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Title: Socio-cultural influences upon knowledge of sexually transmitted infections: a qualitative study with heterosexual middle-aged adults in Scotland

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Abstract

There has been a recent global increase in sexually transmitted infections (STIs) including HIV among adults aged over 45. Limited evidence exists regarding middle-aged adults' knowledge of STIs other than HIV. This qualitative study sought to understand middle-aged adults' knowledge of STIs within a socio-cultural context. Individual interviews, based on a life-course approach, were conducted with 31 recently sexually active heterosexual men and women. Participants were aged between 45 and 65 and of mixed relationship status (14 were single, 17 in a relationship). Thematic analysis identified four key findings, including: 'engagement with STI-related knowledge'; 'general knowledge levels'; 'learning about STIs from children'; and, 'limited application of knowledge'. The findings allow insight into a neglected area, and indicate that socio-cultural factors influence middle-aged adults' STI-related knowledge acquisition throughout the life course. These are important implications for the prevention of STIs, particularly in addressing the on-going stigmatization of STIs in older age groups.

Keywords

Middle aged sexually transmitted infections knowledge heterosexual qualitative research, UK

Background

Rates of sexually transmitted infections (STIs), including HIV, have increased among adults aged over 45 (defined within this paper as "older") globally and within the UK in the last 15 years. [1, 2, 3, 4] UK based diagnoses of chlamydia, gonorrhoea, herpes, syphilis, warts and HIV have risen among both heterosexual men and women and men who have sex with men aged 45-65 (defined within this paper as "middle-aged") within the last decade. [2, 3] Although young people under 25 and men who have sex with men are at greater risk for STIs within the UK, [2, 3] STIs among older adults continue to rise, supported by high mid-life rates of divorce and repartnering. [5, 6] In addition, within the UK, around 80% of adult life is spent in very good or good health which is associated with being more sexually active than when in poor health. * [7, 8, 9] Large scale UK-based survey data indicates that 77.7% of men and 53.7% of women from age 50 to over 90 were sexually active in the last year. [9] The sexual domain of healthy ageing remains a largely underexplored area, lacking relevant evidence to shape intervention design and service provision.

STI knowledge plays an important role in preventing infection transmission, often understood as a necessary but insufficient factor within the complex determination of sexual conduct. Most available evidence involving older adults focuses on HIV, associating a lack of knowledge among this

*Although it is notable that healthy life expectancies in Scotland and Northern Ireland, contrary to England and Wales are falling.[7]

age group with increased risks of acquiring HIV and the avoidance of HIV testing. [10, 11] Age and socio-structural factors including education and socioeconomic status also influence older adults' knowledge of HIV. [12] There is less understanding of older adults' knowledge of STIs beyond HIV.

Table 1. Participant demographic details			
	Recruitment sites		
	NHS sexual health clinics	Community sport/leisure facilities	Total
Age			
45-54	8	11	19
55-65	7	5	12
Gender			
female	11	7	18
male	4	9	13
Relationship status*			
divorced	7	5	12
separated	2	2	4
previously married†	3	1	4
widowed	0	4	4
currently single	9	5	14
currently in a relationship	6	11	17
SIMD**‡			
1 & 2	10	9	19
3-5	5	6	11
<p>* Participants described complex and varied relationship histories. This table shows current relationship status and experience of marital disruption † No longer with spouse, no further information given ‡ **1 not given. ‡SIMD divides Scotland into data zones of about 800 people and provides detailed information of areas of deprivation, based on employment, health, education, skills, geography, crime and housing (Scottish Government, 2015).</p>			

This is important because other STIs are common, with an estimated 498 million new adult cases worldwide of chlamydia, gonorrhoea, syphilis and trichomonas, including rising rates among older adults within the UK and elsewhere. [1, 2, 4] In addition, people may assess themselves as low risk for HIV and disregard other STIs. Furthermore, similar to HIV, other STIs often have unclear or no symptoms. [13]

In order to facilitate reducing risks for STIs among older adults, it is important to understand the socio-cultural processes which are the factors within the shared public environment influencing the acquisition of knowledge. There is a gap in awareness of not only what older adults know about STIs but the social contexts in which this knowledge is acquired. These are essential elements in understanding how sexual health knowledge and wider sexual health literacy is implemented within sexual conduct. Like all knowledge, sexual health knowledge is socially constructed. [14] Berger and Luckmann argue that in the absence of being able to know everything about the world, knowledge about any particular domain is patterned, depending on the individual's social position and its relevance to their lived experience. For areas remote from personal relevance, there is a 'social stock of knowledge' which individuals draw on pragmatically in order to manage their lives. [15] This social stock, as applied to sexual health, arises from wider areas of life than formal education. [16] For areas with personal relevance, knowledge is constructed through the complex interplay of individual lived experience, narrative and socio-cultural position. This study therefore addresses late middle-aged adults' knowledge of STIs within these socio-cultural contexts.

Methods

Heterosexual men and women were recruited in a large Scottish city. It was considered that older men who have sex with men, also at risk of STIs, deserve a separate, culturally focused study. [17] A heterogeneous, recently sexually active sample was sought with regard to risk exposure to STIs. In order to capture both the wider social stock of knowledge and its relationship to narrative accounts of lived experience, a two pronged sampling strategy sought participants who had recently used sexual health services and also addressed the larger population of sexually active older adults who had not sought sexual health testing or treatment. As such, adults tested for STIs within the preceding six months in National Health Service [NHS] sexual health clinics were invited to provide demographic data and undertake a single individual interview. Participants experiencing partner change within the last five years were also recruited from public, council-run sport and leisure

centres. These are referred to as clinic and community samples respectively during presentation of the data below.

Participants attending NHS sexual health clinics, who had been invited by clinicians to document their interest in taking part in the project, were followed up by JD with further information about the study. A total of 15 (11 women and 4 men) were interviewed from sexual health clinic settings. Within the sport and leisure centres, 989 adults were approached by JD or visited her stall containing publicity information about the study. Interest in taking part was recorded by 281 adults (135 men, 144 women, 2 unrecorded gender). In total, 123 potential participants were excluded; the most common reason was not having changed partner within the last 5 years ($n=117$). An additional 65 adults declined to participate before inclusion criteria were applied, 5 eligible participants withdrew and 73 were subsequently not contactable. A final 15 (6 women and 9 men) were recruited from sport and leisure centres. In total, 31 (18 women, 13 men) heterosexual adults undertook interviews: 15 from clinic and 15 from community settings, plus a single pilot interview, included as a community interview (Table 1). Participants were aged between 45 and 65 at the time of interview. Telephone interviews were introduced due to slow recruitment and following requests from potential participants who could not attend face-to-face interviews and declined home interviews. Interviews took place at participants' homes ($n=11$), sexual health clinics ($n=3$), the university ($n=14$) or by telephone ($n=3$) between October 2012 and October 2013. All interviews were recorded, anonymised and fully transcribed.

Interviews utilised Flick's episodic interview technique, based on small scale narratives focussing on a particular topic, in this case sexual health. This technique enabled all participants to reflect on recent and past sexual experiences, capturing the complexity of ways in which they acquired knowledge of sexual health. [18] This approach aimed to gather evidence of enduring socio-cultural influences on their knowledge of STIs across the span of participants' lives. Early in the interviews, participants were asked what came to mind when they heard the phrase "sexually transmitted infections". They were subsequently asked what they knew about the five 'main' STIs in the UK (gonorrhoea, chlamydia, syphilis, herpes, genital warts) and HIV, and shown cards printed with the names of the above STIs to stimulate their thinking about each infection. † [2] Telephone interviewees were read the names of the infections. In addition, interviewees were asked about their early knowledge of STIs, how they had acquired that knowledge and how it had changed. All questions were open ended.

Thematic analysis, primarily undertaken by JD, utilised the sexual scripting approach of Simon and Gagnon [19] to identify codes, attending to literal, interpretive and reflexive meanings within the data. [20] Iterative development of codes into themes used constant comparison across the entire dataset to achieve consistency of themes. Themes were further developed into a smaller set of abstract themes using memos, summary statements and repeated interrogation of the primary data. Analytic rigour was achieved by frequent re-readings of transcripts, maintaining a journal of coding decisions, and auditing of coding by KL, JB and PF. The study was approved by Glasgow Caledonian University and the West of Scotland Research Ethics Committees (HLS: B11/81, 12/WS/0247). Participants were given an information sheet and consent was obtained prior to commencing interviews. All quoted names are pseudonyms.

Findings

In keeping with the recruitment strategy, most of the 31 participants interviewed ($n=24$) had experienced divorce, separation or death of partners, indicating significant relationship transitions

† Specific STI knowledge-related questions were developed following the first (pilot) participant's interview

during their adult lives. Most participants (n=19) resided in the Scottish Index for Multiple Deprivation (SIMD) areas one and two, indicating locations of highest deprivation. [21] The majority (n=17) had received further education, some (n=9) had not received formal education beyond school and a few (n=5) were postgraduate.

Four key themes identified during the analysis are explored below.

Engagement with STI-related knowledge: the sedimentation of sexual health knowledge across the life span

The life-course approach to interviews highlighted the interplay of historical context and personal experience. Participants' narratives detailed the contexts of the end of the 20th century through the lens of the 21st. Each participant's account represented the accumulation of perspectives and the sedimentation of life experiences though changing social contexts.

Analysis revealed that most participants' early knowledge of STIs was framed primarily by its absence, then through the layering of STI-related social stigmas between the 1960s and 1980s. [22] Many remembered receiving limited and deeply ambiguous information at home about sex. For the few, mainly women, who did remember receiving information at home about sex, it was usually delivered in a morally censorious manner conspicuous by its lack of clarity.

“And eh it was always make sure you don't get into trouble and I didn't know what the hell getting into trouble was so that was that” (Alison, age 55-65, widowed, non-cohabiting relationship, community)

Many participants described their school based sex education as “very basic” in that it was focussed on reproduction, avoiding STIs and decontextualized from relationships. Knowledge as such was clearly gendered. While women's behaviour was judged at that time against a standard of sexual propriety, [16] the impact of the sexual double standard on men has been shown to create hegemonic masculine sexual behaviours in which risk taking and aggressiveness are valorised. [23, 24] Participants learned about STIs with these stigmatizing cultural norms already in place. More recent perceptions of STIs appeared to have been influenced by past experiences, highlighting the importance of the accretion of knowledge across the life span.

- *“What about gonorrhoea?”*

... it sounds horrendous reading it [laughs]

- *What is it about it that makes it sound [like that]?*

Just the word, it's just like its got bacteria written all over it and pain eh, it means a lot, the word reminds me of school it's a kind of throwback from school and it's usually referred to that girls have it, never the lads so it's like 'she's got gonorrhoea, like oh my God' but you didn't really know what it meant apart from a sexual infection” (Matthew, age 45-54, divorced, non-cohabiting relationship, community)

The linkage of STIs with female sexuality speaks to the gendered sexual environment experienced by participants when young, dividing not only woman's sexuality into acceptable and dangerous, but by reference, women themselves, also recently evidenced elsewhere among young people. [25] A few men continued to draw on gendered female attributes when assessing STI-related risks in potential partners.

“They’re not dressed tarty, quite short skirts and things like that, and low cut skimpy tops on. Just presentable, like you’d expect a woman to present, she’s got a nice, clean tidy house, whatever. They don’t do all the running, I do.” (Scott, age 45-54, divorced, non-cohabiting relationship, clinic)

With regard to more experiential accounts, several participants had either had personal contact with or knowledge of someone with an STI when young and a few had been diagnosed with an STI themselves. A few men’s experiences suggest that the period between the 1960s and the 1980s reflected a time when STIs were mainly minor or curable with antibiotics, treated in the context of jocular interaction between men and not taken seriously. In contrast, one woman suggested that not knowing anyone with an STI when younger made the concept less real, enabling social distance from STIs, supporting the prevailing stigma of the time. The ongoing silence surrounding personal experiences of STIs appears to have perpetuated stigma resulting in disengagement with knowledge, expressed among several men and women when older, despite recent relatively easy access to STI-related information.

“none of them [STIs] are anything that I’d want to trawl the Internet to find out more about you know, don’t know anybody that’s ever had them or even if they’d admit to it, do you know” (Janice, age 45-54, never married, currently single, community)

In addition, several women had not felt the need to learn about STIs as they had been in long-term relationships and believed that they would not be at risk. This early disconnection from STI knowledge has the potential to influence adults re-engaging with new partners following relationship disruption in middle age.

General knowledge of STIs

The majority of participants had heard about STIs, and had more detailed knowledge on all infections other than gonorrhoea, for which only some could provide information beyond the name. There was, however, much uncertainty among participants about their knowledge, ranging from some responses on chlamydia and herpes to most responses on syphilis being tentatively expressed. Most participants knew more about HIV than any other STI, despite a higher prevalence of other STIs than HIV in Europe. [26] Even with regard to HIV, however, some participants were uncertain about their knowledge.

The participants in this study were between 20 and 40 years old in 1986 at the height of the HIV epidemic as it arrived in the UK. Evidence suggests that, following the huge publicity campaigns of that time, STI rates in the UK dropped temporarily during the 1990s, indicating that the general public had changed their sexual behaviour. [27] However, early in the epidemic, the presentation of HIV risk groups also served to ‘other’ attitudes to HIV. [28] This experience of ‘othering’ was still demonstrated by many participants

“I always think of HIV as you know usually in the gay community or you know not really in like my age group, I only used to think about it as like with younger people, I may be wrong but you know just from what I hear and what I read it may be I just, that’s the impression I get with HIV so I don’t tend to kind of worry about that” (Gillian, age 55-65, previous relationships, currently single, clinic)

Learning about STIs from children: intergenerational learning

The life-span perspective enabled an understanding of how life events influence patterns of learning. A few participants became aware about STIs as parents, either by learning about their children having an STI or responding to STI-related information through concern for their children. Although

several men discussed educating their children about sexual health, most of those who felt parenting had increased their own STI knowledge were women.

“I think I’m more aware of it especially being a mother, I’m more aware of it ...also it’s more publicised you can hear about it you can read about it on the internet. When I was young you heard about these things and they just went in one ear and out the other, you never bothered about them, so you knew about them but as long as they didn’t concern you, you didn’t really bother about them” (Fiona, age 45-54, divorced, currently single, clinic)

Limited application of knowledge

Knowledge of STIs did not always lead to sexually healthy behaviour, even among those who had more detailed STI-related knowledge. Most striking was the association of STIs with the appearance of symptoms, in contradiction to accepted knowledge that many STIs have unclear or no symptoms. [13] For several participants, the absence of symptoms following unprotected sex was an indication of no infection.

“Once I heard that I went ‘well, she’s been sleeping with other people and I let her sleep with me and never used a condom’ and ...then you worry that something happens, that something’s going to come out of it, or are you lucky and I was just praying [laughs] that something didnae (didn’t) happen” (James, age 45-54, separated, non-cohabiting relationship, community)

For James, a risky sexual encounter forced him to wait and worry. The option of seeking asymptomatic testing for STIs was not raised.

Changes in STI-related knowledge

Participants were asked if they felt their STI-related knowledge had changed since they were young; perhaps predictably, more participants in the NHS-recruited group felt that this was the case, given that their recent attendance of sexual health clinics would increase their likelihood of receiving STI-related information. Although a few participants in the NHS group attributed clinic attendance or having an STI as contributing to their change in knowledge, this was not the case for everyone, raising the question as to whether it was an increase in knowledge that helped participants visit the sexual health clinic rather than the other way around. More participants who experienced a change in their knowledge vocalised a change in their attitudes to STIs over the life course, indicating an increased sense of personal risk.

“I’m more knowledgeable. I’m more aware of what can actually happen if you get them [STIs]. I’m quite, obviously aware that a lot of people, even the older ones, don’t protect themselves, which is quite, it’s a shame because they’ve got the intelligence. It should be when you get older you learn [laughs]. I’ve certainly learned by my mistake. And, but it’s, yes it has changed the way I think about them. I’m very conscious of making sure I’ve always got plenty [condoms]. You never know when you’re going to have sex” (Amanda, age 55-65, previously married, currently single, clinic)

Amanda’s extract speaks to the acquisition of knowledge facilitating a change in her attitude to STIs and her subsequent behaviour. Limited evidence from USA-based studies among older adults demonstrates that participants with good knowledge of HIV do not consider themselves at risk despite demonstrating risky behaviour, suggesting that perception of risk may be the driver to engage with knowledge acquisition or behaviour change. [29, 30] Indeed several participants had experienced no change in their STI-related knowledge since they were young, stating that they always took care of their risks for STIs over the life course, suggesting that an increased sense of vulnerability to STI might change STI-related behaviour without requiring further knowledge. Far more participants whose knowledge had increased and who had become aware of their own risks

were not in a relationship when interviewed, suggesting that perceptions of relationships as protective also precludes engagement with knowledge.

Discussion

Learning about STIs in a climate of gendered stigma and marginalisation of risk groups, followed by periods of perceived safety within long-term relationships, appears to have contributed to the limited and tentatively expressed STI-related knowledge of this group of middle-aged adults. Lack of knowledge may affect symptom recognition, leading to delayed treatment seeking. [31] These are important findings, given the impact of health literacy on overall health outcomes of individuals in a climate of ongoing global stigmatization of STIs. [32, 33]

Participants in this study generally knew more about HIV than any other STI. For many, the UK HIV/AIDS campaign of 1986 and several celebrity deaths had the most impact on their knowledge. [34, 35] Remembering this, the world's first major government sponsored national AIDS awareness drive may have privileged older adults' HIV knowledge above other STIs. Studies of young people, however, also demonstrate greater knowledge about HIV than other STIs, reflecting the higher public profile given to HIV overall. [36] Several of the participants, particularly women, were made aware of STIs as parents, either through their children's STI-related experiences or being attuned to STI information. Evidence suggests that within the family, women are the main information providers of sex-related education for both boys and girls [16, 37]; however, no published evidence was located suggesting that this information stream could also travel in the opposite direction. The extension of parenting well beyond childhood may increase older adults' sensitivity to STI-related knowledge aimed at young people. Parents did gain 'second-hand' knowledge about STIs from engaging with their children's sexual health risks. Given the generational barriers reinforced by parenting, challenges may exist in designing sexual health promotion interventions targeted at both parents and children. These challenges are relevant to this cohort of parents, brought up prior to the advent of social media and for whom school-based sex education was limited compared to current provision for young people. [37]

Analysis revealed limited application of knowledge in participants' accounts of their own sexual health, particularly regarding inaction following STI risks. This finding concurs with evidence from young people where the asymptomatic nature of chlamydia was often not understood, [38] highlighting for both age groups the knowledge gap between HIV and other STIs. It is possible that for the older age group, there were further issues; existing evidence demonstrates that assumptions of asexuality among older adults and clinicians' lack of knowledge of sexual health issues for this age group contribute to communication gaps around sexual health between clinicians and older adults. [39]

This study, based on in-depth contextualised interviews, illuminates middle-aged adults' knowledge of STIs as situated within a socio-cultural context. It gives voice to participants from some of the most deprived areas in Scotland, which include those most at risk of sexual ill-health. [40] A limitation of the study was the use of a convenience sample, necessitated by recruitment difficulties in both sites. Among the community sample, 281 adults expressed interest in participating, however 123 (44%) were excluded and 143 (51%) excluded themselves or could not be subsequently contacted. In addition, participants were mainly white, reducing transferability of the findings to ethnic minority populations. While the use of telephone interviews may have introduced variation in interview quality, rich data was collected both by telephone and face-to-face. Another limitation is that interviews were retrospective, thus participants sometimes struggled to recall their early awareness of STIs which, for some, was up to 50 years ago. Viewing the past through the 'lens' of the present, as well as in JD's presence as a sexual health nurse researcher, may have influenced what the participants disclosed during the interview.

Conclusion

In keeping with large gaps in existing global research-based evidence focussing on older adults' sexual health, [41] there is a dearth of understanding regarding culturally specific awareness of STIs among this group. This qualitative study, the first to explore STI-related knowledge among middle-aged adults in the UK, demonstrates the influence of socio-cultural factors on their knowledge. It is important that these factors are addressed in order to facilitate older adults' engagement with knowledge that will reduce their risks for STIs. Among these factors, barriers were highlighted, most strikingly, the on-going stigmatization of STIs among this age group. Interventions based on stigma should legitimate older adults' sexuality beyond the context of diminishing sexual function or within long term established couples, and challenge the perpetuation of gender-related stereotypes across the life course. Periods of mid-life transitioning from long-term relationships are shown to carry risks for STI acquisition. [42] Targeting adults at this point in their lives would aim to reposition older adults' sexuality onto a life-course perspective, and seek to channel STI-related knowledge towards those for whom it may be most relevant. Given the global rise of STIs among this age group, it is important that high priority is given to this work.

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