Author's response to reviews

Title: Knowledge of chlamydia trachomatis among men and women approached to participate in community-based screening, Scotland, UK.

Authors:

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Author's response to reviews: see over
Dear Editors,

We re-submit the manuscript (MS: 7737691184212846) for your consideration. We are grateful for the detailed reviewers’ comments which were extremely helpful and most changes have been made (with reasons given below where, in a couple of cases, they have not). We have copied the reviewer comments below and attached our responses (in purple coloured text) to each of the issues they raised.

We would like to take this opportunity to thank the reviewers for their helpful comments that we feel have improved the quality of the paper.

Yours sincerely,

Dr Karen Lorimer (and on behalf of Prof Hart)
Reviewer 1

Minor Essential revisions:
1. Chlamydia trachomatis should be in proper format- italics and capital C
   We have amended as suggested.

2. Insert word as follows- invited to complete a self-administered questionnaire and then provide a urine sample for chlamydia testing
   We have amended the sentence.

3. Reference 2 is out of date- published 2001- please update
   It may be 2001 but it is the most recent Natsal data (Natsal 2000), which remains the best recent estimation of the UK population prevalence of chlamydia, hence it is still cited (even in the recently updated Scottish chlamydia screening guidelines, 2009). Natsal 2010 data is currently being collected for release ~2013. But we have added the SIGN guideline reference (Scotland) and a reference to the most recent NCSP Annual Report (England) as up-to-date evidence for the second part about the estimated 10% prevalence among <25yr olds.

4. Please provide some detail re settings e.g. education- what level and were all approached in non-clinical context.
   Additional information has now been added to the method section.

5. Who are the interviewees? From what settings? What is their mean age?
   Mean age was given in the manuscript in the second paragraph of the result section. Additional information has now been added to convey that interviewees were all study respondents who were willing to be interviewed.

6. use of KL as initials does not read well- please alter to a term such as “lead researcher”
   As this is a stylistic issue, we have remained consistent with the journal style and not the reviewer’s. We feel the phrase ‘lead researcher’ is ambiguous and compels the reader to have to check the author contribution section to be clear on who the ‘lead researcher’ is. However, by way of compromise we have added ‘The lead author (KL) approached young people..’

7. Knowledge of the clinical features of Chlamydia- the next 2 paragraphs need to be explained more clearly- it is difficult to understand which is considered by authors as incorrect answer. Is “pain in the lower stomach” not considered a symptom by the authors- this might be considered as lower abdominal pain by a lay person and thus would be a correct symptom?
   In the original manuscript the table had a footnote stating that bold indicated a correct symptom. We have now added this information to the main text (p9) ‘There were a number of misconceptions in relation to symptoms of chlamydia infection (tables 1-3, with correct symptoms in bold), with variation in level of misconception between symptoms.’ as well as keeping the table footnote, to make it clearer.

8. Re the following sentence “Table 2 shows that for most statements, women’s knowledge was significantly greater: that chlamydia cannot be caught from toilet seats (OR 1.80, 95% CI 1.1-2.92), men can be asymptomatic (OR 1.50, 95% CI 0.96-2.35)- the CI interval overlaps 1 thus should not be significant- please clarify
   The numbers have been checked with a statistician who confirmed the p value should have been at least double thus not significant. Numbers have been re-checked and amended as appropriate. A column in this table has been added to show the p values.

9. Please delete “were” in the following “Respondents frequently contextualised their own poor knowledge of chlamydia with their perceptions of the knowledge young people in wider society generally have, thus respondents were attempted to normalise their own poor knowledge
   Word has been deleted
10. “Whilst the inclusion of men in screening has been widely encouraged [29-31], they remain only partially involved and as this study shows that their knowledge persists in being lower than that of women’s, with little changing from work published a decade ago [32, 33], nor the introduction of a national screening programme [22, 34]”…. This statement does not explain if refs 32 & 33 refer to English research where there is a screening programme – if yes then the limitation that this is Scottish research and thus may not be representative of English young people

Agree, both references are for GUM attendees in England so not only would Scottish respondents possibly differ, the respondents of the study reported in this manuscript were non-clinical setting users and so they (regardless of national context) may differ. We have added text to flag the specific populations of these studies.
Reviewer 2

This is a well written straight forward survey. It would benefit from more detail and more clarity around the presentation of the results.

Thank you and we have made changes as detailed below.

Abstract
Include data in the abstract with key N’s and confidence intervals.
Data has been added as requested.

Methods
The methods a little unclear- I suggest more detail is needed rather than just asking readers to find another paper.. For example which survey is this study referring to- the initial one or the one where people were called back? How was the sub sample chosen for the second study? What is an ‘education’ centre? What type of workplace was chosen and why? When exactly was the study undertaken (dates of the 4 weeks). How did they know the age of the individuals they approached?

Additional information on these details has now been provided in the method section (p4-5).

Results
The results are unclear. OR are presented but it is not clear what they refer to….what is the referent group? In table 2- what does the OR refer to? Is not clear enough…needs to be spelt out really clearly.

Findings have been re-written (p9-10). Table 4 shows men are the referent group.

In table one….I’m not sure I totally agree with the answers to all the questions as being correct or not. Without knowing which you disagree with, and in light that these were all verified with GUM staff, we’ll assume this is a comment and not a mandatory correction?

Discussion
The question posed by the authors is well defined in the introduction but in the discussion the authors need to say what it means. How did these results help the authors increase chlamydia screening to levels where it may decrease the prevalence….the discussion (preferably the first paragraph) should contain this very clear point.

The first paragraph should come out and say- what does all this mean- how have we progressed, but it doesn’t really do this.

I’m also lost to know if the authors think this is a good way of recruiting people, whether knowledge is important and how it would effect recruitment is these venues.

The limitations of the work are clearly stated- i.e. their knowledge may have been positively influenced by reading the materials.

The discussion section has been re-written to better link with relevant literature and flag the key findings.
Reviewer 3

Introduction

Consider rewording to:

“Chlamydia trachomatis is the most common bacterial sexually transmitted infection (STI) in the UK [1], with an estimated prevalence of 10% among young people aged under 25 years [2]. Transmission potential is high [3,4], with 123,018 cases diagnosed in the UK in 2008 [among 15-24 year olds?], increasing from 121,791 in 2007 [fix your reference1 here]”.

These figures were for all age groups. These have been replaced with figures for under 25s. Reference 1 remains broken on the HPA website (was working at time of submission) so it has been changed to a different (working) document.

2nd para, 2nd sentence - most recent data for the English NCSP - please add “among 15-24 year olds”.

Thank you this has now been added.

Is your 30-40% estimation in the same sentence referring the testing levels required in this age group also?

Yes, the 30-40% estimation stems from a National Institute for Health and Clinical Excellence (NICE) rapid review (Low et al., 2006), which was a review of the effectiveness of screening men and women under 25 year of age for chlamydia. The sentence has been changed to convey this more clearly, and an additional reference by Low, in which she refers to the NICE rapid review 30% figure in relation to screening programmes, has been added.

Methods

In the discussion section you detail a number of points that are not first explained in the methods section.

1. “All respondents, when initially approached, were informed about chlamydia and given an informational leaflet to read prior to giving consent to participate in the study. The study leaflet provided basic information about chlamydia, including that it is a sexually transmitted infection. Furthermore, prior to and throughout the study, there were information posters around the study venues, which also provided basic information about chlamydia”

   Additional information has now been provided in the method section:
   ‘One week prior to the start of the study posters were placed around the setting (in corridors and toilets), which provided basic information on chlamydia.’

   The lead author (KL) approached young people, established their age for eligibility, explained the study to them and informed them about chlamydia (verbally, and by giving them a study leaflet).

2. “The outcome of each approach made to young people was recorded in fieldnote diaries…”

   Additional information has now been provided in the method section:
   ‘Throughout fieldwork, a record of the number of people approached was made, as well as general observations of young people’s non-verbal response to the offer of chlamydia screening was noted in fieldwork diaries (e.g. young women hiding their samples in jacket pockets).’
3rd sentence: Sentence is awkward and needs to spell out what “engaged in conversation” entailed.

The sentence has now been changed to ‘approached young people, established their age for eligibility, explained the study to them and informed them about chlamydia (verbally, and by giving them a study leaflet).’

Where did young people complete the questionnaire? In a specific room? At a table set up within the setting? You note in the discussion that “there could have been conferring between participants when completing their questionnaire”…

Additional information has been provided as requested. The sentences now read:

Participants were to complete the questionnaire immediately in the location (e.g. at their table in the canteen) and return it to the researcher. In practice a few participants in the workplace setting took the questionnaire away and returned it within an hour or two. Privacy levels for participants completing a questionnaire varied across the settings, with large numbers of people using the education setting canteen area compared to the commonly quiet location of the health and fitness main foyers.

Was consent also provided by participants to be approached at a later date to take part in the semi-structured interview? If so, could you please note.

We have now added this information: ‘A sub-sample of participants who completed a questionnaire and consented to take part in a follow-up interview was contacted by telephone after test results had been sent (around 1-2 weeks post test).’

Questionnaire
Could you please note that it was a 13 item questionnaire (11 true/false, 2 statements). A copy of the questionnaire attached as an ‘additional file’ would be useful.

In version 1 of the manuscript we wrote ‘The questionnaire was designed to capture data on knowledge of chlamydia, views towards their perception of risk as well as views towards screening, sexual behaviour and willingness to provide a urine sample in the setting.’ The questionnaire therefore captured more than the items on knowledge. We have re-written the sentences to convey more accurately that

The questionnaire (see Additional File 2) captured respondents’ knowledge of chlamydia, views towards screening, sexual behaviour and willingness to provide a urine sample in the setting. The knowledge section of the questionnaire contained 17 items.

Semi-structured interview schedule
I think the sentence (p.5) “A sub-sample was later contacted…..” may work better after the questionnaire information (and before your explanation of analyses). Yes, the paragraph on interviews has been moved.

Very little information is provided on the semi-structured interviews. We have given more information on the interviews (p7-8).

You haven’t noted that 24 respondents completed the interviews (from abstract). We noted this in the first paragraph of the result section of version 1 of the manuscript, but have also now also included n=24 in the method section:

‘..all participants who were willing to take part in a follow-up interview were interviewed (n=24)…’
How much later was the sub-sample contacted to participate in the interviews i.e. days, weeks, months (this could have an effect on what they recalled about chlamydia? (Results: was there a difference between what they recalled on the day of the questionnaire compared to the day of the interview??)).

We have now included information stating it was around 1-2 weeks after they completed their questionnaire and accepted/declined the test. Situating knowledge within context is interesting but the study was not designed to systematically capture differences in knowledge between on the day (survey) and a couple of weeks later (semi-structured interview) to make a comparison.

When and where were the interviews done? Were they done in a private area?

We have now noted that they were conducted either in a private room at the university or in the study setting.

How long, on average, did the semi-structured interviews take?

We have now noted they lasted between 30 and 90 minutes.

How structured was the interview schedule? Were there set questions? Is it possible to provide a copy of the interview schedule?

We have included a copy of the schedule (without prompts/probes) as Additional file 3.

Results

Possibly section the results into ‘Questionnaire results’ and ‘Semi-structured interview results’.

We have inserted these two sub-headings.

Para 2, sentence 1: reads awkwardly. Possibly reword to:

“The mean age of participants was 20 years, with a higher number of 16 to 19 year olds recruited from education settings (53.7%) than health and fitness (29.3%) or workplace settings (23.1%).”

Thank you, we have changed as suggested (p9).

Knowledge of the clinical features of chlamydia (p.7)

Table 1: Given that Table 2 is presented by gender, and that much of your discussion is presented in terms of the differences in knowledge levels between males and females, it would be useful to present the information in Table 1 by gender, rather than setting, and also provide N (%) in each column and a total respondents column (see below). The %’s you provide for all respondents in the text could then be checked/viewed in your table. Statistical differences by setting could be referred to within the text, however make sure you provide the %’s and p-values in the text.

Table 1 has been changed to present knowledge of symptoms by gender rather than by setting as it was originally. Differences between setting (education, health & fitness, and workplace) and age groups (16-19, 20-24 years) are flagged in the text where appropriate and two extra tables have been included (tables 2 and 3).

Table 2: Given that you categorize “No” and “Not sure” as 0 points, and “Yes” as 1 (Methods), I question why you have not presented the figures for the “No” responses in the table and only presented “Not sure” responses? It would be useful to see either the “No” responses in a separate column or as part of the “Not sure” answers - the category of which could be renamed - Answered ‘No’ or ‘Not sure’.

We have added an extra column for incorrect responses (following the same headings as the Kellock 1999 paper, so that it is a useful comparison with that paper).
When you state on p.7 that the “overall mean score for the ‘true/false’ statements was 6.9 (range 0-11) does this mean the mean number of ‘correct number of responses’ was 6.9? If so, please clarify.

In version 1 of the manuscript, methods section, we wrote: ‘Responses to the true or false questions were allocated a score (one point for a correct answer, 0 for an incorrect answer, answering not sure or providing no answer). The maximum score achievable was 11.’ As such we have not added anything to the revised manuscript in response to this comment.

Were there any statistically significant differences in responses by age i.e. 16-19 or 20-24 years for the questionnaire data?

Yes, some and as noted above we have now added these to the text and added table 3

Semi - structured interview results p.9
There is very little data presented here considering 24 respondents participated in the semi-structured interviews. I question how long the interviews were given the lack of detail and depth provided. A very superficial and general description of the main findings has been detailed however there is no indication/examples of any differences in views and levels of knowledge, nor is there any description of respondents experience of being screening, their views on community based screening, their reasons for accepting or declining screening, how they felt receiving their results, how many tested positive or negative for chlamydia, if there were any differences in knowledge levels between those who tested positive and negative etc. Fuller analysis needs to be provided.

As qualitative work from this study, on willingness to be tested, has been published elsewhere, and this was noted in the manuscript text with reference given (reference 23 in version 1: Lorimer K, Reid ME, Hart GJ; "It has to speak to people's everyday life": qualitative study of men and women's willingness to participate in a non-medical approach to Chlamydia trachomatis screening. Sexually Transmitted Infections 2009, 85(3):201-205.), the interviews were not brief.

As noted above, we have now included information on the length of the interviews as well appended the interview guide with this revised manuscript. It is always difficult to judge the correct balance of quant/qual in mixed methods papers. But we take note of the perception of brevity of the qual results and upon re-reading the manuscript we note room for expansion. We have now included more data in this section, including the observational data of the immediate conveyance of awareness of men and women to ‘chlamydia’ when they were approached.

Discussion:
Overall, I feel that the discussion section still requires some work better detailing the overall findings of the study, discussing the results in comparison to past research in the area and noting the implications of these findings for future chlamydia screening uptake.

Could you please start by providing a summary of the main findings of the study (do not refer to specific % or repeat specific results again in your discussion, rather use general terms such as ‘the majority of respondents’ or ‘few respondents’ eg – p. 11 &12 repeat %’s found in results section).
The discussion section conveys key findings in this more general way.

You have noted some limitations of your study in the first and second paragraphs … could you please clarify with a little more detail, what you mean by “recall and social desirability biases may have been introduced despite the pen and paper method used” (p.12). Additional strengths of the study are also the sample size (questionnaire) and the variety of community settings from which young people were recruited.

**We have changed the text to:** ‘In addition, recall and social desirability biases may have been introduced, and respondents could have selected firm responses in the presence of their peers rather than answer ‘Don’t know’.’

Thank you for flagging the additional strengths, which we have now noted.

I think the authors need to tease out and discuss the findings of previous studies in the area a little more. A number of past studies on young people’s knowledge of chlamydia/STIs have been cited [27,28,32,33] - what were some of the major findings and how do they compare to the results of your study? Has previous research shown that young people are more likely to take up screening if they are better informed and educated? (Pavlin et al, ‘Implementing Chlamydia screening: what do women think? A systematic review of the literature. BMC Public Health 2006, 6:221).

The discussion section has been updated to reflect this comment.

p.13 – please provide further detail/clarify what you mean by “making use of the internet [26,35,36] – what does this mean/what is/are the intervention/s?

**Sentence has been changed to:**
To improve chlamydia detection and treatment innovative strategies have been developed, including postal testing kits and making use of the Internet to request a kit or log-on to receive a diagnosis [28, 42, 43].

**Minor compulsory revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)**

1. Throughout the text you skip between using the term STI and sexually transmitted infections. Spell it out in the first case (see sentence below) and then thereafter as STI.
   **Checked and amended.**

2. Reference 7: link does not appear to be working
   **Appears to still work for me?? [13/10/10]**