

## PREVALENCE OF CHLAMYDIA TRACHOMATIS INFECTION IN ORIENTAL WOMEN - A PROSPECTIVE STUDY

P. CHAUDHURI • RUPA IYENGAR

### SUMMARY

One hundred and seventy six non-prostitute oriental women attending a University - run fertility control clinic were studied for prevalence of endocervical *Neisseria gonorrhoea* and *Chlamydia trachomatis* infections. For the diagnosis of the latter, fluorescein-labelled monoclonal antibodies were used.

While there was no case of gonococcal infection, *Chlamydia trachomatis* was present in as many as 5.11 per cent of patients.

No statistically significant relationship was observed between any mode of contraception and prevalence of Chlamydial infection.

Awareness amongst physicians, public and the policy makers in the Eastern hemisphere of the existence of Chlamydial infection in non-prostitute oriental women is emphasized. A concerted multicentric epidemiological study should be undertaken without procrastination to gauge accurately the magnitude of the problem and to contain the spread of the disease by vertical and horizontal transmission.

### INTRODUCTION :

*Chlamydia trachomatis* infection, a sexually transmitted disease with untoward social, epidemiological and public health consequences has emerged as a disease of the 80's after an amazingly long hibernation spread over several decades.

Schachter 1978 reported that *Chlamydia trachomatis* infection was the common sexually transmitted disease in the Western industrialised countries.

In contrast to the efforts made in the West to measure the magnitude of the problem associated with Chlamydial infection and to contain the disease within acceptable proportion, the awareness of the problem amongst physicians the East is rather poor. This is particularly so in the developing countries of the region. Yet the cost of treatment of the complications caused by *Chlamydia trachomatis*, loss of productivity during illness and convalescence and human suffering are formidable.

In a previously published prospective study, Chaudhuri et al (1986) reported the existence of Chlamydial infection in non-prostitute oriental

Dept. of Obst. & Gyn. M.S.Ramaiah Medical Teaching Hospital, Bangalore.

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women. The group comprised of women seeking abortions. The direct tissue culture method was used. In order to take a closer look at the prevalence rate of Chlamydial infection in this population, women seeking contraception at a University run fertility control clinic were studied.

#### **PATIENTS AND METHODS :**

Two hundred patients attending the fertility control clinic of the University wing of Kandang Kerbau Hospital, Singapore, were included in the study. The patients were randomly chosen. No selection criteria were imposed except that the patients had to be non-Caucasians and citizens of Singapore.

Micro-Trak (Syva, U.S.A.) direct specimen kits were used. The endocervix was cleaned with sterile cottonwool swab provided in the kit. The same was inoculated in modified Thayer-Martin medium housed within a plastic box containing a Carbon-dioxide tablet. After incubation at 36°C for 48 hours, the plates were studied. Gonococci were meant to be identified by their colonial morphology, oxidase reaction and gram-stained smear.

A sterile Calgi-swab (Inolex, Illinois, U.S.A.) was then introduced into the endocervical canal under direct vision and moved freely to dislodge some endocervical cells. Thus swab was then rolled on to the central well of the Micro-Trak slide. After air drying, the slide was fixed with the fixative provided in the kit and sent to the laboratory.

The fixed slides were then stained with the direct-specimen reagent containing fluorescein-labelled monoclonal antibodies and counterstained. The antibody links specifically to any Chlamydia trachomatis present in the specimen. The slides were then rinsed with distilled water to remove unbound antibodies. Under fluorescence microscope, the Chlamydia-positive specimens exhibited apple-green elementary or reticulate bodies contrasted by the red background of the counterstained cells. The microbiological part of the work was carried out at Singapore

General Hospital.

A predesigned printed protocol was used for each patient which contained several biological, social clinical parameters. The data were analysed using a 640-K home computer.

A null hypothesis was continuously erected and challenged by chi-square test to explore statistical significance of the differences between discrete variables.

#### **RESULTS :**

Of the 200 patients originally recruited in the study, 24 were excluded due to missing or incomplete protocols. In the remaining 176 patients, there was no positive culture for *N. gonorrhoeae*. Chlamydial infection, however, was present in nine (5.11%) patients.

The range of age was between 20 to 52 years with the mean age being 32.89 years. Majority of women with Chlamydial infection were in their thirties. In none but one of the Chlamydia-positive women was there any history suggestive of promiscuity.

The socio-biological parameters, and modes of contraception in the population studied are shown in table I, and table II and respectively.

#### **DISCUSSION :**

Our study clearly shows that sexually-transmitted Chlamydia trachomatis infection exists in the East. A more than five percent incidence in a fertility control clinic is a cause for concern in as much as these women are young, sexually active and do not patronise sexually-transmitted disease clinics.

Although newer Chlamydial technologies have made diagnosis of Chlamydial infection easier and quicker to make, the cost of these diagnostic modalities are still prohibitive for most developing countries. There is an urgent need for research for a cheaper and reliable diagnostic tool for Chlamydial infection. The main problem, however, lies with the lack of awareness amongst physicians in the East of the existence and frequency of Chlamydial infection in an Oriental

TABLE - 1

## Socio - Biological Characteristics

Characteristics	Chlamydia - Positive (n = 9)		Chlamydia - Negative (n = 167)	
	No.	%	No.	%
<b>Race</b>				
Chinese	5	55.55	132	79.04
Malay	3	33.33	23	13.77
Indian	1	11.11	12	7.18
<b>Age</b>				
25 Years	2	22.22	16	9.58
26 - 35	4	44.44	98	53.68
35	3	33.33	53	31.73
<b>Marital Status</b>				
Married	8	88.88	155	92.81
Single	0	0	11	6.58
Divorced	1	11.11	1	0.59
<b>Employment</b>				
Housewives	3	33.33	113	67.66
Employed	6	66.66	54	32.33
<b>Education</b>				
Nil or Primary	1	11.11	84	50.29
Secondary	6	66.66	74	44.31
Tertiary	2	22.22	9	5.38
<b>Combined Income (Singapore dollars)</b>				
< 1000	2	22.22	86	51.49
1000 - 3000	6	66.66	67	40.11
> 3000	1	11.11	14	8.38

Total No. of Patients - 176

n = no. of patients.

TABLE - II

## Mode of Contraception

Characteristics	Chlamydia - Positive (n = 9)		Chlamydia - Negative (n = 167)	
	No.	%	No.	%
I. U. D	3	33.33	97	58.08
"The Pill"	2	22.22	39	23.35
Condoms	3	33.33	24	14.37
Nil or Others	1	11.11	7	6.58

Total No. of patients = 176

n = no. of patients.

p < 0.5

society and the spectrum of disease caused by the bacteria.

Oral contraceptive users have been claimed to be at risk for Chlamydial infection. We have been unable to substantiate this view. No positive correlation was observed in our study between any particular mode of contraception and prevalence of Chlamydial infection.

Chaudhuri et al (1984) observed in their previous studies of women seeking abortions as well as in patients with pelvic inflammatory disease that prevalence of *N. gonorrhoeas* in non-prostitute oriental women was negligible. In contrast, Chlamydial infection was very significantly high ( $P < 0.001$ ). Our present study points towards the same conclusion.

It cannot be emphasized too strongly that the problems associated with Chlamydial infection in the East must be looked into with a sense of urgency. The tip of the iceberg is clearly visible.

We must steer our course pragmatically and take corrective steps to prevent a potential Chlamydial epidemic in the East.

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