Clinical management of chlamydia in general practice: A survey of reported practice

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Abstract

Background. Chlamydia trachomatis is the most common curable sexually transmitted infection (STI) in the UK. Prevalence of the infection in different health care settings has been found to be between 2% and 29% and diagnoses of the infection continue to rise significantly. It is estimated, however, that only 10% of all chlamydial infections are seen and treated in genitourinary medicine (GUM) clinics. Few data exist about the actual practice patterns of primary care providers in the management of chlamydia. The management of patients identified with the infection within this setting warrants attention.

Aims. To determine general practitioners' (GPs') and nurses' reported clinical practice in the management of genital chlamydial infection. To design a needs-based education guideline on the management of chlamydia in rural primary care

Design. An anonymous, confidential, self-administered postal questionnaire was sent to all GPs and cervical cytology practice nurses in 84 practices in Dyfed Powys Health Authority (DPHA) area, Wales, UK.

Results. Following two mailings of the survey, responses were obtained from 75/84 practices (response rate 89%). A total of 130/307 GPs (response rate 42%) and 72/152 nurses (response rate 47%) in these practices responded. The data demonstrated that few tests for chlamydia are being carried out in general practice: 42% (55/130) of GPs and 54% (37/72) of nurses reported carrying out between one and four tests a month, and 35% (46/130) of GPs and 29% (21/72) of nurses reported performing less than one test a month. Very few positive results are being obtained. The majority of GPs (72%) and nurses (68%) routinely use the appropriate endocervical swab when testing for chlamydia, however 19% of GPs and 20% of nurses are using either an incorrect wooden-stemmed swab or are taking an inappropriate high vaginal swab.

Conclusions. Few chlamydia tests are being performed in primary care in DPHA, Wales. Health professionals in general practice are in need of, and are in favour of, up-to-date training on all aspects of chlamydial identification and management in primary care. Attention needs to be focused upon resources and the paucity of GUM services and their access within the DPHA area.

Introduction

Chlamydia trachomatis is the most frequently occurring sexually transmitted infection (STI) in the UK.^{1,2} It causes a spectrum of complications ranging from the simple and asymptomatic to the more complicated and severe and is

Key message points

- Few tests for chlamydial infection are being carried out in general practice in the Dyfed Powys Health Authority (DPHA) area, Wales, UK. Indeed, 29–35% of the respondents reported carrying out less than one test a month, and 42–54% between one and four tests a month.
- General practitioners (GPs) and practice nurses are in a position, with the input of appropriate resources, to play an important role in the detection of chlamydial infection at an early stage.
- GPs and practice nurses are in need of, and are in favour of, further needs-based education and training in the identification and management of genital chlamydial infection.

most common in the younger sexually active population (20–24-year-old men and 16–19-year-old women).³ In 1999 there were around 57 000 new episodes of the infection in genitourinary medicine (GUM) clinics in the UK,⁴ which increased to over 62 500 in 2000.^{5,6} In GUM clinics within DPHA, Wales, specifically Carmarthenshire and Pembrokeshire, the prevalence of chlamydia in new GUM attenders is about 10%, which is comparable to UK prevalence rates generally (estimated at between 2% and 29% in different health care settings)⁷ and is amongst the highest in Wales. Not only is the absolute number of cases increasing year on year in DPHA but the percentage tested positive is significantly higher (doubled proportion tested positive between 1997 and 1999).⁸

It is estimated, however, that only 10% of all chlamydial infections are diagnosed in the GUM setting.^{3,9} This means that a high number of infected individuals are either seen and treated in other health care settings or that a large reservoir of undiagnosed infection exists within the general population. Research demonstrates that chlamydia has increasingly been detected outside the GUM setting, however that the number of cases isolated remains relatively low. The problem is exacerbated by the fact that chlamydia is asymptomatic in at least 70% of women and 50% of men which means detection is often limited.¹⁰ Prevalence studies in the UK among women in different health care settings have shown there is a substantial level of asymptomatic infection even among those generally perceived to be at low risk of an STI.¹⁰

If left untreated, chlamydial infection can lead to serious reproductive morbidity.⁹ Chlamydia is the causative organism in one-third of cases of pelvic inflammatory disease (PID) which can result in chronic pelvic pain and ectopic pregnancy. It is the commonest single cause of infertility in women under the age of 35 years, and is the most frequent cause of epididymitis in young men.^{10,11} Early

detection and treatment is therefore of paramount importance. Costs of infection in the UK are estimated at over £200 million per annum.¹¹

The prevalence of chlamydia infection in primary care is thought to affect between 2% and 12% of British women.¹² Research and specific pilot studies have looked at different options for screening for chlamydia in general practice and have evaluated the use of different sample-taking methods.^{1,9} Little is known, however, about the actual practice patterns of primary care providers in the clinical management of chlamydial infection.¹³ The sexual health of young people, especially women, has previously been poorly served in the primary care setting.¹² STIs have traditionally been the preserve of specialised clinics that adhere to particularly stringent conditions of confidentiality. Those working in general practice have often felt that patients would rather attend such clinics and, as a result, have become de-skilled and have not developed testing facilities within practice.¹⁴ There are also considerable gaps and inconsistencies in current knowledge, thus prompting questions such as what more do health professionals need to know to maximise STI management and what extra resources are needed to facilitate this knowledge.¹⁵

In the light of the fact that little is known about chlamydia management in primary care, this study was undertaken to determine GPs' and practice nurses' reported clinical practice in the management of chlamydial infection in DPHA, West Wales. This is a sparsely populated rural area where the paucity of genitourinary services and their access is a growing problem. It also aimed to establish the educational needs of the health professionals and the resources/information/services felt needed to maximise STI prevention and control in rural general practice.

Design

Current literature and relevant statistics on the prevalence and nature of chlamydia were carefully reviewed. Information on all aspects of the management of chlamydia in local family planning clinics and local GUM clinics was obtained from the only genitourinary (GU) consultant in DPHA, the GU sexual health advisor and the programme co-ordinator for Cervical Screening Wales. The management of chlamydia in one GP setting was discussed and some of the difficulties and problems of achieving best practice identified.

A questionnaire was designed to establish reported practice and views of GPs and cervical cytology practice nurses on the management of chlamydial infection. The questionnaire aimed to elicit the following information: number of tests done weekly/monthly for chlamydial infection; number of positive results obtained; gender and age proportions; treatment and prescribing habits; swab-taking techniques; partner notification measures; patient information offered on consultation; opinions on the necessity and feasibility of screening; symptoms/situations prompting the taking of a chlamydia test; and the information and support felt to be needed to optimise the management of chlamydial infection in primary care. Study approval was secured from Dyfed Powys Research Ethics Committee.

The questionnaire was piloted in four practices and was reviewed by the professional individuals above. The final anonymous confidential self-administered postal questionnaire was sent to all remaining GPs and nurses in Dyfed Powys (84 practices, 307 GPs and 152 nurses). Response time was set at 2 weeks and a stamped addressed envelope enclosed for ease of reply. Non-responders

(practices without a single response and those with a below 30% response rate) were sent one identical follow-up questionnaire 3 weeks later. The overall response rate excluded the pilot study although qualitative comments were included in the main analysis.

Analysis was undertaken separately for GPs and nurses. Data were entered onto an Excel spreadsheet and percentage responses calculated. Qualitative statements were collated and recorded. A summary of the results was sent to all practices for their perusal. The results are being used in the production of a needs-based education package on the management of chlamydia in rural general practice, Dyfed Powys, South West Wales.

Results

Responses were obtained from 75/84 practices (response rate 89%). A total of 130/307 GPs (response rate 42%) and 72/52 nurses (response rate 47%) in these practices completed a questionnaire.

The number of chlamydia tests carried out; positive results obtained; and gender and age proportions were as follows: 42% (55/130) of GPs and 54% (37/72) of nurses reported carrying out between one and four tests a month; and 35% (46/130) of GPs and 29% (21/72) of nurses reported less than one test a month. Comments elicited from the questionnaire suggest that of those tested very few positive results are obtained. The majority of respondents stated *none* or *very few*. A minority stated that between 10% and 50% of those tested come back as a positive result. The age group of individuals identified for testing and as a group for positive results is predominantly below 30 years. Only 13% (17/130) of GPs and 21% (15/72) of nurses stated cases of both above and below 30 years. Comments suggest, that on the whole, only females tend to be tested in general practice.

Necessity and feasibility of screening

A total of 69% (90/130) of GP respondents and 49% (35/72) of nurse respondents think that screening for chlamydial infection is necessary. However, only 22% (20/90) of those GPs and 43% (15/35) of those nurses feel that a screening process is feasible. The main reasons for infeasibility were stated as being due to difficulties in time, manpower and resources; to an already high workload; to doubts about the test efficacy; to invasive sample-taking methods; to problems of contact tracing and ongoing management; and finally to the general absence of support and counselling services for patients with positive results.

Treatment and prescribing habits

On detection of a positive test result the data suggest that a high proportion of GPs (90%) would prescribe treatment. A total of 78% (101/130) of these GPs would also refer to GUM, probably for follow-up and contact tracing, while 4% (5/130) would refer directly to gynaecology, and 16% (21/130) of GPs stated that they undertake contact tracing themselves. Which form this contact tracing takes or whether it just implies current partner notification is unclear. Nearly half (48%) of GP respondents stated they would treat a symptomatic individual who had *not* had a chlamydia test. Just over half (54%) stated they would treat a symptomatic individual who *had* received a *negative* chlamydia test result, and 39% stated that they would also refer in these situations. Doxycycline is the favoured first-line treatment for chlamydia. It is also the most preferred option for PID treatment in conjunction with metronidazole.

Swab-taking techniques

A total of 72% (94/130) of GPs and 68% (49/72) of nurses use the correct endocervical plastic-stemmed swabs when taking a sample; 17% (16/94) of the above GPs and 10% (5/72) of the above nurses *also* take an urethral swab. However, 19% of GPs and 20% of nurses are using either an incorrect wooden swab or are taking an inappropriate high vaginal swab (HVS) rather than an endocervical one. On the whole chlamydia swabs are available, however, interestingly comments suggest difficulty in obtaining them from local laboratories. Most comments surrounding swab-taking state that male patients are referred to GUM clinics for testing. Comments expressed a lack of knowledge surrounding male testing; 60% of GPs and 54% of nurses stated using the same swab type for both male and female patients.

Symptoms/factors prompting the taking of a chlamydia swab

A total of 92% of GPs and 74% of nurses stated vaginal discharge as the main reason prompting a chlamydial test in a woman (Table 1). Urethral discharge is the main symptom prompting a chlamydial test in a man (GPs 88% and nurses 54%) (Table 2). Only 58% (75/130) of GP respondents and 50% (36/72) nurse respondents offer a chlamydia test prior to fitting of an intrauterine device (IUD) (Table 3). It is possible that the questions addressing the above point suffered acquiescence bias.

Table 1 Symptoms prompting the taking of a chlamydia test in a woman

	GPs (n = 130)		Nurses (n = 72)	
	%	n	%	n
Intermenstrual bleeding	56.2	73	43.1	31
Deep dyspareunia	89.2	116	69.4	50
Vaginal discharge	92.3	120	73.6	53
Lower abdominal pains	76.2	99	66.7	48
Dysuria and frequency	37.7	49	26.4	19
Postcoital bleeding	6	78	47.2	34

GP, General practitioner.

Table 2 Symptoms prompting the taking of a chlamydia test in a man

	GPs (n = 130)		Nurses (n = 72)	
	%	n	%	n
Urethral discharge	87.7	114	54.2	39
Dysuria and frequency	57.7	75	27.9	20
Testicular pain	46.9	61	20.8	15
Referral to GUM	6.2	8	0	0

GP, General practitioner; GUM, genitourinary medicine.

Table 3 Factors/situations prompting the taking of a chlamydia test

	GPs (n = 130)		Nurses (n = 72)	
	%	n	%	n
Contact bleeding on cervical screening	29.2	38	20.8	15
Inadequate/inflammatory smear result	22.3	29	15.3	11
Prior to fitting of IUD	57.7	75	50	36
On basis of sexual history	79.2	103	66.7	48
Other STIs present	91.5	119	63.9	46
Recent partner change	23.1	30	30.6	22

GP, General practitioner; IUD, intrauterine device; STI, sexually transmitted infection.

Partner notification and information offered to patients

On partner notification 92% (119/130) of GP respondents and 64% (46/72) of nurse respondents stated that the patient was asked to inform their partner or contact. A very small number telephone or send a letter. Comments suggested high GUM referral. Verbal information is the most preferred/practised information type given to a patient (GPs 75% and nurses 68%) followed closely by a GUM contact number. Only 25% (32/130) of GPs and 50% (36/72) of nurses give a patient an STI or chlamydia leaflet.

Information and support felt needed to optimise the management of chlamydial infection in primary care

The majority of GPs and nurses feel that there is a definite need for, and are in favour of, further training and support and indeed better access to GUM clinics. Whilst 92% of GPs demonstrated interest in a Postgraduate Education Allowance (PGEA)-approved education package, 75% of nurses demonstrated the same interest. Free comments by both GPs and nurses were about: different sample taking methods; use of urine testing kits; test efficacy, i.e. better laboratory isolation of chlamydia; adequate supplies of testing kits; better use of leaflet information; local telephone help lines; opportunistic screening; increased patient awareness; better allocation of resources for nurse time; protocols and guidelines in practice; localised integrated family planning and sexual health clinics; better liaison and collaboration between different bodies involved in sexual health; community services for partner notification, support/counselling and ongoing management; and finally solutions to the problem of GUM waiting lists and access in rural Wales.

Discussion

The findings of this study need to be considered in the light of the response rate and some methodological shortcomings. However, they provide an insight into some of the qualities and deficiencies of sexual health management, specifically chlamydia, in general practice. Although only 42% of GPs and 47% of nurses are represented, the data obtained from the survey represent 89% of the practices included (75/84 practices), with at least one response obtained from each of the 75 practices. The low GP and nurse response rates could be interpreted as indicative of the low priority attributed to genital chlamydial infection by health professionals in this area. In terms of methodology, the use of the same questionnaire for both GPs and nurses may have hindered nurses' responses. Only 10/15 fifteen questions were directly relevant to nurses' clinical practice, and although they were encouraged to add comments throughout to any of the other questions, in retrospect a separate questionnaire tailored specifically for nurses may have generated a better response.

The main finding of this study is that few tests for chlamydia infection are being carried out. Reasons for this are varied. There may not be a sufficiently high index of clinical suspicion. Symptoms may be misdiagnosed, such that for example vaginal discharge is attributed to candidiasis or abdominal pains to menses or intermenstrual bleeding to age or contraceptive side effect, and so on. High-risk asymptomatic patients may not be identified. Comments suggest that in some practices nurses are excluded from taking swabs. This would therefore reduce the number of tests performed, especially in a busy practice where time and resources are constrained. Another point raised by respondents is the availability of swabs or testing

kits. Certain practices are limited in the number of kits they are able to obtain from the laboratory on a weekly basis. An example was six kits per week for a practice of eight possible professionals who take swabs. This may reduce the number of tests performed and raises issues surrounding the ability of the laboratories to cope with more testing should screening be phased in. The results highlighted that of those tested few positive results are obtained. This can be attributed to poor test sensitivity in the bacteriological isolation of chlamydia, to poor sample-taking technique or to low prevalence. Of great importance in the study is the finding that there exists incorrect sample-taking practice. If incorrect or insufficient sample is obtained and tested then the proportion of false-negative results will increase, thus giving a misrepresentation of the true prevalence and burden of the infection. A common mistake is the collection of discharges from affected sites rather than a genuine sample of epithelial cells.¹⁶ Wooden swabs are also toxic for chlamydia thus resulting in false-negative culture results if used.¹⁷ In this study, 19% of GPs and 20% of nurses either took inappropriate swabs (HVS) or used wooden swabs. The study also importantly elicited that on the whole male patients tend to be referred to GUM for testing. Statements reflected apprehension surrounding male testing and many respondents have never swabbed a male and do not know how to.

Chlamydial infection is believed to be the STI likely to have most impact on primary care. However, it is also believed that primary care could make a significant impact on chlamydial infection.¹⁴ With the input of appropriate resources, GPs and practice nurses are in a position to play an important role in the detection of chlamydial infection at an early stage. This is all the more important where the paucity of GUM services is an issue, their resources stretched and waiting lists at those few clinics in excess of 3–5 weeks. This is the case in DPHA, South West Wales which suffers the service accessibility problems that rural areas pose. Individuals often have to travel in excess of 30–40 miles to attend a clinic that has long waiting times for consultation.

This study has elicited the need for more testing in general practice, with a focus upon increased awareness of male testing. It has demonstrated that a higher level of clinical suspicion is needed under all circumstances and suggestive symptoms need to be associated with the infection (Tables 1–3).

If testing becomes more widespread, the importance of ensuring that all mechanisms are in place to manage patients with positive results becomes paramount.¹⁰ Ideally, a fully integrated and multidisciplinary approach to sexual health management is required.¹⁸

The other objective of this study was the creation of a needs-based education package tailored to the requirements

of those health professionals working in general practice in DPHA, Wales. This accredited education package is currently underway and will be implemented in the near future. The authors feel that such a package will improve the access to, and equity within, STI services by increasing primary care involvement and widening the role of nurses.¹⁸⁻²⁰

Studies such as this hopefully provide a better insight into the practice patterns of primary care providers in different area settings (rural versus urban) and through informing clinical practice, facilitate more effective care provision and thus help lay the foundations for the implementation of tailored resources and services.

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