Short report

How well is pelvic inflammatory disease managed in general practice? A postal questionnaire survey

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Objective: Many patients with pelvic inflammatory disease (PID) present to their general practitioners. *Chlamydia trachomatis* is the organism most commonly implicated in this condition. This study aims to examine how well PID is managed in the primary care setting and highlight areas for improvement.
Methods: The study was performed by sending postal questionnaires to 180 randomly selected general practitioners in Birmingham. Given the example of a woman presenting clinically with PID, the doctors were asked questions on diagnosis and treatment. To assess factors that may influence the answers, they were also asked about their sex, year of qualification, and postgraduate training.
Results: 139 questionnaires (77%) were returned. 91.4% of the respondents feel confident in managing patients with PID, and only 9.3% would usually refer these patients on. However, 54.7% do not perform an endocervical swab for *C trachomatis*, 37.4% do not include anti-chlamydial antibiotics in their treatment regimen, and 24.5% do not advise sexual partners to be screened. Female doctors, those with higher degrees, or obstetrics and gynaecology experience were more likely to give anti-chlamydial therapy, but no factors of the respondents significantly influenced contact tracing behaviour.
Conclusions: The management of a patient presenting with PID should include investigation for *C trachomatis* and treatment with an appropriate antibiotic. As PID is often a sexually transmitted disease, contact tracing of sexual partners should be undertaken. The study suggests that a significant proportion of general practitioners would not have offered optimal management to patients with PID.
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Keywords: pelvic inflammatory disease; general practice; questionnaire

Introduction

Pelvic inflammatory disease (PID) is a serious condition and causes much morbidity.[1] *Chlamydia trachomatis* is the organism most commonly implicated in PID.[2 3] Recently, the Royal College of Obstetrics and Gynaecology Working Party on the Prevention of Pelvic Infection published their recommendations for clinical practice.[4] Women presenting with a clinical diagnosis of PID should have: (a) appropriate testing for *C trachomatis* and *Neisseria gonorrhoeae*; (b) antibiotic regimen effective against *C trachomatis, N gonorrhoeae*, and anaerobes; (c) arrangement for partner notification and treatment.[4]

Many patients with PID present to their general practitioners. In the last decade, inadequacies in the management of pelvic infection mainly centred on inaccurate microbiological diagnosis, inappropriate antibiotic therapy, and failure to treat sexual partners.[5]

This study aims to examine (1) how well is PID managed the general practitioners in the 1990s and (2) whether demographic and educational factors of the general practitioners influence their management.

Methods

The study was performed in 1994 by postal questionnaires (see appendix). A list of all general practitioners was obtained from Birmingham Health Services Authority. Owing to limited resources, 180 out of 768 general practitioners were randomly selected.

The general practitioner was posed the question "You have a sexually active woman of reproductive age in your surgery. Clinically, she has an episode of pelvic inflammatory disease." This was followed by "How confident would you say you are in managing this problem?" The responses are categorised by a scale of 1 to 5. The respondents were asked whether they would usually manage the cases themselves or refer and to whom.

We then asked specific questions about PID management, including swabs taken and preferred regimen of antibiotics, and recommendation for partner(s) to be checked. We considered optimal management to include swabs for *C trachomatis* taken from the endocervix and treatment to be effective against this organism, including the tetracycline group of antibiotics, erythromycin,[6] or azithromycin.[7]

We collected information on year of qualification, sex, experience in obstetrics and gynaecology or genitourinary medicine, whether training practice or holding a postgraduate qualification.

The χ^2 test was used to examine the relation between characteristics of the doctors and specific elements of their management. In order to determine 20% difference (for example, 80% *v* 60%) in their management, a sample size of

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Table 1 Management of PID by GPs in Birmingham area (n=139)

	No	*%*	*(95% CI)*
Confidence in managing PID?*:			
Scale 1–2 (No)	9	6.4	(2.4%–10.6%)
Scale 3–5 (Yes)	127	91.0	(87.9%–96.0%)
Manage or refer?*:			
Usually not refer	125	90.0	(84.9%–94.9%)
Usually refer	13	9.4	(4.5%–14.2%)
Choice of referral?*:			
Obstetrics and gynaecology	105	75.5	(68.2%–82.7%)
Genitourinary medicine	23	16.5	(10.4%–22.7%)
Both	7	5.0	(1.4%–8.7%)
Others	1	0.7	(−0.6%–2.1%)
Recommend partners to be checked?:			
Yes	105	75.5	(68.4%–82.7%)
No	34	24.5	(17.0%–31.6%)
Endocervical swab for chlamydia:			
Yes	63	45.3	(27.0%–53.6%)
No	76	54.7	(46.0%–53.0%)
Given antibiotic effective against chlamydia:			
Yes	87	62.6	(54.5%–70.6%)
No	52	37.4	(29.4%–45.5%)

*Three forms had incomplete answers.

180 is required (β=0.80).[8] A p value <0.05 is considered significant.

Results

In all, 180 questionnaires were sent out and 139 returned (response rate 77%). The study shows that 91% of general practitioners who returned the questionnaires feel confident in managing patients with PID, and only 9% would refer these patients on. However, more than half (54.7%) do not perform an endocervical swab for C *trachomatis*, 37.4% do not include anti-chlamydial antibiotics, and 24.5% do not recommend partners to be checked. The results are summarised in table 1. Table 2 shows how some characteristics of the general practitioners may influence certain key aspects of their management of PID. Female doctors were significantly more likely to take endocervical swabs for chlamydia and include anti-chlamydia antibiotics in their therapy, but were equally *unlikely* to contact trace as their male colleagues. Those with a higher degree or with experience in obstetrics and gynaecology were more likely to give anti-chlamydial therapy.

The management of key aspects of PID is not significantly different in general practitioners who qualified relatively recently—that is, in the past 15 years, when the role of *C trachomatis* became increasingly recognised. Neither did being in a training surgery show a significant difference in practice. There is no significant difference in the percentage of doctors with genitourinary medicine training who indicated appropriate management compared with the whole group. The only possible exception is in contact tracing, where all 10 genitourinary trained general practitioners would advise partners to be treated, compared with 74.5% of the whole group. However, owing to small numbers, this difference does not reach statistical significance.

As we do not have details of the 41 general practitioners who did not reply to the survey, we are not able to comment on the demographic differences between those did and did not reply.

Table 2 Characteristics of the GPs and their response to key areas of management of PID

	Anti-chlamydial therapy	*Advise on contact tracing*	*Endocervical swab for Chlamydia*
All responses (n=139)	87 (63%)	105 (76%)	63 (45%)
Doctor's sex:			
Female (n=44)	33 (75%)*	34 (77%)	28 (64%)*
Male (n=95)	54 (57%)	71 (75%)	35 (37%)
Qualification:			
Before 1981 (n=90)	55 (61%)	71 (79 %)	36 (40%)
After 1981 (n=49)	32 (65%)	34 (69%)	27 (55%)
Higher degrees:			
Yes (n=95)	58 (61%)	71 (75%)	50 (53%)*
No (n=44)	29 (66%)	34 (77 %)	13 (30%)
Genitourinary medicine experience:			
Yes (n=10)	7 (70%)	10 (100%)	5 (50%)
No (n=129)	80 (62%)	95 (74%)	58 (45%)
Obstetrics and gynaecology experience:			
Yes (n=114)	72 (63%)	87 (76%)	57 (50%)*
No (n=25)	15 (60%)	18 (72%)	6 (24%)
Training practice:			
Yes (n=35)	27 (77%)	24 (69%)	19 (54%)
No (n=100)	60 (60%)	81 (81%)	44 (44%)

*p<0.05 (χ^2test).

Discussion

This study proposes to assess how well PID is managed once clinical diagnosis is made. As only 139 questionnaires were returned, this study was not powered to detect small differences. Failing to show a difference in management in doctors who were recently qualified, were in training practices, or had genitourinary medicine experience was disappointing, but we are not able to rule out type II error in this instance. Other methodological limitations of the study relate to the questionnaires not being piloted, and the yes/no, rather than scaled, format may not yield maximum information.

PID is often a sexually transmitted disease. As *C trachomatis* is implicated as the main causative agent of PID, this study suggests that many patients would have had inappropriate investigation and serious undertreatment.[3 9] Several studies also showed that sexual partners of women with acute PID have a high incidence of gonorrhoea, *C trachomatis*, and non-gonococcal urethritis.[10] The majority of these contacts are asymptomatic[10] and not likely to seek medical care of their own accord. Therefore, contact tracing is an integral part of management[11] of PID to prevent reinfection and sequelae of chronic salpingitis.

This study shows that the problem of inadequate management of women with a clinical diagnosis of PID in the primary care[5] is still with us. An important educational message to all the general practitioners is that PID *is* a sexually transmitted disease and should be managed as such. For some general practices where facilities/resources for infection testing and contact tracing are limited, better collaboration with local genitourinary medicine services is important in improving the care of women with pelvic infection. It is also imperative for physicians in genitourinary medicine and public health to take an active role in outreach and education in this area.

Appendix

This form attempts to survey clinical practice within a general practice setting (not necessarily what is done in hospitals). Please give replies as close to your normal practice as possible.

Note that all data will be for research only and will be processed on an anonymous basis.

The problem: You have seen a sexually active woman of reproductive age in your surgery. Clinically, she has an episode if pelvic inflammatory disease.

(1) How confident would you say you are in managing this problem? (Circle number)
Not confident < 1 2 3 4 5 > Confident

(2) Do you tend to refer or manage this problem?
□ Usually manage, rarely refer
□ Usually manage, sometimes refer
□ Usually refer, sometimes manage
□ Usually refer, rarely manage

(3) If you refer, which would be your first choice?
□ Another GP
□ Accident and emergency
□ Obstetrics and gynaecology
□ Genitourinary medicine
□ General surgery
□ Other (please state)

(4) Do you recommend to the patient that her partner(s) should be checked?
□ Yes
□ No

(5) What is your preferred regimen of antibiotics to treat PID? (Please state dose and number of days)

(6) As part of your assessment do you tend to do any of the following?
□ Temperature
□ Abdominal examination
□ Pelvic examination
□ Mid-stream urine
□ Full blood count/erythrocyte sedimentation rate
□ Pregnancy test

(7) If you do a pelvic examination do you take the following swabs?
□ Urethral swab
□ Rectal swab
□ Endocervical swab (general)
□ Endocervical swab (chlamydia)
□ High vaginal swab
□ None of the above

Now a few demographic questions:

(8) Your year of qualification.
□ 1941–50
□ 1951–60
□ 1961–70
□ 1971–80
□ 1981–90

(9) Sex
□ Male
□ Female

(10) Have you ever held a full time post in obstetrics and/or gynaecology (for 3 months or longer)?
□ Yes
□ No

(11) Have you ever held a post in genitourinary medicine?
□ Yes
□ No

(12) Do you work in a training practice?
□ Yes
□ No

(13) Do you hold any of the following postgraduate qualifications?
□ Fpcert/DFFP/MFFP
□ DRCOG/MRCOG
□ MRCGP
□ MRCP
□ Other (if yes, please state)

Thank you for completing this form. Comments are welcome on the reverse. Please post in the stamped addressed envelope to Dr C B Ip, Whittall Street Clinic, Dept of Genitourinary Medicine, Birmingham General Hospital.

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