but the fact remained that it was not allowed legally and freely to any woman. Women were not considered responsible enough to be able to have an abortion without giving a reason for it. Its easy availibility, however, did not even make abortion an issue of 'self-determination' for the women in India.

Abortion as a birth control method still remains very popular. Why do women opt for it? Is it because of the material circumstances; or cultural and social practices that make child rearing their responsibility; or instituitionalised, role-modelled man woman relationships; or failure of contraceptive method used; or inconvenience and/or high risks of available contraceptive methods; or the responsibility of producing a male child; or forced pregnancies resulting from violent sexual attacks; or the fact that it is an easy, available method of birth control;... It could be any of these, some of these or all of these, depending on the woman's reality.

Abortion could also be popular because it is a method that has to be used only after conception. It does not interfere with the body during sexual intercourse and neither does it require any regular, artificial changes prior to the actual conception. Availibility of early, safe abortions along with some kind of social, legal and moral sanction to it, would actually be a great relief. It would mean getting rid of fear - fear of getting pregnant when one does not want to. A fear that any woman in a heterosexual relationship has experienced. A fear that arises because of not being able to use any contraception or due to the possibility of failure of the method used. Early abortion methods easily available to all women are a must as much as safer contraceptive methods are. This also means availibility of and access to cheap, reliable pregnancy tests so that the traumas of late abortion are reduced. Traumas both at physical and psychological level.

Getting an abortion done is never easy for women. They use it as an 'in case all fails' methods. Since pregnancy and childbirth bring about important changes in a woman's life, every woman has to be considered responsible in making a decision about carrying on with her pregnancy or not. It is her person, her life, her decision which is most important. There is no question of morality or of 'fetal rights'. The only factor in taking a decision regarding abortion is whether a woman wants to continue with the pregnancy or not. It is her right to decide.

It has been this need of women to have some control over their reproductive ability that has been catered to by all the above methods. Methods that are being given in the name of giving control to women but which have been developed and used in a manner that has increased other people's control over women's fertility.

Our Politics of Our Fertility

The Search for Ideal Contraceptives

We want control over our bodies.

Abortion is our right.

Safe contraception should be made available to us.

These have been major demands around which women from the North have rallied and campaigned. They have been major issues in the women's liberation movement there. In the South, for reasons outlined earlier, these were not allowed to become issues. Abortion and latest contraceptive methods came to us as part of the FP package. Advances in contraceptive technology have been coming to us even before they are cleared for use in the North, and continue even after they have been banned for use in the countries of their origin.

We, the women's groups have been concerned about the pumping of chemicals in our bodies, about the messing up of our fertility cycles and have yet felt guilty even while raising our voice against harmful contraceptives like NET-OEN.

"How can we campaign against all existing methods of contraception without offering any alternatives."

> *"We are not able to talk to women about the harmful effects of NET-EN. That is because a fear of future - of having cancer or other long-term effects, seems too remote and abstract a problem when they are facing life and death situations everyday."*

"When I know that the only option to taking a pill is undergoing repeated childbirths, how can I oppose her agreeing to be on the pill."

> *"A colleague of mine used to detest going home for lunch although the house was just opposite the office. Her husband was always ready to make his demands. Where is the question of advocating barrier methods to women in such situations."*

We seem to be continuously landing into a fix. We need contraception. We know that our realities are such that we cannot always practice methods of our choice. We also, however, know that in the most adverse circumstances too, women have found ways and means of controlling their fertility. Men and women have even complied with each other's needs and at times coitus interruptus has also been used as a method of contraception. Barriers of different materials have been experimented with by women. Besides this, taboos and restrictions laid down as part of ritual and tradition have been a curious mixture of women's experience, social needs of not producing at particular times and society's norms regarding women's sexuality.

The point is that contraception has been needed and used in some form or the other for a long time. The method used has, however, varied and continues to do so, from woman to woman. Each woman's reality and environment determines what will be the birth control method of her choice. The kind of relationship that she is able to establish with her partner, the amount of independence and self-determination that she has in her life, the kind of surroundings she lives in, these and many other such factors determine what method of birth control she will and can choose.

The question then before us is not of finding out an 'ideal contraceptive' to be offered as an alternative. The task is not of identifying 'the' birth control method. What we need to evolve amongst us is the criteria that we as women would like to lay down for evaluating a birth control method. The norms that we would like followed while doing further research in this area and while making contraception available to both women and men. This is something that we need to work out together.

Safety, efficacy, easy administration, low cost, are some of the criteria used even today but with their own meanings attached to them. Efficiency, for example, is measured solely in terms of whether the use of the contraceptive by a heterosexual couple relating with each other sexually prevents conception or not. The sole aim of the method is seen to be that of preventing conception. There is nothing else expected to be achieved.

Safety standards are also all messed up. The sole aim of any kind of contraception development so far by the State has been to control the process of contraception. Everything else like the effects of the chemicals on the woman's health is not important. Even necessary testing of the long and short term effects is not completed. Safety then is a dubious word used. Reducing conception has been considered to be of greater importance than the 'small', 'neurotic', 'psychological', 'trivial', 'imaginary' complaints of the woman. Easy distribution has also taken precedence over safety at times. Lesser the woman's involvement in the procedure the more it is preferred. The basic understanding being that a woman is an ignorant person who can never learn.

Besides this, simple administration and low costs have been given importance. Again cost calculations have been purely in terms of money spent. In a country like Bangladesh or India, where health care facilities are quite inaccessible to most people, it seems cheap to have birth control methods which need to be adminisered just once in five years. How does one account, however, the cost of pain such long lasting chemicals might cause to the body they are kept in or to their removal by desperate women trying to get rid of these things inside them, yet not having access to health care facilities where the implants introduced into their bodies could be removed under aseptic conditions?

In such a situation we, as women ourselves and as users of birth control methods, have to clearly state what we consider important in the use of birth control. First and foremost, we need to state loudly and clearly that if we want any contraception it is in order to have some measure of control over our lives. We want it so that we can be free to express ourselves sexually. We need it so that we and our children are not forced upon each other. We have been using it so that our full potential as human beings can be nurtured, so that we are not completely circumscribed by our capacity to procreate.

Hence it is extremely important that we use contraception that makes us feel stronger, that helps strengthen our struggle of achieving greater determination over our lives. The birth control procedure should be such that it also helps make our relationship with our male partners more equitable, more complete - one that helps improve gender relations rather than re-inforce existing inequalities. We have to understand our body and its processes instead of leaving this knowledge totally in the hands of the medical personnel. Only when we know what is the functioning of our body can we use birth control methods that work in co-ordination with our normal body processes instead of disrupting and ruining them totally. We do not believe in tampering with our bodies without even knowing what is meant by such interventions. So, naturally our ideas of contraception are very different from those who just want fewer children born to women.

Our first and foremost criterion is that we should understand our bodies. The knowledge that modern science has aquired should be combined with our long years of watching, living and experiencing our bodies and their processes. Many of us have been making these efforts collectively, be it the experiences of the groups in Rajasthan, where women worked under the health project to understand their body and its functions in their context or reality, or that of women in Madurai, who have been watching and feeling hitherto unexplored 'insides' of our bodies using the speculum and other self-help methods, or the women in Madhya Pradesh, who tried to keep their fertility charts observing the nature and consistency of the cervical mucus, or such other similar methods all over the globe -- they all emphasise our need as women to understand our body processes.

This is a clear cut denial of the dominant myth of modern medicine that 'patients' (or more appropriately in the context of reproduction, the targets of the medicine or health care services) are ignorant and need not be told what is being done to their bodies. That the 'patients' do not know as much about their bodies as the 'doctors' and so it would be the latter's opinion that would prevail and the former's that would be ignored. These efforts are also not totally in keeping with the chemical, quick approach of today's medicine. Here what is emphasised is the need to understand and co-ordinate with one's body and its functions rather than the drive to indirectly label these as inefficient and incorrect in some sense, and to control, intervene into and disrupt its processes, rather than co-ordinate with them.

The second criterion is of being able to implement this knowledge in our lives. To be able to be in a position to determine our sexuality and sexual needs. To be able to create space in our relations with men which stress our understanding each other. To create new concepts of what is meant by 'male' and 'female', sex and gender, and to emphasise alternate ways of expressing our sexuality without negating either person. The struggle being waged in different aspects of our lives all connects up and in turn strengthens us. It is our collective effort at creating space in our lives to have more self-determining power. Individually women and men have tried to work out their own patterns. Where it is a reality that some women never have a chance to say 'no' to their partner's needs, it is also a reality that 'coitus interruptus', 'abstinence during unsafe periods', 'sexual interaction without penetration' have all also been methods to avoid conception used by a significant number of women and men as conscious birth control procedures.

Use of male and female barrier methods is also not negligible. If one would reduce stress on easy distribution and 'efficacy', surely better materials could be found for preparation of these devices and more stress laid on women understanding and being comfortable with these devices which they have to insert into their bodies (never explored, unprobed, forbidden to touch regions) often under adverse circumstances, i.e., without any privacy and in insufficiently hygienic conditions. A proper understanding of the body and its processes other than for procreation alone, and greater understanding between the man anf the woman relating to each other are requisites for making these methods successful. Conversely, use of these methods reinforces and helps in the above processes. Surely then, these would be more efficient because they do not only stop procreation, they also recognise women as human beings with their own needs and wills, not only as procreators; they recognise relations between women and men to be for purposes other than procreation and accept people as knowledgable, responsible adults who can actively participate in areas related to their bodies rather than just be recipients of methods and technology pre-decided upon by others.

The point is that one is defining efficiency now not only in terms of the ability to prevent conception. Something would be more efficient when it would do this, but while helping in our efforts to redefine reproduction as such. Reclaiming our bodies and our dignity and better man-woman relationships are not just side benefits that

one would get. These should be equally sought for accomplishments from any method of contraception just as prevention of conception is.

When one's expectation from a method of birth control are manyfold, naturally our definition of safety also changes drastically. Retaining the dignity of the woman's body and her person are both important in safety. A contraceptive not only has to be safe for a woman's body, it should also be safe for a woman's person. Again it should not only not harm these, it should help make these more healthy. So in a way this efficiency includes safety. When efficiency requires respect for the 'person', it automatically has to be safe, meaning that it would not at least damage her situation as it is before using the method. Interventions into people's bodies without their knowing the possible implications and understanding the consequences is unpardonable. No excuses of women being illiterate and incapable of understanding can be allowed. Even if these were real impediments in explaining (which obviously we do not agree with), there is no dearth of 'literate' women capable of understanding. Why not try out interventions on them?

Accessibility again has to be oriented from the user's point of view. It should be the convenience of the people that should determine the accessibility of a procedure. Just because it is easier to administer a contraceptive along with other immunisations does not justify the use of anti-fertility vaccines. Neither are the vaccine or the implant or long- acting injectables justified because they do not require continuously reaching out to women. Basic health care service is a must for every human being and we cannot shirk it whatever be the cost in terms of money, energy and humanpower. Even if, putting more money into developing people oriented services might seem more expensive because it would be a slow process of education and would probably require much more energy than stuffing people with pills and injections, in the long run and in terms of the returns of a more strengthened and healthy population, there is no doubt that it would be a more effective people- oriented approach than depending on and adjusting to the needs and requirements of the multinational pharmaceutical industry. Contraception is an integral part of this service and has to be a primary responsibility of society towards all people who want it.

There is another very important aspect of the accessibilty of any contraception provided. It has to be given only to people who want it. Any kind of incentive or coercion cannot be condoned. It goes against the very nature of our understanding of contraception. Population or more appropriately State control of population must be delinked from people's genuine need to decide whether or not they wish to have any or more children.

These are our ideas of requirements of a contraceptive procedure and these then would be our criteria of eveluating a particular method. For an individual woman, how much more strength it provides to her person, how much it helps improve the relations with her male partner, how much it helps to understand and adjust according to her body processes and how easily and to their convenience it is made available.

Adults without children or infertile couples

We have talked about the infertility induced by safe contraceptive methods of our choice, but the question of infertility does not end there, we must also talk about infertility due to various other reasons -- the so-called pathological, psycological, and social reasons -- where similar questions have to be answered and tackled. The problem of this 'infertility' is not recorded, no statistics of it are available in population studies. We have seen that the scientific answers to this problem are researched and implemented in similar fashion as in case of induced infertility.

What is this infertility and what does it mean to people?

"*They do not have any children, who will look after them in old age*"

"*You do not know what it means to be with children because you do not have any.*"

"*Nature is like that, where children are needed the couple won't get any, and those who can't look after them get plenty of them.*"

Infertility has been considered a curse or a disease but only for married couples. This itself has never been questioned. Why is it considered a blot on one's 'personhood' -- 'manhood', or 'womanhood'? Is it a violation of the person or of the institution of marriage to which society reacts when children are not born after a nuptial knot is tied?

The question of this personhood and it's equation with woman is also restricted to married women. A single woman, unmarried and the mother of a child is as persecuted and abused as a woman who is married but childless. Fertility is considered a question only within the closet of a family. It is to carry the family further. To get support from one's blood relations in one's old age. To make those religious rites possible which grant salvation. To feel a continuity of oneself in the world. In that sense, it is a quest for eternal life at least through others who are genetically related. A continuity that is, however, accepted only for those who obey the norms of the society and honour its institutions.

For couples who could not reproduce, society had its own ways of setting things right. Remarriage for the man - usually the most common method, or even other methods like secretly forcing a woman to sleep with another man from the same family.

Children are considered to be god- given and so being childless is a curse, leading to appeasement of the gods and the driving away of the evil spirits (most of the time it is another elderly, barren woman who is identified as the evil spirit). Women are tortured in the name of appeasing the gods. The extent of this torture could be anything - from beating, sexual molestation to attacks almost leading to death. Though infertility is the question of a couplé, the man's fertility is never questioned openly. It is a dark secret to be guarded to protect his manliness.

Now, modern medicine is replacing these 'irrational' treatment methods and causes by its more rational, logical approach. The problem is that the framework of the questions being addressed by this modern medicine and advanced society is still the same. By treating only the infertility of married couples, the same stress on genetic continuity is maintained. The husband's sperm is still the most vital component of an infertility treatment. Women's bodies are still being tortured, maimed and messed up with, just so that they can carry their husband's child. The only identification for women is assumed to be through their reproductive systems. The role assigned to them is that of being 'mothers'. Further, their systems are freely tampered with and controlled totally by the technocrats, all the time of course under the pretext of helping the individual woman.

The new technology is being provided in the name of a choice being offered to her. Choice to express her and her partner's ability to reproduce. Freedom is taken to tamper with her whole life just so that she can fulfil her final duty towards society and humankind - produce children and propagate the species. Propagation of human-kind is very vital and helping in that - a woman's destiny. This is the framework within which even 'modern' medicine and reproductive technology operates.

One, however, wonders if this - genetic continuity for an individual and propagation of the species thereby - is the only reason to have children. Children are surely important for this society for other reasons too. They are not just the product of mating of ova and sperm. For us humans, socio-cultural beings, it is the long process of nurturing, caring and rearing them that should be as important. And we feel that it is these aspects that have to be stressed in infertility treatments, be they social or technological.

A nine year old girl writes a letter to an editor -- offering the solution to a problem which has disrupted the whole fabric of the national politics.

"*Please break down the mosque but do not allow a temple to be built there. Build a park for children there instead, so that the hindus and muslims do not fight.*"

A child with such a thoughtful solution, appealing to adults to be responsible towards children. Asking adults for a solution beyond the limits posed by any religion. A park, a place full of children's faces; their playing, their fights and their amusement! Children are beautiful irrespective of their caste, race and colour. Their innocence,

the curiosity in their eyes, their observations, their puzzling over their meaning, and their trying out of their solutions -- it is a beautiful and creative experience. All adults forget as they grow up that they were children once, a fact forgotten in the process of attaining adulthood. This forgetting so often leads to abuse and maltreatment too.

"*Children are so fast in learning, it is difficult to actually keep track of how they have managed. And then it all becomes such a learning process for you too.*"

"*It is such a nice time being with kids. I enjoy it the most. The innocence, the curious eyes, the involuntary demand to kiss them, hug them is so great that it really does not matter whose child it is.*"

One wonders why this pleasure becomes 'my' pleasure, 'my' creative experience only when the child is 'my' child. A possessive tone comes in, with a lot of pride expressed in 'my son' (with 'my' daughter of course the tone may not reflect the same pride!). In any case, 'my'child becomes a source of a lot of my joys, my sorrows, my ambitions, my dreams, my world.

" *'Does she look like you or your husband?' My daughter always reacted to this by saying, 'I look like me.' This is something that changed my way of looking at children.*"

The responsibility of rearing a child is probably an important fact that generates and maintains the notion of pride and ownership. In no other relationship of ours are we made to invest as much or expect as much. This is what leads to expect return feelings of'taking care' and 'looking after' once the children grow up. And as things are today, the social structures seem to be narrowing down more and more, with the responsibility of the children getting confined to couples and within couples on to the woman.

Unless childcare and children are a more widely shared, social responsibility, this sense of possession is bound to go on getting enhanced. It is necessary that as a society we consider it our responsibility to rear, care for, nurture and look after 'our' children (and all those of 'us' who need looking after like the aged, the infirm, and others who need it). This is a necessary condition not only to ensure that every child gets her childhood, her due, but also to see that every adult gets a chance to share another's childhood, irrespective of whether she/he has a child or not.

Being with children, sharing their world and also their responsibility, is an aspect of life that all adults need. We only feel that it is not as if this were possible only with one's own biological and genetic child. In fact in the child - parent relationships that we have today comments like this one given by a growing child's mother are quite common.

"I enjoy other children more. I love them more freely I think. With my child, the dialogue always somehow lands up in a mess. She too is more happy with other adults."

Once children become adults' possessions, most of the time one loses all the joy of sharing their growing up, their experimenting with the world and its objects, their curiosity and openness! And they are forced to live lives that were denied to us; the cherished dreams they have to fulfil are ours, they have to live their life as we want them to.

Once children are looked upon as children, that is, as smaller human beings needing our collective help, support, respect, love and nurturing in order to become independent adults themselves, the pressure on having one's own genetic, biological child is surely reduced. Adoption is an option in today's society that is a small and definite step in that direction, although within its prescribed bounds. But even that level of singular responsibility need not be necessary in a truly wider, social and participatory childcare system. That is our vision for the future.

Yet, of course, all this is once the child is born. What about the biological act of conceiving and delivering a child which is very much linked with a woman's biology and body. The myth today is of identifying infertility with a married woman's reproductive organs; the inability to reproduce is inability of her womb, and so it is a negation of her personhood.

A woman -- or for that matter, a man -- who is infertile is no less a person, no less a human being for it. In itself, it is a condition no less and no more, than having a different skin colour, or a crooked nose, or poor parents. Such a person does not lack any of the capacities that make human beings human. The social meaning of their 'deficiencies' weighs down on them, not the deficiencies themselves. The social meaning of childlessness is a denial to the adults of a fruitful, satisfying relaionship with children unless they are their own genetic children. For women this is even more true. Women too are adult humans and so are quite capable of an equally satisfying relationship with a child not born of their womb. But the values instilled into and imbibed by us are a denial of this. They emphasise the womb in our body and pregnancy in our life, as THE creative experience.

"It is a creative experience to give birth."

"Do not cry. Delivering a child is a pleasant happening in your life. Quietly bear the pain."

Pregnancy can be a creative, and emotionally needed experience, but the physical pain or labour pain -- how much of that pain is tolerated by a woman because of the norms of society and how much because of a sense of fulfillment in the pain is an unanswerable question. A woman's biological ability and the course in life it takes due to sociological notions is experienced by most of us to greater or lesser extent. The restrictions on the mobility, the trauma of the change undergone by one's body during pregnancy get slowly crystallised into an alienation from one's own body.

The first biological change in her is related with menstruation - symbol of her ability to reproduce - and it is taken as pollution. So deviating from this norm becomes a guilt, and to express one's own sorrow and pain is difficult. The fear of getting pregnant also becomes very much a part of the person. Alienation from and fear of sexual expression -- whether partly because of various notions and half-cooked ideas or of innocence - matter to her so much that actually it is difficult to differentiate whether she is producing a child as her need or society's demand or requirement of the species.

"*I wanted to experience the pregnancy, the movement in my stomach. Born in a nuclear family I never had a chance even to feel a child, so I am producing with great pain.*"

With this ideology propogated and believed by us, infertility becomes not even a problem but a disease and finds an answer then in the technology offering a cure. The fertility of a woman becomes crucial. The process of reproduction narrows down to the woman and her abiliy to reproduce. The understanding of science based on the social structure and its fragmented approach offers technological solutions to the problems of woman's fertility, whether in controlling her fertility or in curing her infertility.

Women have to learn to look at themselves as persons in their own eyes than through somebody else's. They have to realise their full potential as human beings, not remain procreators alone. Not that we wish to negate our biology and its special power of reproduction. We just feel that, this has to be but one aspect of our multi-faceted personalities. Our biology is not to be our destiny in any sense. At the same time, knowledge about it and control over it are pre-requisites to our realisations of our full potentials.

We have to struggle for social conditions in which the responsibility of child rearing, procreation, contraception all are shared and considered social responsibilities. At the same time, however, as long as there is any connection between sexuality, reproduction and women's bodies, the struggle to retain our right over our procreative abilities and our bodies is also something which will have to go on.

Reproductive rights

The social reality has been such that, this connection between sexuality, reproduction and women's bodies has for long remained a source of oppression and subordination. Women have, of course, also fought and retaliated in their own ways, individually or collectively. This struggle has been global, in the North and the South, developed and underdeveloped. It has been named the fight for achieving 'reproductive rights'.

Not 'rights' in the legal sense, it is more than that. It means expression of our sexuality, not only as a reaction to existing norms. Changing the values and morals we have ourselves imbibed is also part of the challenge. It means having a say in the kind of technology related to reproduction that is developed and used. It means asserting that we and our body are not fragmented, but we are intact, whole persons and that we will not allow such an understanding of us which is negating us, our personhood and our existence.

It has, however, not been a straightforward issue because kinds of social norms and biological abilities anyway divide women from each other and segregate them totally. Do unmarried women, widows, women in heterosexual relationships but outside of the institution of marriage, have a right to reproduce? The heterosexual norms have been defied by the lesbians who wish to express their sexuality in a different way. Do they have a right to reproduce? Surely they do. It just means breaking and getting out of or not caring for socio-cultural norms.

But what is the answer when a woman wants to have her own child by whatever technology possible? How does one handle the 'need' of women to become biological and genetic mothers of their husband's child? Further complicated are question of selecting the kind of child. Going beyond deciding whether to have a child or not and in what way, we are now faced with even deciding what kind of a child can we choose and whether and how far we should so choose. Does a woman have a right to have only a boy child? Or to have children with only a certain kind of genetic screening?

These are questions which sound very confusing and also seem to be arising from the apparent demand of 'reproductive rights'or control over one's body. Hence one needs to be very clear in stating what one is identifying as a right for a woman.

In present situations, most women have absolutely no choice and control in any case. In their choiceless, powerless situation, where their existence is linked to a man, be he a father, brother, husband or son, offering the choice to a woman to have a son or a daughter is hardly a choice. It is a predetermined decision. For a woman if the only identity created right from childhood is that of being a being for reproduction, if she

has been trained for nothing other than being a mother, if she is valued and treated as a full human being only if she is the wife of her children's father, how can her wanting to go through all invasive procedures to conceive be called her assertion of her reproductive right and freedom?

It is very clear that unless social conditions change, until basis of interpersonal relationships and conditions for child care and child rearing change, there is no question of reproductive right or freedom. Building a society that fits our vision is one dimension - the social dimension of reproductive rights -- that is necessary for any kind of real choice and control over our bodies and fertility.

Yet, that alone is not sufficient. As long as our bodies and reproduction are linked, the final decision and choice of conceiving a child and giving birth to it has to be woman's. That is because pregnancy and childbirth alter a woman's life in a way and require from her an involvment that is deep. As Ellen Willis says,

> *"There is no way a pregnant woman can passively let the fetus live; she must create and nurture it with her own body, a symbiosis that is often difficult, sometimes dangerous, uniquely intimate."[1]*

The general principle of bodily integrity or self determination has to be extented and accordingly women's control over their reproduction and sexuality recongnised. This is the other -- the individual dimension of reproductive rights, which too is equally necessary.

Neither of these two dimensions, social or individual can be ignored or neglected in talking of reproductive rights. Although these two sound contradictory, neither can be negated and both have to be simultaneously addressed to while talking of our reproduction and what we should do about it. It does not settle anything, or make it any less difficult; all we hope is that by now, we have a better starting point for it.

Notes

Chapter 2 : Our Fertility Cycle

1. Fig. 1 from 'The Vasectomy Book' by Mark Goldstein and Michael Feldberg.
2. Fig. 3,4,5 and 8 are from 'The New no Pill no Risk Birth control' by Nona Aguilar.
3. Fig. 6 from 'Contraceptive Technology 1984-85' by Robert Hatcher et al.
4. Fig. 7 from 'Natural Healing in Gynaecology' by Rina Nissim.

Chapter 3 : Their Politics of Our Fertility

1. 'Fertility Control' by C. Sathyamala; Background paper for annual MFC meet 1987.
2. 'North' and 'South' here refer to the regions of the globe. This is the nomenclature we have used throughout the monograph instead of referring to terms like East/West or developed/developing.
3. From the opening statement prepared by six participants for the Declaration of Comilla at FINRRAGE/UBINIG international conference 1989; Conference Khabar, April 5 1989.
4. 'Politics of Motherhood' by Manisha Gupte (to be published).
5. Adapted from : 'Dangerous Search for a Perfect Man' by Chayanika Swatija Kamaxi; Sunday Observer, 30th Sep. 1990.

Chapter 4 : Interventions in Fertility

1. The NET-OEN case has again come up for hearing in Oct. '90. Details of its progres can be had from Sathyamala and Nalini of Saheli.
2. All quotes for NET-OEN trials from 'The battle over injectable contraceptives' by Shirin Mehta; Bombay magazine, 7th Oct. 1986.
3. 'Women against injectables' by Mona Daswani from 'In Search of Our Bodies' eds. Kamakshi Bhate et al.
4. Quotes of users from 'Norplant : 5 year needle' by UBINIG in Radical Journal of Health, March 1988.
5. The description of the procedure for IVF is along similar lines as outlined by Patricia Spallone in 'Beyond Conception'.
6. All quotes in this subsection from 'Infertility' ed. Renate Klein.
7. Fig. 2 and 3 from 'Contraceptive Technology 1984-85' by Robert Hatcher et al.
8. 'Socialising the subversive sperm' is a term used by Gena Corea in 'The Mother Machine'. She has dealt at length with this aspect of AI.
9. 'Development of immunological methods of fertility regulation' by J. Spieler in Bulletin of the WHO #65, 1987.

Chapter 5 : Our Politics of Our Fertility

1. Ellen Willis in 'The Village Voice', 5th March 1979.

For Rumination

Knowing the body

1. **In Search of Our Bodies** : Collection of papers presented in the workshop on 'Feminist perspective on women, health and reproduction in India'; Shakti, 1987.
2. **Our Bodies Our Selves** : The Boston women's health book collective; Simon & Schuster, 1979.
3. **Sharir ki jankari** : Rajasthan women's collective participation; Kali for Women, 1989.
4. **Women's Health - A Spare Rib Reader** : ed. Sue O'Sullivan; Pandora, 1987.
5. **Natural healing in Gynaecology** : Rina Nissim; Pandora, 1986.
6. **Female Cycles** : Paula Weideger; Women's Press, 1978.
7. **Women's health and Reproduction** : ed. Helen Roberts; Routledge and Kegan Paul, 1989.
8. **Sexuality - A Reader** : Feminist Review Collective; Virago, 1987.
9. **Woman to Woman** : Anne Roper; Attic, 1986.
10. **Woman's body, woman's right** : Linda Gordon; Penguin, 1977.

Family Planning Policies

1. **Can Family Planning Programme reduce Fertility rate?** : Malini Karkal; Stree Uvach Publication, 1989.
2. **Taking Sides** : C. Sathyamala et al; ANITRA, 1986.
3. **Bitter Pills; Population Policies and their implementation in eight developing countries** : Donald Warwick; Cambridge University Press, 1982.
4. **The Myth of Population Control** : Mahmood Mamdani; Monthly Review Press, 1972.

Critiques of science and medicine

1. **The Politics of Women's Biology** : Ruth Hubbard; Rutgers University Press, 1990.
2. **The Hidden Malpractice** : Gena Corea; Harper Colophon Books, 1977.
3. **Women look at Biology looking at Women** : ed. Ruth Hubbard et al; Schenkman, 1979.
4. **Science Question in Feminism** : Sandra Harding; Cornell University Press, 1986.
5. **Feminist Approaches to Science** : Ruth Bleir; Pergamon Press, 1986.
6. **Woman's Nature** : eds. Marian Lowe and Ruth Hubbard; Pergamon Press, 1983.

Preventing Fertility

1. **Reproductive Rights and Wrongs** : Betsy Hartmann; Harper and Row, 1987.
2. **Abortion and woman's choice** : Rosalind Pollack Petchesky; Verso, 1986.
3. **Adverse Effects: Women and the Pharmaceutical Industry** : ed. Kathleen Mc-

Donnell; International Organisation of Consumers Unions, Malaysia, 1986.
4. **Contraception as if women mattered** : Vimal Balsubramanyam; CED, 1986.
5. **Understanding Abortion** : Mary Pipes; Women's Press, 1986.
6. **Coping with Abortion** : Alison Frater and Catharine Wright; Chambers, 1986.
7. **Natural Birth Control** : Drake Katia; Thorsons, 1984.
8. **Women and the new Hormonal Contraceptives** : Sumati Nair; London/Amsterdam, 1989.
9. **The Vasectomy Book** : Mark Goldstein and Michael Feldberg; Tarcher, 1982.
10. **Contraceptive Technology 1984-85** : ed. Robert Hatcher et al; Irvington, 1984.
11. **Injecting NET-OEN into India** : Mira Savara; CED, 1986.
12. **The New no Pill no Risk Birth control** : Nona Aguilar; Rowson Associates, 1986.

Infertility Treatments

1. **The Mother Machine** : Gena Corea; Harper & Row, 1979.
2. **Test Tube Women** : ed. Rita Arditti et al; Pandora Press, 1984.
3. **Man Made Women** : Gena Corea et al; Hutchinson, 1985.
4. **Made to Order** : eds. Patricia Spallone and Deborah Lynn Steinberg; Pergamon Press, 1987.
5. **Infertility** : ed. Renate Klein; Pandora Press, 1989.
6. **Beyond Conception** : Patricia Spallone; Macmillan Education, 1989.

Coming Together

Some of the women's groups active in these or similar issues

1. **Action India Project**; 11-2, Maharani Bagh; New Delhi 110 065.

2. **Bailancho Saad**; 304, Prema Building; Rue de Ourem; Panjim 403 001.

3. **Chhattisgarh Mahila Jagruti Sangathan**; A 38 Housing Board Colony; Shankar Nagar; Raipur 492 007.

4. **CHETANA**; Drive in Cinema Building; Thaltej Road; Ahmedabad 380 054.

5. **Forum Against Sex Determination and Sex Preselection**; 120-B Safalya; Currey Road; Bombay 400 013.

6. **IDARA**; 7-A Jhalana Institutional Area; Jaipur 302 004.

7. **Mahila Samuh**; K-72, Christian Ganj; Ajmer 305 001.

8. **Maithri**; c/o Vijaya; 6-3596/40 Venkataramana Colony; Hyderabad 500 004.

9. **Pennurimai Iyakkam**; TTS Arasaradi; Madurai 625 010.

10. **Rural Women's Liberation Movement**; c/o SRED; Kalluru; At post Perumuchi; Arakkonam 631 002.

11. **Saheli;** Above shop no. 105-108; Defence Colony Flyover Market; New Delhi 110 024.

12. **Samata**; c/o Rati Rao; C.F.T.R.I., Mysore 570 013.

13. **SEWA**; SEWA reception Centre; Opp. Victoria Garden; Bhadra; Ahmedabad 380 001.

14. **Shakti**; B-10 Sun-n-sea; 25, J.P.Road; Andheri(W); Bombay 400 061.

15. **Vimochana**; P. O. Box 4605; Bangalore 560 046.

Besides this some of us are also in touch with an international network: 'Feminist International Network against Reproductive Rights and Genetic Engineering' (**FINRRAGE**). They regularly send out information about reproductive technologies. This is available with Samata, Mysore and FASDSP, Bombay.

Some of the other groups working on health issues

1. **Medico Friend Circle**; c/o Dr. Anant Phadke; 50, LIC Quarters; Ganesh Khind Road; Pune 411 016.

2. **Radical Journal of Health**; 19, June Blossom Society; Pali Hill Road; Bandra(W); Bombay 400 050.

3. **Voluntary Health Association of India**; 140, Industrial Area South of IIT; New Delhi 110 016.

4. **Foundation for research in Community Health**; 84-A, R. G. Thadani Marg; Bombay 400 018.

Signing off

We started off thinking that we would compile into a monograph available material on reproduction. The process which appeared easy turned out to be very difficult and gave us the realisation that we wanted to say much more than just do a compilation. The time restriction was on the basis of it being a compilation task, but now we had to use the same time span to put down our thoughts. Naturally enough then this is not even all that we want to say in a way that we would like to. But we feel it can surely act as a starting point for all of us, a basis for more work in the area of reproduction.

We hence hope that all those who read this would participate in the collective process of developing an understanding on an issue which determines all our lives in someway or the other.

For what we have been able to put together here too we have a lot of people to acknowledge. All the participants in the workshop held before we began this task; our editorial committee members Vibhuti, Lakshmi and Malini who gave their time, comments and suggestions and also access to information; a special thanks to Maithreyi and Vibhuti for their support and help in beginning this process and sustaining it through.

The form which this monograph has aquired would not have been possible without the help from Suhas in doing the language editing; from Preeta in typing it all on to the computer; from Rajneesh who helped draw the sketches and finally from 'Datafriends', Rajesh and Suhas who did the layout. Thanks is a small word for all their efforts.

The list of acknowledgements goes on. Our friends at FAOW and FASDSP who took interest in our work and helped us in all the ways possible. All our family members who bore with our absence or crowded presence at all odd hours in the last three months, helping in their own way.

And finally all those women on whose experiences we have drawn and quoted freely. Experiences that we have heard, read, shared with them.

We could do this work to continue the efforts of reaching out and have enjoyed it doing it together -- in fact, that's the best part of it all: working together as a collective..

Chayanika

Swatija

Recent Publications

Krishnaraj, Maitreyi, and Deshmukh, P. Joy
Gender in Economic Theory and Practice (In Press)

R.C.W.S.
Contibution to Women's Studies Series: 5 1990
Measurement of Women's Work -- Bibliography, 1990, pp 82 (Rs. 20 $ 3.00)

R.C.W.S.
Contibution to Women's Studies Series: 6 1990
Women in Indian Data Systems, 1990, (Collection of Papers) (Rs. 20 $ 3.00)

Krishnaraj, Maitreyi
Contibution to Women's Studies Series: 7 1990
Feminist Concept

Sathe, Nirmala
Contibution to Women's Studies Series: 8 1990
Tribal Women's Organisations (Rs. 20 $ 3.00)

Chayanika, Swatija and Kamaxi
Contibution to Women's Studies Series: 9 1990
We and Our Fertility

Krishnaraj, Maitreyi (ed)
Readings on Women's Studies Series: 1 1990
Feminism: Indian Debates, (Rs. 30 $ 3.00)

Baxamusa, Ramala
Readings on Women's Studies Series: 2 1990
Media Reflection on Women's Movement in India, (Rs. 30 $ 3.00)

Punacha, Veena (ed)
Readings on Women's Studies Series: 3 1990
Understanding Violence, (Rs. 30 $ 3.00)

Patwa, Subhadra
Readings on Women's Studies Series: 4 1990
The Law and Gender Justice, (Rs. 30 $ 3.00)

Patel, Vibhuti
Readings on Women's Studies Series: 5 1990
Getting a Foothold in Politics

Sanjanwala, Jyotsna
Readings on Women's Studies Series: 6 1990
Women's Perspective on Environment, (Rs. 30 $ 3.00)