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Prevalence of Clinically Detectable Gynaecological Morbidity in India: Results of Four Community Based Studies

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Introduction

In recent years, there has been increased recognition of the scope and significance of gynaecological problems experienced by poor women in developing countries. The first and perhaps the most compelling evidence on the importance of gynaecological morbidity came from a community-based study undertaken in rural Maharashtra, India in the mid-1980s.[1] Subsequent empirical studies from Bangladesh, Egypt, Nigeria and Karnataka have all documented significant though lower levels of reproductive morbidity among the general population[2] [3] [4] or among specific sub-populations such as contraceptive users.[5]

In the Indian study conducted in a rural area in Maharashtra state, 92 per cent of the 650 women clinically examined had evidence of one or more gynaecological diseases, with an average of 3.5 conditions per woman. The findings of this study were striking, but raised questions about their broader generalisability, given the small and possibly atypical nature of the population studied, and the size and geographical and cultural diversity of India as a whole. Findings from the four community-based studies reported in this paper, conducted in geo- graphically and culturally distinct areas of India, provide important additional evidence on the prevalence of gynaecological morbidity among poor women. Two studies were conducted in urban slum areas in Bombay, and in Baroda in the state of Gujarat. A third was conducted in rural West Bengal and the fourth among a rural population in southern Gujarat. The studies, which were conducted between 1988-91, grew out of the need of four non-governmental organizations providing health services to understand the health needs of the women in their project sites.

All four studies were population-based and collected comparable data on aspects of gynaecological morbidity. The studies were, however, undertaken separately and independently, and varied somewhat in terms of study design, data collection procedures, and the range of other information obtained. In this paper, we present findings on aspects of gynaecological morbidity common to all four studies.

Subjects and Methods

The major objective in all studies was to estimate the prevalence of gynaecological morbidity among women in poor communities as assessed by the women themselves as well as by a gynaecologist on clinical examination. As such, all studies contain clinical histories provided by the respondent as well as a clinical assessment of all respondents who agreed to undergo a pelvic examination. For the sake of convenience, the four studies are subsequently referred to by their locations; rural West Bengal, rural Gujarat, Baroda and Bombay. Table 1 summarises some of the important features of each study and points out differences in design.

Study Areas and Samples

Given the reluctance of many women to undergo pelvic examinations, data collection strategies in each study were tailored to local conditions in order to enhance participation. In three of the studies, interviews were carried out at the homes of the respondents by trained interviewers. All interviewed women were encouraged to visit the organization's health facility shortly there after for a clinical examination. In the rural Gujarat study, in contrast, both interviews and clinical examinations were carried out as part of health fairs organized in each village.

Eligibility criteria for inclusion varied slightly among studies, as seen in Table 1. In the West Bengal study, both ever married and unmarried women were included in the study; the other three studies included only ever married women. Age criteria also varied, with the lower age cut-off ranging from 13 years in West Bengal to 18 years in Baroda, and the upper age limit extending beyond the reproductive ages in both the rural Gujarat and the Bombay slums studies. To achieve comparability, the study populations in the present paper are restricted to ever married women aged 15 to 45 years. Significant proportions of interviewed women refused to undergo a subsequent clinical examination, ranging from 0.29 per cent and 35 per cent in the two urban studies in Bombay and Baroda respectively, to 55 per cent and 65 per cent respectively in the rural West Bengal and the rural Gujarat studies.

Table 1: Settings and Study Population

Study Site and Period	Study Population Characteristics			Sample Size (All Women)		Sample for Current Study (Ever-Married Women aged 15-45 Yrs)		
	Age (Years)	Marital Status	Residence	Survey	Clinical Examination	Survey	Clinical Examination	% of Surveyed Women Successfully Examined
BCC (1990-91)	18-45	Ever Married	Urban Slum	840	548	840	548	65.2
CINI (1990-91)	13-45	Ever-Married + Single	Rural	1130	500	875	395	45.1
Sewa-Rural (1988-89)	15+	Ever Married	Rural	1103*	324	835	293	35.1
Streehitakarini (1989-93)	15-50	Ever Married	Urban Slum	1054**	756	1001	715	71.6

Note:

· Of the 2230 eligible women residing in the 10 study villages 1103 chose to participate in village health fairs conducted by the organization, and were surveyed.

· · Although 1500 women were initially selected from an earlier household listing, household visits subsequently failed to locate the other 446 women, largely due to outmigration or

Investigation

Common to each study was a socio-demographic profile and a morbidity history provided by the respondent and a clinical examination conducted by the gynaecologist. Clinical histories included detailed information on menstrual and obstetric histories, and an enquiry about any gynaecological complaints, described in commonly used and

understood local terms. Most such complaints as vaginal discharge, urinary complaints, backache and lower abdominal pain were specifically probed in all studies except in the Baroda study, where only volunteered information was recorded. The clinical examinations, which in all studies were conducted by teams of women gynaecologists, included a per speculum examination followed by a bimanual examination. 41though laboratory tests were also conducted in three of the studies, they varied substantially in terms of the range of tests conducted and the completeness of coverage, and have hence been excluded from the present paper.

Gynaecological conditions were standardised across all four studies as follows:

A.Clinical history

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

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

3. Low backache or lumbosacral pain;

4. Lower abdominal pain; i.e. pain in hypogastrium or either iliac region;

5. Dysuria: Pain or burning sensation while passing urine; and

6. "Something coming out" from vagina (as a possible sign of genital prolapse).

B. Clinical examination:

1. Vaginitis: inflammation of the vagina, with or without visible discharge;

2. Cervicitis: all diagnoses of acute cervicitis, endocervicitis and chronic cervicitis;

3. Pelvic inflammatory disease (PID): tender or palpable or thickened fornices

The identification of other conditions followed standard clinical definitions:

Results

The socioeconomic and demographic profile of the women in each sample is summarized in Table 2.

Table 2: Sociodemographic Profile of Respondents

	RURAL		URBAN	
	West Bengal (N=293)	**Gujarat (N=293)**	**Baroda (N=548)**	**Bombay (N=715)**
Religion				
% Hindu	84	100	62	97
% Muslim	16	-	38	3
Education Status				
% Literate	52	50	59	71
Employment Status				
% Working for wages	6	59	17	13
Mean age (Years)	28	29	30	29
Mean Parity	3.2	2.7	2.6	2.6

Demographic differences between the four studies were relatively moderate. For example, the mean age of the sample varied from 28 years to 31 years and mean parity from 2.6 to 3.2. In contrast, socioeconomic differences were wider. Significant proportions of women in all four studies were uneducated, ranging from 29 per cent in the Bombay study to 50 per cent in the rural Gujarat study. Relatively few women work for wages (between six per cent and 17 per cent) in three of the four studies; but in rural Gujarat, as many as 60 per cent work for wages, largely as agricultural laborers. Finally, with the exception of the Baroda study, populations were overwhelmingly Hindu; about half of the sample in the rural Gujarat study was tribal.

Table 3 presents gynaecological morbidity as r eported by the women prior to the clinical examination.

Table3: Gynecological Morbidity By Clinical History (% Women Reporting Morbidity)

Gynecological Condition	**RURAL**		**URBAN**	
	West Bengal	**Gujarat**	**Baroda (N = 548)**	**Bombay (N = 715)**
Menstrual Problems	32.7	58.9	58.0	40.7
Dysmenorrhoea	11.4	47.4	35.0	24.3
Polymenorrhoea	4.8	7.2	2.9	4.9
Menorrhagia	3.3	14.7	12.8	7.3
Oiligomenrrhoea	18.0	23.9	28.3	13.4
Metrorrhagia	8.6	8.2	NR	7.4
Excessive Discharge	50.1	57.0	22.4	30.8
C. Childlessness	3.3	2.7	1.8	5.0
D. Something coming out per	6.1	2.4	1.1	2.7

Vaginum				
E. Lower Abdominal Pain	17.5	NR	9.3	21.5
F. Low Backache	5.3	29.7	24.1	39.3
G. Dysuria	2.3	25.9	2.7	5.6
Women reporting any morbidity	65.3	84.3	64.6	74.1
Mean number of morbidity's among women reporting any morbidity	2.00	2.61	1.96	2.19

NR: Not Recorded

The results show that a large majority of the respondents in each site -- ranging from 65 per cent to 84 per cent -- reported one or more gynaecological morbidities. Among women reporting gynaecological morbidity, the mean number of reported conditions ranged from 2.0 to 2.6 in the four studies. Substantial variation was evident, however, in the specific patterns of reported morbidity. The leading causes of morbidity in each study were menstrual problems (33 to 59 per cent of respondents), excessive discharge (22 to 57 per cent) followed by low backache (5 to 39 per cent).

Among menstrual disorders, dysmenorrhoea and oligomenorrhoea were the most commonly reported problems. While common in all four studies, excessive discharge was a particularly prominent condition in the two rural studies in West Bengal and Gujarat (57 per cent and 50 per cent respectively). In three of the four studies low backache was common (24 to 39 per cent); only in rural West Bengal was it rarely reported. Lower abdominal pain was reported by nine per cent to 22 per cent of women in the three studies, which collected information on this condition. Childlessness, dysuria and symptoms indicative of genital prolapse ("something coming out") were generally reported, by fewer women in each site, although some variation was still evident.

Table 4 presents data on gynaecological morbidity obtained through clinical examination.

Table 4: Gynecological Morbidity by Clinical History (% women having morbidity)

Gynecological Condition	RURAL		URBAN	
	West Bengal (N=395)	Gujarat (N=293)	Baroda (N=548)	Bombay (N=715)
A. Viginitis	3.8	10.2	11.3	15.4
B. Cervical erosion/ectopy alone	2.4	19.8	5.5	21.5
C. Cervicitis alone	4.8	5.5	4.9	21.1
Cervicitis with erosion	9.6	2.3	8.6	18.5
D. Pelvic inflammatory disease	1.0	8.2	8.4	16.5
E. Genital Prolapse	17.3	NR	4.6	18.2
Anterior (cystocoele) only	5.7	NR	1.6	5.5
Posterior (Rectocoele) only	1.5	NR	0	3.5
Anterior and Posterior	3.0	NR	2.4	7.7
Uterine	7.1	NR	0.5	1.5
F. Other				
Polyp	0.2	0.3	0.2	1.3
Fibroid	0.0	1.0	0.0	0.6

Women with any morbidity on clinical examination	42.8	42.7	26.1	73.6
Mean number of morbidity's among women having any morbidity	1.22	1.17	1.99	1.79

NR: Not Recorded

Most notable is the considerable variation in levels of gynaecological morbidity across the four sites -- ranging from 26 per cent in the Baroda study to 43 per cent in the rural West Bengal and Gujarat studies, to as high as 74 per cent in the Bombay study. Morbidity rates were considerably lower when measured by examination than by history (Table 3) in three of the four studies. In the Baroda study for example, where 65 per cent of all respondents reported one or more gynaecological morbidities, only 26 per cent were observed to have a gynaecological condition on examination. In the rural West Bengal study, these proportions fell from 65 per cent to 43 per cent and in rural Gujarat from 83 per cent to 43 per cent. Only in Bombay did the rates coincide. Here, 74.1 per cent of all women reported one or more gynaecological conditions and 73.6 per cent of all women, although not necessarily the same women, had morbidity on clinical examination.

Considerable heterogeneity also exists among studies in the prevalence and relative importance of specific gynaecological morbidities. Marked variation between studies was evident for both cervicitis (ranging from eight per cent in the rural Gujarat study to 40 per cent in the Bombay study) and for cervical erosion (from two per cent in the rural West Bengal study to over 20 per cent in the rural Gujarat and the Bombay studies). Vaginitis was also an important source of morbidity (10-15 per cent of women) in all but the rural West Bengal study. Rates of pelvic inflammatory disease ranged between one per cent and 17 per cent in all studies. Rates of genital prolapse were similar (17-18 per cent) in two of the three studies where this information was recorded. The low rates in the Baroda study may be indicative of the more conservative diagnostic procedures adopted there.

Discussion

This paper has presented data on the prevalence of gynaecological morbidity at four very different sites in India, based upon both women's self-reported histories as well as clinical examinations. Three major findings emerge. First, levels of gynaecological morbidity are unacceptably high at all sites. Over two in three women report one or more conditions in all studies. No fewer than one in four women, and as many as three in four women are observed on clinical examination to have one or more gynaecological morbidities. Such conditions as vaginitis, cervicitis and pelvic inflammatory disease affect more than ten per cent of women in most studies. These results must be regarded as minimum estimates, given that the results of laboratory tests, which could detect additional infections of the reproductive tract, have not been considered.

Second, considerable inter-study variation is evident in the levels and patterns of morbidity. For example, between 65 per cent and 84 per cent of all respondents report gynaecological problems, and between 26 per cent and 74 per cent are assessed, on clinical examination, to have one or more gynaecological conditions. The Bombay study stands out in terms of its high level of morbidity in general (74 per cent), and of cervicitis in particular (40 per cent), a finding which warrants further investigation.

Third, despite this variation, a common constellation of disorders emerged in all studies. From women's self-reports, menstrual problems and excessive discharge were the most commonly cited morbidities. Among morbidities revealed by clinical examination, cervicitis, vaginitis and pelvic inflammatory diseases -- all infections of the reproductive tract -- are among the leading morbidities in all studies. Such other conditions as genital prolapse and cervical erosion were also prominent morbidities in certain sites. For example, genital prolapse was found in 17-18 per cent of women in the Bombay and rural West Bengal studies; cervical erosion was found in 40 per cent of women in the Bombay study and 22 per cent of women in the rural Gujarat study.

A number of factors may account for the observed variations between studies in levels and patterns of gynaecological morbidity. For one, studies were independently designed and implemented, with attendant differences in sampling procedures and sample loss. While all studies were community based, they differed in their success in recruiting women to participate in the clinical phase of their studies. Since large proportions refused the clinical examination. sample loss, ranged from 29 per cent and 35 per cent in the urban studies in Bombay and Baroda respectively, to 55 per cent and 65 per cent in the rural studies in West Bengal and Gujarat respectively. Such high rates

of sample loss are not surprising given the general reluctance of Indian women to undergo an intrusive procedure such as a pelvic examination.

The issue of sample loss assumes increasing importance given the likelihood of selection bias among women who agreed to undergo clinical examinations. Women with serious reproductive health problems may be, significantly more likely to consent to clinical examination compared to women without pronounced symptoms. In two of the four studies it was possible to assess the extent to selection bias by comparing reported morbidity of women who underwent clinical examination with those who refused. In the Baroda study, where sample loss was moderate, while similar proportions of examined and non-examined women reported menstrual problems (58 per cent versus 56 per cent), a somewhat higher proportion of examined women reported excessive discharge, relative to women who refused examination (22 per cent versus 15 per cent). In the rural Gujarat study, where the sample loss was the highest, selection basis was much more pronounced, with higher proportions of examined women reporting menstrual problems (59 per cent versus 43 per cent among women who refused) and markedly higher proportions reporting excessive discharge (57 per cent versus 29 per cent). These results suggest that the overall prevalence of gynaecological morbidity may be biased upward, as a result of sample selectivity, with the effect most marked in studies with higher rates of sample loss.

Differences in data collection procedures may also have accounted in part for the observed differences between studies. For example, the extent of probing varied from study to study and across conditions. Compared to other studies, in the rural Gujarat study, questions on dysuria were specifically probed, and may have accounted for the relatively high rates of this condition reported. Similarly, as indicated earlier, while three of the studies probed for other conditions, the Baroda study did not, possibly accounting for the substantially lower rates of such morbidities as excessive discharge reported here.

Another difference across studies was the lack of uniformity in the identification of certain morbidities by examination. For example, in the Baroda study, cervical erosion and genital prolapse were not classified as morbidity if they were assessed by the gynaecologist to be mild. In contrast, in the Bombay study, milder cases of prolapse and erosion were classified as morbidity. This may account for the relatively higher rates of these conditions in the Bombay study and the contrastingly lower incidence of these conditions in the Baroda study.

A final and perhaps most plausible explanation for the observed differences is that there exist genuine differences between the study sites in the prevalence and patterns of gynaecological morbidity. The four sites represent markedly different socioeconomic and cultural settings with possible attendant differences in living conditions, sexual and reproductive health behaviour, and access to health care, all of which might affect patterns of gynaecological morbidity. Further research to better understand the underlying environmental and behavioural factors which predispose women to the risk of gynaecological problems, or influence the women's ability to resolve them, is clearly warranted. It remains likely that no single pattern of reproductive morbidity could be considered as representative in a country as large and heterogenous as India.

Despite these variations, it is clear from these studies that gynaecological morbidity constitutes a major public health problem, one which remains largely unaddressed within the current health system. Taken collectively, these results present a forceful argument for greater attention to, and investment in, the reproductive health needs of poor Indian women.

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