Gynaecological Morbidity among Women in a Bombay Slum

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Objective

There is a growing recognition that gynaecological morbidity is an important health problem among poor women in India. Yet, information on the levels and patterns of gynaecological problems experienced by women in India is sparse. There are few community-based studies; since a large proportion of women suffer morbidity silently, and are reluctant to seek care or to visit clinics and hospitals, it is difficult to assess the true magnitude of the problem or the patterns of morbidity from which women suffer. Yet the small amount of data available suggests startlingly high levels of morbidity, for which treatment is rarely sought. One of the very few community-based studies conducted in a rural area of Maharashtra's Gadchiroli district reports that of 650 women aged 13 and above, 55% reported gynaecological complaints, but as many as 92% were reported on clinical examination to have one or more gynaecological or sexually transmitted diseases. Yet only 8% had sought treatment (Bang et al., 1990). Other studies from India and other developing countries-Karnataka, Bangladesh, Egypt, and Nigeria-corroborate significant though lower levels of reproductive morbidity among the general population (Younis et al., 1993 for Egypt; Brabin et al., 1995 for Nigeria; Bhatia et al., 1995 for Karnataka) or among specific sub-populations such as contraceptive users (Wasserheit et al., 1989).

This picture of high levels of morbidity, combined with a reluctance to seek treatment is corroborated by the working experiences of many non-governmental organizations addressing health needs in both rural and urban India. Yet more rigorous information about levels and patterns of morbidity, their perceptions and correlates, is virtually non-existent. Community based studies of the prevalence and nature of gynaecological morbidity in different settings that can provide information to health planners and policy makers regarding appropriate strategies to improve women's reproductive health are much needed.

This study is intended to fill that gap in knowledge of gynaecological morbidity in a slum area of Bombay served by Streehitakarini, a health-based voluntary organization in Bombay(1). Streehitakarini is a prominent non-governmental

organization with a long history in this area, starting in 1964 with a medical clinic set up in its headquarters ill the area. The clinic has been catering to the health needs of poor women and children and has succeeded in involving local women as grass-roots workers in becoming a nucleus for activities focusing on women's welfare as well as establishing itself as a major health provider in the area. Streehitakarini's intensive health education and child survival programmes led to a concern among women first about their children's health, but increasingly about their own health needs as well. The study hence grew out of Streehitakarini's need to understand the full range of health needs of the women served. The objective of this study is thus to determine the levels, patterns and correlates of gynaecological morbidity in an urban slum, focusing on both women's perceptions and assessment of their gynaecological health as well the conclusions of medical assessments and laboratory tests.

Data and Methods

Data for this study were drawn from a survey of ever-married women residing in one slum area of Bombay. The survey comprised of several elements: (a) a socio-demographic survey of respondents including their reported symptoms and morbidity and reproductive histories; (b) a clinical examination and (c) laboratory tests. Other qualitative data were also obtained through group discussions with health workers, informal interviews with health practitioners and 100 community, women on their perceptions of disease patterns among women in the community(2).

The study was designed to draw a random sample of ten percent or (1500 of the estimated total of 15000) ever married women residing in this slum. No attempt was made to keep the sample size constant by replacing respondents whose dwelling units had been demolished or who had out-migrated by the date of the survey, resulting in a sample loss of 446 women. Of the remaining 1054, 298 refused a gynaecological examination and hence vital information on symptoms and clinical findings is not available for them. Hence, the effective sample comprises a total of 756 women representing an overall sample loss of 50%; and a refusal rate of 28%.

Fieldwork for the survey was undertaken in 1989. Interviews were conducted by two extension workers who were trained investigators(3). Interviews were conducted largely, in the Marathi language, at the homes of the respondents.

Respondents were then requested to attend the Streehitakarini clinic for subsequent medical examination. While the examination was generally conducted at the clinic premises, if women were reluctant to attend the clinic, examinations were occasionally, conducted at convenient locations close to the

home of the respondent in well-equipped medical vans. Two experienced female gynaecologists conducted all the examinations. Examinations comprised of (a) noting medical history; (b) general medical examination; (c) speculum examination (including swabs taken from the cervix and posterior fornix) and a bimanual examination; blood and urine samples were taken from all those who agreed. Samples were sent to prominent Bombay hospitals for testing(4). Those observed to be ill need of treatment were immediately provided medical attention or referred to appropriate hospitals for further investigation and treatment. Gynaecologists report that once they overcome their shyness regarding this subject, respondents were quite willing to discuss their gynaecological histories and problems.

Given the fact that the sample has been drawn from a single, homogeneous slum area, there is relatively narrow variation in such characteristics as income, education, salutation or hygiene levels.

Socioeconomic and Demographic Profile

Respondents reside in a typical slum of Bombay. Homes either consist of huts (zopadis) constructed largely of wooden planks, cane, bamboo and occasionally, brick and tiles or of single-room flats in concrete buildings called (chawls), each of which contains about 20 flats. The area is congested and has few amenities. A profile of the community suggests that two in three families reside in homes measuring 100 square feet or less; these homes usually accommodate entire families (Table 1). The average household size is 5.8 and as many as two in five households consist of more than 5 and less than 10 members. Water facilities are erratic and insufficient for over 90% of the slum, and clothes and utensils are washed, beside the open drains. Toilet facilities are poor (not shown): an average of one for 15-20 chawl residents and for 250 zopadi residents. Narrow pathways crisscross the slums and are lined with open drains and open garbage. There is no open space and the air is highly: polluted due to the smoke emitted by nearby factories.

Table 1 : Socio-demographic profile of respondents

	Women who were examined	Women who refused examination	Women who were examined and for whom laboratory tests were conducted (1)		Women examined for Chlamydia
TOTAL	756	298	569	399	404

1. Age	26.3	25.8	23.9	22.3	22.3
15-24	27.8	27.9	27.8	30.1	30.0
25-29	33.2	34.6	35.9	36.6	47.8
30-39	12.7	11.7	12.5	11.0	
40-59					
2. % literate	69.0	58.4	69.9	68.4	68.3
3. Mean years of education	4.5	3.5	4.6	4.5	4.5
4. % women working	13.6	14.0	10.7	10.3	10.1
5. Mean age at marriage	17.1	16.3	17.2	17.3	17.3
6. Mean age at first pregnancy	19.5	19.0	19.6	19.7	19.7
7. Mean no. of surviving children	2.6	2.6	2.7	2.7	2.7
8.current contraceptive status	43.0	44.6	46.9	47.9	47.6
% tubectomy	5.6	1.3	5.4	5.3	5.5
% IUD	3.4	0.3	3.2	3.8	3.7
% oral pills	2.4	1.3	2.3	2.0	2.0
% male methods	45.6	52.3	42.2	41.1	41.2
% non users					
9. Religion: % Hindu	96.7	98.0	97.0	97.2	97.3
10. Mother tongue	77.0	65.1	77.9	74.9	75.2
Marathi	4.6	5.7	4.4	5.5	5.4
Gujarati	7.7	8.4	7.7	9.3	9.2
Hindi	8.6	17.4	7.9	8.8	8.7
Telegu	2.1	3.4	2.1	1.5	1.5
Others					
11. Living space	65.4	69.5	65.2	64.4	64.6
100sq. ft. or less	31.2	28.5	31.3	32.8	32.7
101-200 sq. ft.	3.3	2.0	3.5	2.8	2.7
200 + sq. ft.					
12. Per Capita Income (per month)	60.6	56.4	61.5	61.7	61.9

Below poverty line < Rs. 201	34.4	35.9	33.7	33.8	33.4
Rs. 201 to 450	5.0	7.7	4.7	4.5	4.7
Rs. 451 +					
13. water supply: % inadequate	91.8	96.7	91.9	93.2	93.1
14. Sanitation: % poor	50.9	57.7	52.9	55.9	55.9
15. Hygiene: % poor	67.9	73.8	67.8	69.2	69.1
16. Mean household size	5.8	5.3	5.9	5.8	

(1) 569 women were tested for STDs and endogenous infections; only 399 of these were additionally tested for chlamydia

The large majority of respondents (97%) are Hindu. The mother tongue of 77% respondents is Marathi; other mother tongues included Telegu (9%), Hindi (8%) and Gujarati (5%). Respondents are generally, poor and poorly educated. As many as 6 1% live below the poverty, line; one in three (31 %) is illiterate and another 30% have had no more than a lower primary education. Few women work: 14 percent are employed for wages.

Among demographic characteristics, the average respondent was acted 30, had 2.6 surviving children and was married at 17.1 years of age. The mean age at first pregnancy was 19.5 years. As far as contraceptive patterns are concerned, as ill the general population, terminal and female methods were most likely to be used: 43% were sterilized at the time of interview, 6% and 3% were using IUDs and oral contraceptives respectively and 2% were using male methods (vasectomy or condoms).

Hygiene and sanitation conditions, as assessed by the investigator, are generally poor: sanitation facilities are reported as extremely poor among half of all respondents and two-third are reported to have poor personal hygiene.

Given the relatively high level of sample loss, it is reassuring to observe that women who refused to be examined have virtually identical socioeconomic and demographic characteristics as those who were examined (Table 1). Living conditions are virtually identical, as are age and parity distributions; women who agreed to be examined are slightly better educated, somewhat more likely to use non-terminal methods and less likely to use no contraception than those who refused examination. These kinds of results suggest that the 756 women who

constitute the sample of this study were randomly drawn, and the exclusion of the others is not likely to affect results significantly.

Gynaecological Histories and Perceptions of Morbidity

Clinical histories mended detailed information on menstrual and obstetric histories, as well as an enquiry about the presence of any; gynaecological complaints described in commonly used and understood local terms. Among gynaecological disorders, seven major conditions were probed, as follows:

1. Menstrual problems: dysmenorrhoea (painful menstruation) was specifically probed; all other menstrual problems were discerned from menstrual histories: polymenorrhoea (frequent menstruation with cycle length shorter than three weeks); menorrhagia (duration of bleeding more than five days or excessive in amount is assessed by the clinician); oligomenorrhoea (duration of bleeding less than three days or cycle length more than five weeks); and metrorrhagia (irregular or intermenstrual bleeding);

2. Excessive vaginal discharge, as expressed by the woman in the vernacular;

3. Lower abdominal pain; or pain in hypogastrium or iliac regions;

4. Low backache: or pain in the lumbo-sacral region;

5. "Something coming out" from vagina (as sign of genital prolapse).

6. Pain or burning sensation while passing urine (as sign of dysuria):

7. Infertility, or difficulty in becoming pregnant.

(Table 2) shows that almost three-quarters (73%) of all women reported one or more of the above gynaecological conditions. Almost one-third (30%) reported white discharge (pandhare pani)(5), a typical symptom of lower reproductive tract infection. Two in five (39%) reported lower back pain (kambar dukhi) and one in five (21 %) reported abdominal pain (otipot dukhane). Almost two fifths (39%) report symptoms suggestive to the physician of one or more menstrual disorders, ranging from 23% who report symptoms suggestive of dysmenorrhoea (palitpot dukhate) to 13% who report oligomenorrhoea (scanty periods, angavar kami jane) and 5%-7% reporting irregular periods (aniyamit pali) or profuse bleeding (palit jast jane) (that is, polymenorrhoea, menorrhagia or metrorrhagia). Fewer women (3%-6%) report such conditions as'something coming out' (anga bahar yete) or infertility (mool na hone) or dysuria (laghavila aff or garam laghavi).

Table 2: Reported gynaecological complaints

	% women reporting the following symptoms
TOTAL No. EXAMINED WOMEN	756
1. Any menstrual complaint	39.3
Dysmenorrhoea	23.3
Polymenorrhoea	4.9
Menorrhagia	7.0
Oligomenorrhoea	13.2
Metrorrhagia	7.3
2. Excessive white discharge	30.2
3. Low abdominal pain	21.4
4. Lower back pain	38.9
5. Something coming out	2.8
6. Pain, burning during urination	5.7
7. Infertility	4.9
8. Any morbidity	73.0

Low backache and lower abdominal pain are frequently, but not necessarily, symptoms relating to such gynaecological morbidities as pelvic inflammatory disease, cervicitis, vaginitis, cystocoele, rectocoele, polyp and fibroids. Hence, they are included among reported gynaecological complaints (although some studies have excluded both) (see, for example, Bang et al., 1989). As many as 39% and 2 1 % of all respondents report low backache and lower abdominal pain respectively.

Qualitative data from group discussions held with one hundred women also suggest the prevalence of these conditions(6). In a free listing of illnesses which women commonly suffer from, gynaecological conditions featured prominently. Among the 15 leading conditions listed, eight reflect gynaecological conditions: white discharge (61), low back pain (54), low abdominal pain (44), severe menstrual breeding (29), painful menstruation (21), burning micturition (11),

uterine cancer (25), lump in the breast (22). Others included pain in the legs (36), general weakness (29), headache (22), pain in the joints (18) and tuberculosis (18), giddiness (17) and abdominal lump (11), some of which may also be manifestations of gynaecological conditions.

In short, the results of this section suggest high levels of reported gynaecological morbidity including leucorrhoea, dysmenorrhoea and other menstrual complaints and low back pain.

Clinical Examination

The gynaecological examination included a per speculum examination followed by a bimanual examination and the following five conditions were generally diagnosed:

1. Vaginitis: inflammation of the vagina (redness and/or ulcer), with or without discharge;

2. Cervicitis: all diagnoses of acute cervicitis, endocervicitis and chronic cervicitis with and without erosion;

3. Pelvic inflammatory disease (PID): tender or palpable or thickened fornices; fixity of uterus and/or tubo-ovarian tender masses or tender movements of uterus;

4. Prolapse, including cystocoele, rectocoele or uterine

5. Fibroid and polyp.

Table 3 points once again to high levels of gynaecological morbidity. On clinical examination, as from gynaecological histories, the results suggest that 73% of all women suffer one or more gynaecological morbidities. Leading conditions include cervicitis (39%), with and without erosion, prolapse (19%), including cystocoele, rectocoele or uterine prolapse, and pelvic inflammatory disease (16%). Polyps and fibroids were rarely observed; uterine cancer was not observed at all (Table 3).

Table 3: Clinically diagnosed gynaecological morbidity

	% women diagnosed to have:
TOTAL No. EXAMINED WOMEN	756
1. Vaginitis	14.9
2. Erosion	20.8
3. Cervicitis	39.4
Cervicitis (but no erosion)	21.3
Cervicitis with erosion	18.1
4. Pelvic inflammatory disease	16.1
5. Prolaspse (any)	18.9
Cystocoele (only)	5.7
Rectocoele (only)	3.7
Cysto- and Rectocoele	7.8
Uterine prolapse	1.7
6. Polyp	1.3
7. Fibroid	0.5
8. Uterine Cancer	0.0
9. Any morbidity	72.8

In summary, a large proportion of women-almost three in four-were diagnosed as having one or more gynaecological morbidities. Leading causes of morbidity, include cervicitis, prolapse and pelvic inflammatory disease.

Laboratory Test Results:

Laboratory tests of cervical and vaginal smears, and blood and urine samples were conducted on a random sub-sample of 569 of the 756 women for whom histories and clinical data are also available. In addition, tests for chlamydial vaginitis (chlamydia trachomatis) were independently conducted on a random sub-sample of 399 of the 756 women for whom histories and clinical data, as well as other laboratory tests, are also available. Although a variety, of laboratory tests were conducted, Table 4 presents only such indicators of gynaecological morbidity as sexually transmitted diseases (STDs), that is, trichomoniasis (trichomonas vaginalis), gonorrhoea (gonococci), syphilis (positive VDRL) and

chlamydial vaginitis (chlamydia trachomatis); and endogenous infections such as candidiasis (candida albicans or yeast). clue cells; or gardnerella vaginalis(7) (Table 4).

TABLE 4 : Gynaecological morbidity as observed in lab findings

	% women with lab tests excluding chlamydia diagnosed as having:	% women with all lab tests including chlamydia diagnosed as having:
TOTAL No. EXAMINED WOMEN	569	399
1. Any abnormal finding (excluding chlamydia)	36.4	40.6
Any abnormal finding (including chlamydia)	na	48.9
2. STDs (excluding chlamydia)	8.8	11.3
STDs (including chlamydia)	na	22.8
Trichomonas vaginalis	7.7	9.8
Gonorrhoea	1.1	1.5
Chlamydia	na	14.5
Syphilis/VDRL +	0.2	0.3
3. Endogenous infection	28.8	30.8
Bacterial vaginosis (gardnerella or clue cells)	13.4	14.5
Gardnerella vaginalis	12.7	13.5
Clue cells	8.3	8.3
Candidiasis albicans	16.5	17.3

NB : Latrogenic infections have been excluded from this analysis because of inconsistent findings and possible contamination of some samples; systemic infections were not assessed.

Table 4 presents rates of STDs and endogenous infections for both the complete sample for whom laboratory testing had been conducted and the randomly selected sub-sample of 399 for whom all laboratory testing, including tests for chlamydia, were conducted. Results suggest that the two samples were indeed randomly selected: pattenis of STDs (excluding chlamydia) and endogenous infections are similar among the larger group of 569 women for whom laboratory testing was conducted and the sub-sample of 399 for whom chlamydia testing

was also undertaken. In addition, it is clear from Table 1 that the socio-economic and demographic conditions of the 569 and 399 women for whom various laboratory tests were conducted are virtually identical to those of women for whom this was not done.

A look at the rates in Table 4 for the 399 women for whom complete data, are available suggests high rates of laboratory-detected morbidity. As many as 49% of the 399 women for whom all laboratory tests were conducted had one or more lab detected illness. Among specific diseases, the most commonly observed is chlamydia, observed in as many as 14% of all women. Among other sexually transmitted diseases, trichomoniasis was observed among 10% of all women (8); but other STDs, such as gonorrhoea and syphilis (VDRL) were rarely observed-among 1.5% and 0.3% of all women, respectively. In total, the prevalence of sexually transmitted diseases assessed from these tests is extremely high among, this slum population: 23%.

In addition to sexually transmitted diseases, high rates of endogenous infections are also commonly observed. As many as 31% of the 399 women report one or more endogenous infections: candidiasis (candida albicans) is observed in 17%, and bacterial vaginosis (as measured by the presence of gardnerella vaginalls and clue cells) is observed in 15% of the women.

Infections such as syphilis, gonorrhoea and chlamydia are difficult to diagnose in women in the absence of microbiological or serological examination. Such infections as candida, gardnerella vaginitis and trichomonas vaginitis is also difficult to diagnose as a large number of women are asymptomatic. It is hence difficult to diagnose and treat these infections, without incorporating periodic gynaecological check-tips in general health services.

Such high rates of sexually transmitted diseases and endogenous infections among women in this apparently low-risk urban slum community reinforce concerns about their partners sexual behaviour and male responsibility, in general. Evidence has shown that men can transfer organisms from one woman to another without developing any signs of the disease themselves. Yet, the experience is that husbands of women suffering from sexually transmitted infections resist treatment, resulting in the risk of re-infection among women.

Socio-economic and Demographic Correlates of Gynaecological Morbidity

Table 5 presents selected socioeconomic and demographic correlates of the more widely prevalent reported, clinically, diagnosed, and laboratory diagnosed gynaecological conditions. By and large, associations between socio-economic indicators and morbidity, however measured, tend to be weak, reflecting

perhaps the overall homogeneity in environmental and socio-economic conditions in this slum population. Among social and economic correlates of morbidity, of some interest is the finding that respondents with income levels above the poverty line are somewhat more likely to report a menstrual condition or any gynaecological condition, and more likely to have a laboratory diagnosed sexually transmitted disease. Working women, similarly, are somewhat more likely than non-working women to report a menstrual complaint. Neither women's education levels nor their sanitary conditions, in contrast, are related to morbidity however measured.

Table 5 : Socio-demographic correlates of reported, clinically diagnosed and laboratory-detected morbidity : percentge distributions

	REPORTED MORBIDITY (a)			CLINICALLY DIAGNOSED MORBIDITY (a)			LABORATORY DIAGNOSED MORBIDITY (b)		
	One or more reported morbidity	Any menstrual complaint	Back or abdominal pain	One or more clinically diagnosed morbidity	Any RTI (vaginitis cervicitis PID)	Prolapse (cysto-, recto-coele, uterine	One or more laboratory detected infection	Any STD	Any endogenous infection
TOTAL	73.0	39.3	47.4	72.8	52.1	18.9	48.9	22.8	30.8
1. Per capita income below poverty line (upto Rs. 200) above poverty line (Rs. 200 +)	70.1 77.5	35.8 44.6	47.6 47.0	71.8 74.2	53.1 50.7	19.4 18.1	47.2 51.6	19.5 28.1	32.5 28.1
2. Education None Primary Middle/+	73.9 70.0 74.7	38.0 36.5 42.5	53.9 43.5 45.2	71.4 76.5 70.9	53.4 54.4 49.3	20.1 22.6 15.1	46.0 53.0 48.1	20.6 26.1 22.2	29.4 32.2 31.0
3. Work status Not working Working	72.0 80.0	37.8 49.0	47.7 45.0	72.7 73.0	51.4 57.0	18.6 21.0	48.8 49.1	22.2 26.3	31.3 28.1
4. Sanitary condition	73.5	39.5	47.5	74.8	52.7	18.4	47.1	23.8	29.6

Poor Fair	72.5	39.1	47.2	70.6	51.5	19.4	51.1	21.6	32.4
5. Age 15-24 25-29 30-39 40-59	70.4 72.4 78.1 66.7	35.2 39.1 45.8 31.3	39.2 47.6 52.6 66.7	71.4 74.3 74.9 66.7	51.3 52.4 53.8 49.0	6.0 17.2 24.7 34.4	56.2 54.2 42.5 40.9	27.0 24.2 19.9 20.5	34.8 35.8 26.7 22.7
6. Age at marriage 14-16 17-18 19 +	71.1 75.1 73.9	36.9 39.9 41.9	50.5 44.6 46.1	77.7 73.7 66.0	55.2 54.5 46.5	23.9 14.6 16.6	44.8 49.1 53.4	24.0 24.1 20.3	26.0 30.4 36.8
7. Surviving children 0 1-2 3 4 +	86.9 67.9 77.8 71.5	44.3 33.1 43.8 43.0	36.1 43.2 50.7 53.9	45.9 72.6 75.4 78.8	36.1 52.7 53.2 54.9	3.3 11.8 23.2 30.6	69.0 48.6 47.9 43.9	24.1 27.5 19.3 18.7	48.3 29.6 31.1 28.0
8. Current contraception tuberctomy IUD Other methods None	76.3 83.3 61.4 70.1	47.7 52.4 38.6 29.9	53.2 50.0 38.6 42.6	78.2 71.4 65.9 68.7	55.7 54.8 47.7 49.0	29.5 7.2 18.2 10.4	43.5 57.1 34.8 56.1	21.5 28.6 8.7 25.6	24.1 42.9 26.1 37.8

Notes

a. refers to 756 women for whom both socio-demographic and clinical data are available

b. refers to 569 women for whom laboratory tests were also conducted

c. includes oral contraceptives, vasectomy, condoms.

More variation is seen in morbidity, levels by age and parity. Older and high parity women are systematically more likely to report low back or lower abdominal pain and menstrual problems (women over 40 are less likely to report

the latter). Not reported here because numbers are small, they are also more likely to report `something coming out', and dysuria. Clinically diagnosed and laboratory-detected morbidity tends to be much more sensitive to demographic indicators, albeit in different ways. For example, parity, is positively associated, and marital age inversely associated with morbidity, and especially with reproductive tract infections (cervicitis, vaginitis or pelvic inflammatory disease) and prolapse. Age is clearly and positively related with prolapse. In contrast, the correlates of laboratory-detected morbidity suggest that older women are somewhat less likely than younger women to experience either a sexually transmitted disease, or any endogenous infection (particularly candidiasis). Also evident is a consistent inverse relationship between infection and parity: childless women and particularly, those with 1-2 children experience higher rates of sexually, transmitted diseases than higher parity women; childless women experience considerably higher rates of endogenous infections, particularly candidiasis (candida albicans), than other women.

Current contraceptive status appears to have some bearing on morbidity. For example, women who have had tubectomies or use IUDs report considerably higher rates of reported morbidity and particularly menstrual complaints and low backache or lower abdominal pain, than other women. When clinically diagnosed morbidity is, considered, sterilized women are moderately more likely (78%), and oral contraceptive and male method users somewhat less likely (66%) to experience at least one diagnosed morbidity. In, particular, prolapsed is more evident among sterilized women (30%) than any other group, suggestive perhaps of their relatively advanced age and greater likelihood of repeated pregnancy. Also, reproductive tract infections (RT1s) are moderately, more evident among sterilized women and those using IUDs (55%-56%) than any other group. Finally, the relationship between contraceptive use and laboratory detected morbidity suggests a different picture: here, oral pill and male method users are considerably less likely than other groups to have experienced an STD; endogenous infections are particularly low among these and sterilized women and correspondingly high among IUD users and non-users.

In order to examine the relative importance of the independent variables reported in Table 5 on morbidity, Table 6 presents the calculated odds ratios from a series of logistic regressions in which each measure of reported (Panel A), clinically-diagnosed (Panel B) and laboratory-diagnosed morbidity (Panel C) is a function of such other indicators as age, parity, income level, education and current contraceptive status. These models thus give us an idea of the strength of the relationship between each independent variable and morbidity, net of tile effects of other independent variables.

The results reported in Panel A of Table 6 generally suggest that complaints are significantly more likely to be reported by sterilized women and IUD users than women using no method (the reference category). In particular they are significantly more likely to report menstrual disturbances; sterilized women are additionally more likely to report low backache or abdominal pain. The only other relationships of significance are the higher morbidity, notably menstrual problems, reported by women with incomes above the poverty line compared to poorer women (the reference category); and the lower rates of low backache and lower abdominal pain reported by educated women compared to the uneducated (the reference category). The results reported in Panel B of Table 6, relating socio-economic and demographic factors to clinically diagnosed morbidity, suggest a somewhat different, pattern. Socio-economic determinants drop out as significant predictors, and age and parity become more important correlates of clinically diagnosed morbidity. Among, specific conditions, reproductive tract infectious are unrelated to any independent variable. Prolapse, however, is significantly and positively affected by age and parity: in addition, sterilized women are significantly more likely than other women to have experienced prolapsed, even after age and parity are controlled. Any clinically, diagnosed morbidity is significantly affected only by age and parity: however, women with incomes above the poverty line, educated women and sterilized women report moderately higher levels of clinically, diagnosed morbidity compared to other women.

TABLE 6 : Socioeconomic, demographic and contraceptive use correlates of gynaecological morbidity: logistic regressions

	REPORTED MORBIDITY			CLINICALLY DIAGNOSED MORBIDITY			LAB DIAGNOSED MORBIDITY (1)		
	Any reported morbidity	Any menstrual problem	Low back-ache/lower abdominal pain	Any diagnosed morbidity	Any RTI (vaginitis, cervicitis or PID)	Genital prolapse	Any laboratory diagnosed morbidity	Any STDs	Any endogenous diseases
1. **SOCIOECONOMIC FACTORS**									
Income above poverty line	1.4993 **	1.5857 ***	1.0861	1.3165	0.9704	1.2882	1.1202	1.0396	0.7152

Primary education	0.7730	0.8689	0.6795 **	1.2958	1.0326	1.4549	1.1731	1.1805	1.0405
Middle or higher education	0.9905	1.1700	0.7645	0.9960	0.8667	1.0571	0.9240	0.9547	0.9895
2. DEMOGRAPHIC FACTORS									
Age	0.9970	0.9905	0.9997	0.9616 ***	0.9839	1.0475 ***	0.9719 *	0.9714 *	0.9757
Children ever born	0.9225	0.9946	1.0776	1.3704 ***	1.1009	1.2513 **	1.0160	0.9919	1.0722
3. CONTRACEPTIVE STATUS									
Tubectomy	1.6827 **	2.4854 ***	1.3767	1.2208	1.1919	2.2338 ***	0.6926	0.6984	0.4901 **
IUD	2.4403 **	2.7864 ***	1.4067	0.8648	1.1429	0.6959	1.0287	0.9745	1.0602
Other methods (2)	0.7912	1.5957	0.8716	0.8068	0.9607	1.6471	0.4809	0.4628	0.5192

NB: Reference categories: for education, uneducated women; for income: low income (below poverty line); for contraceptive: non-users.

*significant at the .10 level.

**significant at the .05 level.

***significant at the 0.1 level.

1. N=399 women for whom all laboratory tests including chlamydia had been conducted

2. OC and male methods

Panel C of Table 6 relates socio-economic, demographic and contraception variables to laboratory detected morbidity. Confirming the pattern observed in Table 5, we find that older women are significantly less likely, than younger women to experience an STD or any laboratory detected morbidity; and now, sterilized women are significantly less likely than non-users and IUD users to experience any endogenous infection. Other noteworthy findings include the absence of any relationship between socio-economic factors and morbidity; and the suggestion that sterilized women and women using oral contraceptives and male methods, by and large, are moderately less likely to experience an STD than non-users.

This discussion of the socio-economic and demographic correlates of morbidity suggests wide differences in the net determinants of reported, clinically diagnosed and laboratory detected morbidity. Reported morbidity is significantly, influenced by socio-economic factors and contraceptive status. In contrast, significant determinants of clinically, diagnosed morbidity include age and parity; now, while contraceptive status is unrelated to RTIs, sterilized women experience significantly higher levels of prolapsed than other women. Finally, there are few significant determinants of laboratory detected morbidity: age confers a net protection, and contraceptive-users appear, in general, to be mildly, but not significantly less likely to experience STDs than non-users; the only significant influence of contraception now is the finding that sterilized women are significantly less at risk of an endogenous infection than non-users and IUD users.

Health Seeking Behaviour

There is considerable ethnographic evidence of women's reluctance to seek health care, especially gynaecological health care in India. In this study, information on women's health seeking behaviour comes from group discussions with providers, that is, health workers, local medical practitioners and faith-healers and pharmacists; as well as with a group of local women.

There was a consensus among workers that slum women were generally reluctant to seek care for their gynaecological problems for several reasons. Above all, workers perceived a lack of understanding about what constituted a gynaecological problem; many women perceived problems as a normal aspect of womanhood. Second, even if motivated to seek help, prohibitive costs of treatment act as a second barrier. In addition women tend to be inhibited from discussing gynaecological problems with male physicians.

Interviews were also held with 22 local health practitioners practicing various alternative medical systems, of whom only, four were women. Corroborating the views of workers, not a single male practitioner had ever conducted a gynaecological examination, but were, nevertheless, approached by women in order to discuss their gynaecological problems. Diagnosis was made and treatment conducted on the basis of reported symptoms. Only in a few persistent cases were women then referred to public hospitals or gynaecological clinics. Female practitioners corroborated a high incidence of leucorrhoea and infertility among their slum women patients. Not unusually, the large majority of practitioners did not consider gynaecological illnesses serious unless cancer was suspected.

Interviews with three male and two female faith-healers revealed extensive use of herbal medicines. Among them, one male faith-heater treated gynaecological (and other) problems by his mystical healing power and incantations (meditation and reciting mantras). By and large, the most common gynaecological condition for which women visit faith healers is infertility.

Interviews with a few local pharmacists, and paan-shopkeepers revealed that local women often sought from them medication for menstrual pain or vaginal tablets for white discharge. Through this approach, women were able not only to save the time and money necessary for visiting a doctor or clinic, but also were spared the awkwardness of undergoing a medical examination.

Finally, discussions with women residing in the community suggest that health seeking for gynaecological conditions is minimal and that home remedies are widely known, but less frequently utilized. A variety of remedies were described for irregular periods-ranging from a paste of cress seeds, water or milk to dates, jaggery, mutton, pigeon and those things that produce 'heat' in the body. In contrast, remedies for excessive bleeding were quite the opposite: 'cooling' foods (boiled coriander seeds, banana, yogurt and fresh fruits).

Women associated leucorrhoea with husband's promiscuity (navaryacha bahar khyalipana), alcoholic husbands, as well as too many deliveries, lifting heavy objects, over-work, general weakness-as well as having sexual relations during menstruation or within 10/12 days of delivery. Leucorrhoea is perceived as a 'hot' condition and remedies include 'cooling' foods (rice, green vegetables). Other remedies included hibiscus (jaswandiche) flowers and roots, various spices (cumin, coriander, basil (tulsi) and roots (banyan, neem).

Discussion

The main limitation of this study, is the high rate of sample loss. As indicated earlier, an initial sample loss of 30% occurred as a result of closed dwellings and out-migration. The remaining 1054 ever-married women were successfully interviewed. However, 298 of them refused a clinical examination, resulting in a further loss of 20% of the original sample and 28% of the interviewed sample. Of those who refused to undergo clinical examination, two in five women refused for fear of the examination, blood tests and other procedures or simply, because they were too shy; and one in five refused because their husbands objected. The extent to which sample loss may have biased overall prevalence rates and patterns is unclear. As many as 40% of those who refused to participate in the study did so for fear of the examination or procedures or because they were too shy; another 22% refused because their husbands objected; and one quarter refused because they perceived themselves as healthy. This last finding suggests an element of self-selection that is inevitable in a study of this nature, and could result in influencing community morbidity levels.

Nevertheless, a comparison of socio-demographic characteristics of the 756 women for whom clinical data are available and those for whom it is not suggests little variation, as seen in Table 1. Age and parity, profiles are similar; however, women who refused examination tended to be less educated although no worse off economically. Finally, their contraceptive profiles are somewhat different. Prevalence rates are saintly higher among women who underwent clinical examination (54%) that those who did not (48%); among (contraceptive-users, the women who accepted the clinical examination are somewhat more likely to have used non-terminal methods and correspondingly less likely to be sterilized than women who refused.

Of the 756 women who obtained clinical examinations laboratory tests were conducted for only 569 (75%) and comprehensive laboratory tests, including chlamydia, were conducted for only 399 (53%). Again, a look at the socio-demographic and morbidity, profiles presented in Table 1 suggest there are no major differences between those women for whom laboratory findings are available and those for whom it is not, suggesting that women for whom all reported, clinical and all laboratory detected morbidity are available are in fact randomly selected from the slum population under study.

A part from sample loss, another limitation of this study is the considerable homoageneity of the sample in terms of such socio-economic characteristics as income, education, and such environmental factors as sanitation and hygiene conditions. Moreover, there is not much variation in terms of contraceptive method profile.

This study has highlighted several noteworthy findings on the state of reproductive health among slum women in Bombay. The single most important conclusion of this study is the high prevalence of gynaecological morbidity in this urban slum community. Over 70% of all respondents reported gynaecological complaints; over 70% had clinical evidence of either vaginitis, cervicitis, prolapse or PID; and almost half (49%) are observed to have either an STD or an endogenous infection as assessed by laboratory tests.

Equally important and disturbing is the finding that almost a quarter of all women (23%), thus far assumed to be at low risk, suffer from one or more sexually transmitted diseases. Evidence of such STD infectious as chlamydia and trichomoniasis was found in 15% and 10% of all cases, respectively; however, syphilis and gonorrhoea were rarely observed.

A third important set of conclusions relates to the socioeconomic and demographic correlates of morbidity. Results have suggested wide differences in the net determinants of reported, clinically diagnosed and laboratory-detected morbidity. Reported morbidity is significantly influenced by socio-economic factors and contraceptive status, with sterilized women and those using IUDs reporting significantly higher levels of morbidity, than other women. In contrast, significant determinants of clinically diagnosed morbidity include age and parity; now, while contraceptive status is unrelated to RTIs, sterilized women experience significantly higher levels of prolapse than other women. Finally, there are few significant determinants of laboratory detected morbidity. Older women appear to have a reduced risk of STDs, and generally, of any laboratory-detected morbidity. Also, contraceptive-users appear, in general, to be mildly but insignificantly less likely to experience STDs than are non-contraceptive-users; the only significant influence of contraception is the finding that sterilized women are significantly less at risk of all endogenous infection than non-users and IUD users. Further investigations into these relationships and their aetiology is necessary, using larger samples and more in-depth probing.

Finally, results suggest that few women would resort to clinics or doctors for gynaecological problems. Gynaecological conditions are rarely taken seriously by either women themselves or local care-providers and are hence perceived as worthy, of medical attention only if extreme. Instead, there is a wide reliance on home remedies-herbs, pastes and roots-for the most common gynaecological conditions including leucorrhoea and menstrual disorders.

These results stress the fact that gynaecological morbidity is unacceptably high and constitutes a major public health problem, one that has remained larger unaddressed within current programmes. Results underscore the need to

broaden the scope of family, welfare to incorporate among its reproductive health services, the screening and treatment of STDs and other gynaecological infections. High rates of sexually transmitted diseases and other infections highlight the urgent need to focus on responsible sexual behaviour among men. In short, results present a forceful plea for greater attention to, and investment in, the reproductive health needs of poor Indian women.

Notes:

1. This study, conducted by Streehitakarini was funded by, the Ford Foundation, and was carried out in a slum area of Bombay's Municipal Ward "G". By the mid-1980s, Streehitakarini was serving a population of over 1,00,000 including over 15000 ever-married women.

2. The survey comprised a socio-demographic questionnaire, a questionnaire filled by the medical practitioner on both symptoms and results of clinical examination, and a laboratory, findings report. Questionnaires had been protested extensively, and were large precoded, with fixed response categories. The socio-demographic questionnaire contained questions on the age, marital status, birth histories, and contraceptive use; household characteristics, including available amenities; and individual characteristics such as economic activity, status, education and husband's characteristics. The medical practitioner's questionnaire contained questions on the reported menstrual history, gynaecological symptoms reported by the respondent as well as details of the pelvic examination. The laboratory form contained information on any abnormalities detected in lab tests.

3. The two trained investigators (one college graduate and one under-graduate) were Streehitakarini extension workers, using pre-tested questionnaires. Although investigators already had some rapport with the community and although they explained at great length the need for this study, they faced some skepticism from respondents, who considered gynaecological morbidity a natural part of womanhood.

4. Hinduja and Tata Memorial Hospitals.

5. Commonly used Marathi terms for leucorrhoea include pandhare pani or safed pani literally, white liquid. Other terms included pandhari dhupani, kapada kharab hotat or kapdyala dag (soiling clothes), dhat padate, angawar jate or angavar safed jate.

6. Discussions with workers also confirm the predominance of leucorrhoea in this community, along with low back and abdominal pain, cancer of the uterus, menstrual problems, and infertility.

7. White testing was also conducted for iatrogenic infectious observed on smears (staphylococcus aureus, klebsiella pneumoneae, E. coli, pseudomonas aeruginosa, staphylococci and streptococci), some samples are suspected to have been contaminated and hence these data are riot presented. Tests for systemic infectious (tuberculosis etc.) were not conducted.

8. Trichomonas vaginalis is not always venereal in origin; transfer of the organism can occur from one individual to another by indirect contact. It has clearly been shown that a man can transfer the organisms from one woman to another without himself developing any signs of the disease. This does not mean that trichomonas vaginalis is always venereal in origin. Transfer of the organism from one individual to another by indirect contact certainly happens (Jeff Coates. "Infections as they affect individual organs" in Jeff Coates. Principles of Gynaecology, chapter 20, p. 318; fifth edition).

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