



Opportunities and challenges for enhancing preconception health in primary care: Qualitative study with women from ethnically diverse communities

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7 **Opportunities and challenges for enhancing preconception health in primary**
8 **care: Qualitative study with women from ethnically diverse communities**
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ABSTRACT

Objective: There is growing interest in developing and offering more systematic preconception health care. However it is unclear how this might be regarded by ethnically diverse communities at higher risk of poor maternal and child health outcomes. We sought to explore perceptions about preconception health and care among women from these communities to identify opportunities and challenges for intervention development in primary care.

Design: Qualitative study using focus groups and semi-structured interviews.

Setting: Ethnically diverse and socially disadvantaged community settings of the UK.

Participants: Forty-one women aged 18-45, of Pakistani, Indian, Caribbean, African, White and mixed ethnic origin.

Results: Women had modest or poor awareness of preconception health issues. They perceived these could be addressed in primary care, particularly if raised within a range of clinically 'relevant' consultations, such as for contraception, or when opportune for individuals in their social context. However challenges for engaging women in preconception care more routinely were underlined. These included little prevailing culture of preparing for pregnancy and the realities of their pregnancies often being unplanned; and, for those planning pregnancy, sensitivity and maintaining secrecy when trying to conceive. A preference for female professionals, engaging men, and enhancing access for younger people or women less disposed to general practice, in educational and other settings were highlighted.

Conclusions: Raising preconception health when this has heightened clinical or social resonance for women may hold promise for initiating more systematic intervention. In primary care this could offer greater potential to directly engage those with low awareness or not considering pregnancy, while enlarging opportunity for others who may be seeking to conceive. Promoting 'preparation for pregnancy' more widely might form part of health care and education over the life course. Further intervention development research exploring these possibilities, including their feasibility and acceptability is needed.

ARTICLE SUMMARY

Article focus

- Implementing more routine and comprehensive preconception health care offers major opportunity to improve maternal and child health outcomes.
- There is a lack of qualitative evidence from minority communities who might form priorities for targeting.
- This study explored perceptions of women from diverse ethnic backgrounds about preconception health to inform preconception care development in primary care.

Key messages

- In the absence of a culture of preparing for pregnancy, raising preconception health when this has heightened clinical or social relevance for women may hold promise for initiating more systematic intervention.
- This could include when attending for contraception, difficulty conceiving, treatment or disease review, or other routine health promotion, and use ongoing knowledge of patients' social and cultural contexts.
- In primary care this could overcome some challenges women identify by offering potential to directly engage those with low awareness or not considering pregnancy, while advancing opportunity for intervention with women who may be trying to conceive but have yet to share this with others.

Strength and limitations

- Data were generated with women mostly familiar with each other, reducing artificiality of discussions, and by researchers of gender, and diverse ethnic, faith and language backgrounds shared with participants.
- Data and analysis from group interactions were complemented by one to one interviews, and helped refine and validate findings.
- While participants had relevant experiences as mothers, or women of reproductive age, they were considering broader preconception care that is not currently routine health care practice.

INTRODUCTION

Preconception care involves health promotion to identify and reduce risk factors that might affect future maternal, child and family health (1-3). While relevant to all those of reproductive age, successfully engaging those at highest risk could help reduce social and ethnic disparities in maternal and child health, and in pregnancy outcomes such as low birth weight and infant mortality. For example, compared to the wider population, still birth, perinatal and infant mortality rates are significantly higher for mothers of African-Caribbean, South Asian and socially deprived backgrounds in the UK (4). Explanations for such variations are poorly understood, involving interplay of disadvantage, physiological, behavioural and cultural factors.

There are no national guidelines for preconception care in the UK but this is encouraged informally (5) and typically offered opportunistically by GPs and others, for example with advice on folic acid use (6). Interventions for single risk factors such as folic acid deficiency and alcohol misuse are known to work (7, 8). However, people often have several health and social risk factors impacting major outcomes such as still birth. Globally, there is increasing interest in offering more comprehensive interventions that address individuals' often multiple risks, such as obesity, smoking or lack of rubella immunity (9-12).

Existing approaches to assessing preconception health more systematically typically involve self-completed questionnaire and health professional review (13-15). None have been tested in UK primary care, but limited experience of using them, mainly from the US and Netherlands (13, 14, 16) suggest their promise. These approaches have potential to increase women's knowledge and enable behaviour change, without inducing harm or anxiety (9, 17, 18). In these countries, recommendations now advocate primary care delivery of preconception care (1, 3).

While largely supported by professionals (6, 19, 20), evidence about whether women really want more preconception care is mixed (19-22), and its successful implementation in routine health practice has yet to occur. Women who desire it may prefer to receive this in primary care (18, 21, 23) (24). However there is a paucity of relevant qualitative evidence, particularly from minority ethnic communities who might form priorities for targeting. In this study, we explored perceptions about preconception health and care among women from diverse ethnic

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3 backgrounds. We wished to identify opportunities and challenges for preconception care in
4 primary care in the UK to inform intervention development and implementation.
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7 8 **METHODS**

9 10 **Data generation**

11 We recruited and purposefully sampled from pre-existing social groups of women of
12 reproductive age (18-45), such as parent and toddler and faith based groups, in ethnically
13 diverse and socially disadvantaged inner city and rural localities of the Midlands. These
14 'naturally occurring' groups were chosen given health issues may be routinely discussed and
15 shared by women more familiar with each other. We aimed to involve women of Pakistani,
16 Indian, African Caribbean, and White origin. Community based groups were approached either
17 directly by the researchers or indirectly via a prior contact associated with the group.
18 Recruitment within groups occurred face-to-face by study researchers or with the help of key
19 contacts. Study information included a consent form and was translated where appropriate.
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22 Audio-recorded focus groups were convened at a location and time convenient to participants
23 and each facilitated by two researchers, all of who were women, including from Muslim,
24 Punjabi/Urdu speaking Sikh, and white backgrounds (HT, MB, LCB), with one moderating the
25 discussion and the other taking notes. Prior to the group discussions, participants completed
26 consent forms and a brief demographic questionnaire. A topic guide was developed from
27 literature review and two pilot group discussions with GPs and practice nurses, to include:
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29

- 30 • Previous experience of preconception health advice;
- 31 • Awareness of, and attitudes towards preconception health;
- 32 • Views on when and how preconception care might occur;
- 33 • Showing women areas of preconception health assessment (PHA) such as lifestyle,
34 medical/family history, infectious disease and foetal exposure on a draft questionnaire
35 (13, 15, 16, 25) (see Appendix 1)
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55 Participants were encouraged to freely discuss their experiences and views, with exploration
56 evolving to accommodate emerging themes in the groups. Participants perceptions were then
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3 explored further in semi-structured one to one telephone interviews to consider themes from
4 the group or areas the individual had not contributed to during earlier group discussion.
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8 **Data analysis**

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10 Group discussions were transcribed verbatim, and telephone interviews summarised for
11 pertinent themes. All transcripts were checked against the recording for accuracy, with those
12 data involving spoken Punjabi or Urdu transcribed and translated by an independent translation
13 service, and rechecked against the original recording by a bilingual researcher for accuracy of
14 translation and equivalence of meaning. Three researchers generating data reviewed all
15 transcripts independently, identifying initial concepts and themes guiding the direction of
16 succeeding interviews. Data management and sorting were assisted by NVivo 9 (QSR) software,
17 and a coding scheme was developed drawing on a priori and emergent themes. Data were
18 analysed using thematic analysis and constant comparison, and the focus of analysis was both
19 the individual and the group (26). Emerging themes were agreed jointly in parallel discussions
20 with the wider clinical research team.
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31 **RESULTS**

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33 Ultimately, 41 women participated in nine focus groups, lasting about 90 minutes each, and
34 half of these women (19) took part in one to one semi-structured telephone interviews one to
35 two months later, lasting about 30 minutes each. Most groups were pre-existing social groups
36 (parent and toddler, community or faith centre based, workplace, extended family), though in
37 three not every participant knew each other beforehand. They included those who identified
38 themselves as predominantly African Caribbean (three groups), Pakistani Muslim (two groups),
39 Indian Punjabi-Sikh (one group) and 'White' (three groups). Most women had left formal
40 education at school level, and about half were existing mothers. Sample characteristics are
41 summarised in Table 1.
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Table 1	Participant characteristics	Total (n=41)
Age	18*-25	18
	26-35	15
	36-45	8
Ethnicity (Self-defined)	South Asian	14
	<i>Pakistani (8)</i>	
	<i>Indian (6)</i>	
	African Caribbean	11
	<i>Caribbean (5)</i>	
	<i>Black/African/Caribbean (2)</i>	
	<i>African (1)</i>	
	<i>Other Black/African (3)</i>	
	White	11
	Mixed	5
	<i>White & Asian (2)</i>	
	<i>White & Black African (1)</i>	
<i>Other mixed (2)</i>		
Highest formal education	GCSE/ equivalent (<16yr)	8
	A level equivalent (<18yr)	22
	Higher education beyond school level	8
	Educated outside UK	1
	Not indicated	2
Pregnant		2
Mothers (total number of children)		23 (40)

* One woman reported she was aged 17 after group participation: data from this participant not reported.

Preconception health awareness and attitudes

With the exception of avoiding smoking, alcohol and illicit drugs, women's awareness of preconception health was modest or poor. Beyond this, there was little evidence of any received wisdom or prevailing culture of 'preparing for pregnancy'. Rather, many thought a range of risks were relevant *during* rather than before pregnancy. For example, they didn't see the need to check immunisation status, medication or family history, rule out infectious

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3 disease, or take folic acid prior to conception. Younger women were perceived to be less aware
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5 of these issues:
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8 *I don't think it would have crossed our mind to, sort of, 'hang on we need to read this'*
9 *[information on preconception health] we were young we didn't really care much or*
10 *think about children. (5/P3: 26-35y, White ethnicity, 2 children)*
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14 Some women had doubts about the value of reviewing certain health risks, and concerns about
15 causing anxiety unnecessarily:
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19 **5/P2** *Some things are important but then some things are just a bit*

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21 **5/P4** *Over the top.*

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23 **5/P2** *Nanny state, you know, making people paranoid and worried and*

24
25 **5/P3** *What are the infectious diseases before you're pregnant?*

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27 **5/P1** *Infectious diseases full stop probably but, yeah.*

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29 **5/P3** *The Government trying to frighten us again. (...)*

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31 **5/P2** *Sometimes yeah it gets to the point where you just think, oh*

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33 **5/P1** *Well then it feels a bit like there's too many, then it's like oh forget it. (...) And I*
34 *think that's why you remember smoking and alcohol because they're sort of drummed*
35 *home yeah and you just think oh forget it, it'll be alright. (5/P4 & 5/P3: Yeah)*
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40 **5/P2** *We're still here today, people have been having kids and babies for thousands and*
41 *thousands of years without all this.*
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46 **(Group 5/5: 18-35, White ethnicity, all mothers)**
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49 However, women appreciated the prospect of being better informed, especially if information
50 was relevant to them as individuals. Some saw the potential of a preconception health
51 assessment (PHA) questionnaire to raise awareness about preconception health, and others
52 highlighted differences in concerns and information needs according to locality:
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(...) if you were thinking of having a baby and you saw that women's preconception health [questionnaire] (...) you'd at least have access to some information (...) to think about. (4/P4: 26-35, White ethnicity, 2 children)

I'm planning to have another one next summer and I'll need help quitting smoking, I know I've got to do that. And I've got to find out about what all that palaver is with lambs. I don't understand the lambs. (5/P2: 26-35, White ethnicity, 1 child, rural setting)

Women without children, or with only one child, appeared more attracted to the idea of preconception care. Mothers with more children spoke of the experience of previous successful pregnancies and also of having less time to consider their own health, fill in health assessment forms, or go to appointments with their GP. While existing mothers seemed slightly better informed about preconception health risks, some wished they had been more aware of them prior to their first pregnancy, and had them addressed, including those with significant risks such as lack of rubella immunity:

I think it would have helped me with the rubella because even though my pregnancy was planned and I'd been to see my GP, they never picked up on that I was needing it (...) so I went my whole pregnancy worrying that I was going to get it. (4/P2: 18-25, White ethnicity, 1 child)

(...) when I (...) went to see a family planning nurse, I wish that I had come out hearing 'folic acid' and 'get fit', because it's just impossible afterwards and I don't think anybody tells you about (...) how much your body's going to stretch (...). (4/P4: 26-35, White ethnicity, 2 children)

Preconception health opportunities in primary care

Women were generally positive about the prospect of greater preconception care from their GP or practice nurse, speaking of continuity of positive relationships, including familiarity, respect and trust in their practices. They discussed when preconception health might be appropriately raised, from their perspective, in general practice. This included consultations for contraception, infertility or difficulty conceiving, cervical smears, disease or treatment review, and other health checks. While more general invitations from their practice were not

suggested, some women were comfortable with being approached opportunistically with preconception health information at other times. They supported a more proactive approach tailored to knowledge of an individual's circumstances and social or cultural context. Women of South Asian background, for example, indicated their pregnancies may not be strictly "planned" but there was a heightened cultural expectation of pregnancy after marriage that might present opportunity to introduce preconception health (Box 1).

Box 1 Opportunities to consider preconception health in primary care

5/P1 *You could do when you're going for contraception, that's good actually, that would be a good way*

5/P2 *Most girls do go, don't they.*

5/P4 *They do want to go because they don't want to get pregnant do they, so yeah.*

(Group 5/5: 18-35, White ethnicity, all mothers)

Maybe if .., they are trying to have a baby for months and they realise they have to check ... if they have any problems, I think at that point you should fill in a form [PHA questionnaire] like this.

(3/P3: 18-25, African ethnicity, 1 child)

It could be an option maybe if you go for your smear check-up, if you're given it then, in case you can fill it out then or you can post it back so then it's done at that time whether you think about it or not (...).

(8/P5: 26-35, Black/African/Caribbean ethnicity)

I think if GPs were to have these [PHA questionnaires] and could hand them out as and when, I don't think they should wait either to be approached by someone for it, it should automatically be offered.

(4/P1: 18-25, White ethnicity, 1 child)

We go to doctors when we're ill, but actually what advice we are getting from the doctors about how we potentially prevent other illnesses or other things that maybe happening to us? (...) I think a bit of planning through your general practitioner may actually help you long term kind of thing.

(9/P6: 36-45, Caribbean ethnicity)

1/P1 *Well I mean the GP would know if you're married or single or whatever (...) If the GP said to me 'would you mind filling in this, you know for when you are ready to start a family?' I'd say 'yeah, no problem.' (...)*

1/P4 *(...) because we are thinking about our culture, if you are married then obviously you're going to be having babies. So maybe (...) let's get her to fill in this form... That would be a good idea.*

(Group 1/5: 26-45, Indian ethnicity, all mothers)

Some women, mainly those of South Asian background, were clear they would prefer talking about preconception health issues with female health professionals:

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3 **2/P3** *No, it would have to be a female GP or a practice nurse, it wouldn't be a male GP.*

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6 **2/P4** *It wouldn't. And that's not even to do with only – I don't think even my religious*
7 *beliefs would come into it – it's just me personally. (Group 2/5: 26-35, Pakistani & Indian*
8 *ethnicity, no children, 1 pregnant)*

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12 *But then I think, at the same time, if I was planning on having a child, I would probably*
13 *feel a little uncomfortable speaking to a man.. (6/P3: 18-25, Pakistani ethnicity)*

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17 A further difficulty for several younger participants was experience of doctors as
18 unapproachable or being difficult to relate to. Family doctors were seen as problematic with
19 fear that confidential information may be passed on to other members of the family:

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23 *Because my GP is my family's doctor and you must hear that all the time because I knew*
24 *when my cousins needed injections for our holiday and they knew, do you know what I*
25 *mean, he's that type of doctor, where we all knew everyone's business! [laughter]*
26 *Which he's not supposed to do but yeah, it's part of life. (8/P4: 18-25, Caribbean*
27 *ethnicity, 1 child)*

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33 *No but then also with my experience, that I know lots of those girls are smokers but*
34 *when they have appointment with their midwife, in their record they says I don't smoke,*
35 *yeah? (...) and a lot of them don't tell their GPs either that they smoke (...). In the past,*
36 *the reason people lost trust in their GPs or some other professionals (...) information did*
37 *leak out and it did go back to the parents. (6/P1: 36-45, Pakistani ethnicity, 2 children)*

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43 Some women advocated that preconception health information be more widely available in the
44 community, in particular in schools and sexual health or 'family planning' clinics. Some saw the
45 latter as more welcoming than general practices, where it was routinely easier to see female
46 staff and remain anonymous. Many women knew teenage mothers with unhealthy lifestyles,
47 and felt their learning about health promotion at school might be improved to include positive
48 relevance to preconception health:

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55 *Yeah, as soon as they start sex education, if it's any good. Because it will start making*
56 *them think, as well, that this is about a baby. Rather than, because a lot of people in*
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their teens get pregnant, they don't plan their pregnancy, but if they know everything about pregnancy they might consider it more as well. (3/P2: 18-25, White ethnicity, 1 child)

So perhaps if it went in the younger age and we were talking more about growing (...) how plants grow, you know, how human beings grow and what we need to keep us healthy and something that's (...) altered all the way through each key stage, you know, age appropriate, but something that's just there from the very beginning on the curriculum. (7/P1: 36-45, White/Black African ethnicity, 1 child)

Challenges for promoting preconception care

Women highlighted their common experience of pregnancies being unplanned and that thinking about their health and lifestyle only arose after conception (Box 2). They perceived 'preconception health' would feel similarly abstract to others, and not appear relevant in women's day to day lives. No respondents had experienced broader preconception assessment or care from any health professional. Only a few mothers had actively sought preconception information or advice from their GP, prompted by fertility concerns or in order to receive a prescription for folic acid (i.e. at no cost if eligible for free prescription).

Box 2 Relevant only after conception

I was 19, my daughter wasn't planned (...) so I never thought of discussing anything like this. I was just like OK I'm pregnant, oh!

(5/P3: 26-35, White ethnicity, 2 children)

I don't think I've ever known anyone that's really said 'right, I'm going to have a baby now, this is what I'm going to go and do,' it's always kind of happened 'whoops, but I'm OK with it!'

(8/P2: 26-35, Caribbean ethnicity)

The majority of people - honestly, I'm not joking [laughter] - are unaware of these things (...). Honestly, if they were trying to get pregnant they wouldn't even think about these things. Really, lack of education or lack of knowledge or whatever it is, they wouldn't. (...) If I was married and if I was trying for a baby I wouldn't bloody think of any of those.

(2/P2: 26-35, Indian ethnicity)

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3 For some mothers who had 'planned' their pregnancies, the phase between active planning and
4 conception was indistinct, for example because they had conceived sooner than expected,
5 affecting their ability to communicate their plans to others prior to pregnancy. In particular,
6 women spoke of the sometimes sensitive or secretive period between planning pregnancy and
7 actual conception, affecting their willingness to tell others about their plans, including health
8 professionals, and thus the open consideration of preconception health (Box 3).
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15 **Box 3 Difficulty being open about pregnancy planning**

16 *And also, like if you're planning, you do not want anybody, everybody else to know that you're planning,*
17 *because that's a lot of pressure on you.*

18 **(8/P5: 26-35, Black/African/Caribbean ethnicity)**

19 *I wouldn't go to a GP, family or friends [for preconception health advice]. (...) I wouldn't feel comfortable*
20 *going to anybody.*

21 **(2/P2: 26-35, Indian ethnicity)**

22 *I don't think I would have spoken to anyone about these issues if I was trying to conceive. (...) I'd just*
23 *thought that it's just one of those things that 'if it's going to happen, it's going to happen'.*

24 **(2/P5: 26-35, Pakistani ethnicity)**
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34 Women of South Asian background highlighted that stigma associated with infertility was a
35 further reason for keeping pregnancy plans secret. Faith, or fatalism, was sometimes
36 mentioned as an important reason for not approaching health care professionals even if
37 experiencing fertility problems.
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43 **Preconception health as part of wider health promotion**

44 The possibilities for addressing preconception health as part of wider health promotion arose in
45 some group discussions, with the terms 'women's health' or 'pre-pregnancy health' suggested
46 as alternatives. They felt preconception health could be promoted more routinely in a positive
47 way as relevant to women not immediately planning pregnancy, particularly as some
48 communities may sanction 'conception' only in marriage:
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55 *It's the way that you frame it as well, I think if you frame it as it's another smear test*
56 *health screening check-up thing, but (...) I know we're going just on women, because*
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3 *that's the way I see it, but being able to bear children is such a blessing, it like makes us*
4 *like miracle people (...). (6/P2: 26-35, Pakistani ethnicity)*
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8 This resonated with other women's suggestions to introduce preconception health in to health
9 promotion offered to women when they reach reproductive age enabling "free guidance and
10 advice" (4/P4) and assurance that "you're OK and everything's still going tickety boo" (5/P3):
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14 *(...) maybe there should be a routine health check that just every person who reaches a*
15 *certain age (...) I don't know 16/17, I know some people it might miss, still, that's a*
16 *general health thing but incorporates that [preconception health questionnaire] if that*
17 *becomes appropriate. (...) it could be women's health assessment, couldn't it? (4/P4:*
18 *26-35, White ethnicity, 2 children)*
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24 Women felt that consideration of 'preconception health' should encompass men more directly.
25 They recognised preconception issues were "applicable to them as well" (7/P1) and "their
26 health [being] just as important" (6/P1). For example they raised the relevance of their
27 partners' history, and that in some communities health behaviours such as alcohol
28 consumption or smoking, could be more directly relevant to men than women, presenting
29 opportunities to engage men more:
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36 **2/P2** *My husband does drink occasionally and he's not very healthy and... he's got problems*
37 *with a history, like his dad's side and his mum's - of illnesses. I think "maybe on his side we*
38 *would think about these things but not on mine". Folic acid, that's the woman only, but certain*
39 *things - the men would probably be more.... in our culture, anyway. Because the men drink*
40 *alcohol, and they are the ones that - if they were to smoke - it's more likely to be the men.*
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45 **2/P5** *Generally, when we think about conceiving, we think about ourselves, we don't think*
46 *about...*
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49 **2/P4** *...I think the men are very isolated in the whole aftermath, kind of thing... Once you've*
50 *fallen pregnant it's just more about you and the baby. (Group2/5: 26-35, Pakistani (Muslim)*
51 *and Indian (Sikh) ethnicity, one pregnant)*
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DISCUSSION

Summary

Women in this study had limited awareness of preconception health but perceived offering preconception care more routinely in general practice as appropriate, particularly if raised within a range of clinically 'relevant' consultations or when opportune for individuals in their social context. However there were challenges for engaging women in preconception care more routinely: lack of a prevailing culture of 'preparing for pregnancy', the realities of pregnancies often being unplanned, and, for those planning pregnancy, of sensitivity and secrecy about trying to conceive. Enhancing access in other settings, including for younger people and women less disposed to seeing their GP or male practitioners, education in schools, and for men, were suggested as part of integration with wider health promotion.

Strengths and limitations

This study offers a first qualitative exploration of perceptions about preconception health among those from socially diverse communities, including those at higher risk of poor maternal and child health outcomes in the UK. The findings may not be typical of other women, and must be interpreted with regard to the sample described. However the study benefits from data generated with women mostly familiar with each other, potentially reducing artificiality of discussions, and by researchers of gender, and diverse ethnic, faith and language backgrounds shared with participants (27). Data from group interaction were complemented by one to one interviews, enabled participants to express themselves without potential constraints of the group, and helped refine and validate findings (28).

While participants had relevant experiences as mothers or women of reproductive age, we recognise they were considering broader preconception care that is not currently routine. Although we included women who had been pregnant as teenagers, study ethics approval limited inclusion to those aged over 18, and further research with younger teenagers, and the perspectives of men on preconception health are still needed.

Comparison with existing literature

This study adds to limited existing evidence in the UK from a survey with a better educated sample in London with 40% of women reporting interest in preconception care in general practice (19). Women in the current study took a broader perspective on when this might occur and be appropriate, highlighting particular opportunities and challenges for engaging women. Work in other countries, some with disadvantaged populations (11, 29-31), has similarly found women may have some awareness of, and similar attitudes towards, optimising health prior to conception, but have gaps in knowledge about maternal and foetal health risks (22, 29, 32).

Our respondents highlighted pregnancies being 'unplanned', and not thinking about preconception health or lifestyle unless already pregnant, as problematic for anticipating and being receptive to preconception care. Similar challenges have been recognised in the USA and Australia (22, 29, 32), and by health professionals (6). In addition, women who already have children may perceive they know enough for preconception care to be less necessary (22), and this was echoed by mothers in the current study.

Our findings suggest that even if pregnancy is 'planned', discussing or seeking preconception care may be hampered by women's ability and willingness to be open about their aspirations or plans with others, including health professionals (33). This may be compounded by stigma associated with infertility (34) and this was highlighted by women in our sample. Cultural or religious taboos surrounding pre-marital relationships (35) may potentially deter some women. However, it is important to recognise the same cultural importance attached to fertility and family health after marriage was referred to in this study as a positive opportunity to facilitate greater engagement with preconception health for individuals.

Women elsewhere have also felt preconception health should be promoted more in 'family planning clinics' (36), though this may not appeal to others (35). Improving younger people's awareness and knowledge about preconception health during their education, as suggested by women here, forms part of guidance and some school curricula in the USA (1).

Conclusions and implications for practice

This study highlights challenges but also opportunities for preconception health promotion. The relatively positive attitudes found here may not equate to actual engagement. However this study suggests raising preconception health more proactively may most promisingly occur when this assumes heightened individual relevance for women. This could include clinical contexts such as when attending for contraception, difficulty conceiving, treatment or disease review, or as part of other routine health promotion such as cervical screening. Informational aids such as preconception health questionnaire may help at these times. Primary care practitioners may be well placed to capitalise on these opportunities given ongoing knowledge not only of patients' medical histories and health care but also of their social and cultural contexts, such as new relationships.

Initiating the offer of preconception health intervention at these points also speaks to the challenges women identify. Firstly, and arguably of particular importance for those from more deprived backgrounds, it has potential to engage those with low awareness or not considering or planning pregnancy. This group may be less receptive to more conventional health promotion invitation, for example, if offered routinely to all women of reproductive age. Secondly, it may advance opportunity to offer intervention to women who may be trying to conceive, but have yet to share this with others. Given time constraints in health encounters, initial offers could be followed by more dedicated preconception health review, for example with nurse practitioners.

Facilitating a culture of 'preparing for pregnancy' as part of life, and making preconception care more attractive to women and their partners, even if they are not planning pregnancy, requires further social marketing (37). In addition to primary care, parallel approaches to raising awareness of preconception health might use differing windows of opportunity, as part of health care and education over the life course, in wider settings. Further intervention development research exploring this range of possibilities, including feasibility and acceptability with those implementing them is needed.

CONTRIBUTORS:

LCB, MB and HT led data collection; HT led data analysis, developed with the study team; NQ contributed to design and revision. JK was principal investigator, designed and supervised the study, and wrote this paper with HT. All authors approved the final manuscript. We thank Sarah Rodgers for co-facilitation of a focus group, Julie Moss for administrative, and Tracey George for managerial support.

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COMPETING INTERESTS:

None

ETHICS APPROVAL:

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DATA SHARING

No data other than that presented are currently available for sharing.

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DRAFT FOR DISCUSSION (Exploratory phase)

Women's Preconception Health

Preconception health is a woman's health before she becomes pregnant. It means knowing how health conditions and risk factors could affect her or her unborn baby.

The best time to learn about preconception health is before you become pregnant, because about half of all pregnancies are not planned. It may be possible to lower risks you find by taking action now.

Every woman should be thinking about her health whether or not she is planning pregnancy. Optimising your health is beneficial at any time.

What this form does:

- ✓ Asks about your preconception health
- ✓ Offers brief information about important areas of preconception health

How to complete the form:

- ✓ Take your time to read the information provided
- ✓ Read and answer each of the questions

Some of the questions are of a personal nature. You do not have to answer if you do not want to, but the questions are important to get a full picture of your preconception health.

Please be as honest as possible.

All questions are from previously tested questionnaires in the US and Holland: Frey & Files, 2006; Cefalo & Moos, 1987; de Weerd et al., 2002; Ajzen, 1991; <http://www.library.nhs.uk/screening/viewResource.aspx?resID=269308>.

DRAFT FOR DISCUSSION (Exploratory phase)

	YES	NO	UNCERTAIN
IMMUNISATION	YES	NO	UNSURE
Have you had:			
Rubella vaccine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

LIFESTYLE AND NUTRITION			
What is your height?			
What is your weight?			
Do you:			
take folic acid supplements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
take vitamins?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			
eat a special diet? (e.g. vegetarian, fasting)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe			
smoke cigarettes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, how many cigarettes per day?			
visit a dentist regularly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
drink more than two cups of coffee per day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Which of the following describes your alcohol use?

Never | Not in the past year | More than twice in the past year
 Several times each month | Several times each week | Daily

Which of the following describes your recreational drug use? (e.g. cocaine, marijuana, ecstasy etc)

Never | Not in the past year | More than twice in the past year
 Several times each month | Several times each week | Daily

YOUR PARTNER'S LIFESTYLE AND NUTRITION

Does your partner:			
smoke cigarettes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, how many cigarettes per day?			

Which of the following describes your partner's use of alcohol?

Never | Not in the past year | More than twice in the past year
 Several times each month | Several times each week | Daily

Which of the following describes your partner's use of recreational drugs?

(e.g. cocaine, marijuana, ecstasy etc)

Never | Not in the past year | More than twice in the past year
 Several times each month | Several times each week | Daily

DRAFT FOR DISCUSSION (Exploratory phase)

Did you know?

- Babies whose mothers contract rubella (German measles) during pregnancy may be born with one or more birth defects. Women can be tested for rubella immunity before pregnancy using a simple blood test.
- Taking 400mg of folic acid every day before and during pregnancy can reduce the risk of birth defects.
- Eating a well-balanced diet and maintaining a healthy weight is important for a healthy pregnancy.
- There are no safe levels of smoking, alcohol, or recreational drug use during pregnancy.

What to do next

- Your practice nurse can check whether you are immune to rubella, and give you advice on how to plan a healthy diet.
- Your practice nurse or GP can also give you information about services that can help you to stop smoking, drinking, or taking drugs.

DRAFT FOR DISCUSSION (Exploratory phase)

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	YES	NO	UNCERTAIN
FAMILY HISTORY AND ORIGIN			
Do you, your partner or anyone in either family have genetically inherited conditions or are you a 'carrier' of a condition (sometimes called having a 'trait') - such as cystic fibrosis, sickle cell anaemia, or thalassaemia?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			
Are you, or any of your ancestors (e.g. parents, grandparents) from a European country of origin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			
Are you, or any of your ancestors (e.g. parents, grandparents) from a non-European country of origin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please tick relevant box:			
Indian	<input type="checkbox"/>	Pakistani	<input type="checkbox"/>
Bangladeshi	<input type="checkbox"/>	Chinese	<input type="checkbox"/>
Other Asian background	<input type="checkbox"/>		
African	<input type="checkbox"/>	White and black Caribbean	<input type="checkbox"/>
Caribbean	<input type="checkbox"/>	White and black African	<input type="checkbox"/>
Any other Black/African/Caribbean background	<input type="checkbox"/>		
White and Asian	<input type="checkbox"/>	Other mixed/multiple ethnic background	<input type="checkbox"/>
Other ethnic group	<input type="checkbox"/>		
Is your partner, or any of their ancestors (e.g. parents, grandparents) from European country of origin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			
Is your partner, or any of their ancestors (e.g. parents, grandparents) from a non-European country of origin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			

DRAFT FOR DISCUSSION (Exploratory phase)

Did you know?

Some inherited conditions are more common in some groups of people. For example, thalassaemia and sickle cell disorders are present in all ethnic groups, but are commonest in people who originate from (or whose ancestors originated from) outside of Northern Europe. Risk of inherited conditions can be detected through screening prior to pregnancy.

Sickle cell and thalassaemia are disorders of the blood. The disorders are passed on from parents to children through unusual genes. Babies can only inherit the disorders if both parents carry the unusual gene.

Some people may have one unusual gene. These people are called “carriers”. Carriers are healthy people and do not have the disorders. They may not know they are a carrier. But if a carrier has a baby with someone else who is also a carrier (or who has one of the disorders), there is a chance that their baby could inherit a disorder.

Finding out before pregnancy whether you or your partner is a carrier gives you the chance to talk to a counsellor and find out more about the disorders and the care available.

What to do next

Your practice nurse can provide more information about inherited conditions and help you to decide whether preconception screening to see if you “carry” a condition would be useful for you.

DRAFT FOR DISCUSSION (Exploratory phase)

	YES	NO	UNCERTAIN
MEDICAL HISTORY AND MEDICATION HISTORY			
Do you now have or have you ever had any serious medical conditions (such as diabetes, epilepsy or depression?): If YES, please describe:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you: routinely or occasionally take prescribed medications? If YES, list names and dosages:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
routinely or occasionally take over-the-counter medications? If YES, list names and dosages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Did you know?

Some medications may cause problems for the baby’s development when taken during pregnancy. This includes prescription and over-the-counter medicines, some dietary supplements and other drugs. It is important to review your medication before becoming pregnant.

	YES	NO	UNCERTAIN
INFECTIOUS DISEASE AND REPRODUCTIVE HISTORY			
Do you or your partner have a history of, or are you at risk of infectious diseases? (such as sexually transmitted, or from contact with blood): If YES, please describe:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have a history of pregnancy-related problems? (such as two or more miscarriages, or very low birth weight babies?) If YES, please describe:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Did you know?

Infectious diseases can be transferred from mother to baby, and may cause problems in fetal development. If you have a history of pregnancy-related problems, there are ways to have your future risk assessed that may help to reduce the likelihood of these problems occurring again.

What to do next

Your practice nurse can arrange screening for many infectious diseases and provide advice on how to avoid risks prior to pregnancy. Your practice nurse can also provide personalised assessment and counselling to reduce the likelihood of repeat pregnancy-related complications.

DRAFT FOR DISCUSSION (Exploratory phase)

	YES	NO	UNCERTAIN
FETAL EXPOSURE			
Do you or your partner:			
use lead or chemicals at home or work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, list the chemicals if you know what they are:			
work with radiation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
own or work with cats?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Did you know?

Some substances and chemicals, for example, solvents, paints, cleaners and pesticides can cause birth defects or increase the risk of miscarriage. Contact with cat litter trays is also associated with risk of toxoplasmosis, which can cause a number of congenital health problems for the baby.

What to do next

Minimise your exposure to these substances. Your practice nurse can provide you with more information about environmental hazards and planning for pregnancy.



Opportunities and challenges for enhancing preconception health in primary care: Qualitative study with women from ethnically diverse communities

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Keywords:	PRIMARY CARE, QUALITATIVE RESEARCH, PUBLIC HEALTH, PREVENTIVE MEDICINE

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7 **Opportunities and challenges for enhancing preconception health in primary**
8 **care: Qualitative study with women from ethnically diverse communities**
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42
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45
46 **Keywords**

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48 Preconception care, primary health care, women, ethnic groups, qualitative research

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56 Word count **3278** [excluding all data examples/table and references] or **4334** including references

ABSTRACT

Objective: There is growing interest in developing and offering more systematic preconception health care. However it is unclear how this might be regarded by ethnically diverse communities at higher risk of poor maternal and child health outcomes. We sought to explore perceptions about preconception health and care among women from these communities to identify opportunities and challenges for intervention development in primary care.

Design: Qualitative study using focus groups and semi-structured interviews.

Setting: Ethnically diverse and socially disadvantaged community settings of the UK.

Participants: Forty-one women aged 18-45, of Pakistani, Indian, Caribbean, African, White and mixed ethnic origin, participating in nine focus groups, half of whom (n=19) had one to one follow up telephone interviews.

Results: Women had modest or poor awareness of preconception health issues. They perceived these could be addressed in primary care, particularly if raised within a range of clinically 'relevant' consultations, such as for contraception, or when opportune for individuals in their social context. However challenges for engaging women in preconception care more routinely were underlined. These included little prevailing culture of preparing for pregnancy and the realities of their pregnancies often being unplanned; and, for those planning pregnancy, sensitivity and maintaining secrecy when trying to conceive. A preference for female professionals, engaging men, and enhancing access for younger people or women less disposed to general practice, in educational and other settings were highlighted.

Conclusions: Raising preconception health when this has heightened clinical or social resonance for women may hold promise for initiating more systematic intervention. In primary care this could offer greater potential to directly engage those with low awareness or not considering pregnancy, while enlarging opportunity for others who may be seeking to conceive. Promoting 'preparation for pregnancy' more widely might form part of health care and education over the life course. Further intervention development research exploring these possibilities, including their feasibility and acceptability is needed.

ARTICLE SUMMARY

Article focus

- Implementing more routine and comprehensive preconception health care offers major opportunity to improve maternal and child health outcomes.
- There is a lack of qualitative evidence from minority communities who might form priorities for targeting.
- This study explored perceptions of women from diverse ethnic backgrounds about preconception health to inform preconception care development in primary care.

Key messages

- In the absence of a culture of preparing for pregnancy, raising preconception health when this has heightened clinical or social relevance for women may hold promise for initiating more systematic intervention.
- This could include when attending for contraception, difficulty conceiving, treatment or disease review, or other routine health promotion, and use ongoing knowledge of patients' social and cultural contexts.
- In primary care this could overcome some challenges women identify by offering potential to directly engage those with low awareness or not considering pregnancy, while advancing opportunity for intervention with women who may be trying to conceive but have yet to share this with others.

Strength and limitations

- Data were generated with women mostly familiar with each other, reducing artificiality of discussions, and by researchers of gender, and diverse ethnic, faith and language backgrounds shared with participants.
- Data and analysis from group interactions were complemented by one to one interviews, and helped refine and validate findings.
- While participants had relevant experiences as mothers, or women of reproductive age, they were considering broader preconception care that is not currently routine health care practice.

INTRODUCTION

Preconception care involves health promotion to identify and reduce risk factors that might affect future maternal, child and family health.[1-3] Effective preconception care is likely to involve a range of therapeutic (e.g. immunisation) and behavioural (e.g. smoking cessation) interventions. While relevant to all those of reproductive age, successfully engaging those at highest risk could help reduce social and ethnic disparities in maternal and child health, and in pregnancy outcomes such as low birth weight and infant mortality. For example, compared to the wider population, still birth, perinatal and infant mortality rates are significantly higher for mothers of African-Caribbean, South Asian and socially deprived backgrounds in the UK.[4] Explanations for such variations are poorly understood, involving interplay of disadvantage, physiological, behavioural and cultural factors.

Whilst there are NICE guidelines outlining specific aspects of preconception care for women with diabetes and for obese women,[5 6] there are no national guidelines for preconception care aimed at the general population in the UK. Preconception care is normally encouraged informally[7] and typically offered opportunistically by GPs and others, for example with advice on folic acid use.[8] Interventions for single risk factors such as folic acid deficiency and alcohol misuse are known to work,[9 10] some having a robust evidence-base for cost-effectiveness in improving health outcomes[11]. However, people often have several health and social risk factors impacting major outcomes such as still birth. Globally, there is increasing interest in offering more comprehensive interventions that address individuals' often multiple risks in 'real life', such as obesity, smoking or lack of rubella immunity,[12-15] although it is not yet established if a more holistic approach can realise the benefits anticipated from single component interventions.

Existing approaches to assessing preconception health more systematically typically involve self-completed questionnaire and health professional review.[16-18] None have been tested in UK primary care, but limited experience of using them, mainly from the US and Netherlands[16 17 19] suggest their promise. These approaches have potential to increase women's knowledge

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3 and enable behaviour change, without inducing harm or anxiety.[12 20 21] In these countries,
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5 recommendations now advocate primary care delivery of preconception care.[1 3]
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8 While largely supported by professionals,[8 22 23] evidence about whether women really want
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10 more preconception care is mixed,[22-25] and its successful implementation in routine health
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12 practice has yet to occur. The high number of unplanned pregnancies among women in most
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14 countries (approximately 50% of pregnancies in the UK)[26] and lack of knowledge about the
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16 aim of preconception counselling[27] are identified barriers for delivery of preconception care.
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18 Women who desire it may prefer to receive this in primary care.[21 24 28 29] However there is
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20 a paucity of relevant qualitative evidence, particularly from minority ethnic communities who
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22 might form priorities for targeting. In this study, we explored perceptions about preconception
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24 health and care among women from diverse ethnic backgrounds. We wished to identify
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26 opportunities and challenges for preconception care in primary care in the UK to inform
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28 intervention development and implementation.

29 30 **METHODS**

31 32 **Data generation**

33
34 We recruited and purposefully sampled from pre-existing social groups of women of
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36 reproductive age (18-45), such as parent and toddler and faith based groups, in ethnically
37
38 diverse and deprived inner city and rural localities of the Midlands, with Indices of Multiple
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40 Deprivation in the lowest quintile (most deprived 20%) for the UK.[30] These 'naturally
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42 occurring' groups were chosen given health issues may be routinely discussed and shared by
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44 women more familiar with each other. We aimed to involve women of Pakistani, Indian, African
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46 Caribbean, and White origin. Community based groups were approached either directly by the
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48 researchers or indirectly via a prior contact associated with the group and were provided with
49
50 information about the study. The explained purpose was to find out what women aged 18-45
51
52 think about "preconception health", defined as "a woman's health before pregnancy".
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54 Recruitment within groups occurred face-to-face by study researchers or with the help of key
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56 contacts. Study information included a consent form and was translated where appropriate.
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3 Audio-recorded focus groups were convened at a location and time convenient to participants
4 and each facilitated by two researchers (HT, MB, LCB), all of who were women, including from
5 Muslim and Punjabi/Urdu speaking Sikh backgrounds, with one moderating the discussion and
6 the other taking notes. Prior to the group discussions, participants completed consent forms
7 and a brief demographic questionnaire. A topic guide was developed from literature review and
8 two pilot group discussions with GPs and practice nurses, to include:
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- 14 • Previous experience of preconception health advice;
- 15 • Awareness of, and attitudes towards preconception health;
- 16 • Views on when and how preconception care might occur;
- 17 • Showing women areas of preconception health assessment (PHA) such as lifestyle,
18 medical/family history, infectious disease and foetal exposure on a draft
19 questionnaire[16 18 19] (see Appendix 1)
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28 Participants were encouraged to freely discuss their experiences and views, with exploration
29 evolving to accommodate emerging themes in the groups. The PHA questionnaire was
30 introduced half way through the focus groups, preceded by explanation of the purpose of the
31 form and assessment. Participants were invited to fill in the PHA questionnaire at home. All
32 women from the groups were invited to participate in follow up semi-structured one to one
33 telephone interviews, and those who wished to do so were interviewed. These were
34 undertaken to consider themes from the group or areas the individual may not have
35 contributed to during earlier group discussion, for example because of shyness or being
36 inhibited by the group context. Views on how they found completing the questionnaire were
37 also invited (these are not reported here).
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47 **Data analysis**

48 We analyzed data from focus groups and telephone interviews using qualitative research
49 principles.[31] Group discussions were transcribed verbatim, and telephone interviews
50 summarised for pertinent themes. All transcripts were checked against the recording for
51 accuracy, with one group involving spoken Punjabi transcribed and translated by an
52 independent translation service, and rechecked against the original recording by a bilingual
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3 researcher for accuracy of translation and equivalence of meaning. Three researchers
4 generating data reviewed all transcripts independently, identifying initial concepts and themes
5 guiding the direction of succeeding interviews until no themes were emerging. Data
6 management and sorting were assisted by NVivo 9 (QSR) software, and a coding scheme was
7 developed drawing on a priori and emergent themes. Data were analysed using thematic
8 analysis and constant comparison, and the focus of analysis was both the individual and the
9 group.[32] Emerging themes were agreed jointly in parallel discussions with the wider clinical
10 research team. In the following, participants are identified with a code: e.g. 5/P3 indicates
11 participant (P) number three in group five; Group 5/5 denotes that group five had five
12 participants.

23 RESULTS

24 Ultimately, 41 women participated in nine focus groups, lasting about 90 minutes each, and
25 half of these women (19) took part in one to one semi-structured telephone interviews one to
26 two months later, lasting about 30 minutes each. Most groups were pre-existing social groups
27 (parent and toddler, community or faith centre based, workplace, extended family), though in
28 three not every participant knew each other beforehand. They included those who identified
29 themselves as predominantly African Caribbean or of mixed ethnicity (three groups with two,
30 five and eight participants, respectively), Pakistani Muslim (two groups with five and four
31 participants, respectively), Indian Punjabi-Sikh (one group with five participants, with discussion
32 occurring in English and Punjabi, and co-facilitation by Punjabi speaking researcher) and 'White'
33 (three groups with three, four and five participants, respectively). The largely, although not
34 exclusively, homogenous nature of the groups reflected the pre-existing social groups
35 approached and also the locality. For example, two of the groups with 'White' participants were
36 from rural county locations. Most women had left formal education at school level, and about
37 half were existing mothers. Sample characteristics are summarised in Table 1.

56
57 **Table 1** Participant characteristics

		Focus groups	Telephone interviews
Number of participants		41	19
Age	18*-25	18	10
	26-35	15	5
	36-45	8	4
Ethnicity (Self-defined)	South Asian	14	6
	<i>Pakistani (8)</i>		(3)
	<i>Indian (6)</i>		(3)
	African Caribbean	11	3
	<i>Caribbean (5)</i>		(3)
	<i>Black/African/Caribbean (2)</i>		
	<i>African (1)</i>		
	<i>Other Black/African (3)</i>		
	White	11	8
	Mixed	5	2
	<i>White & Asian (2)</i>		(1)
<i>White & Black African (1)</i>		(1)	
<i>Other mixed (2)</i>			
Highest formal education	GCSE or equivalent (<16yr)	8	3
	A level or equivalent (<18yr)	22	12
	Higher education beyond school level	8	3
	Educated outside UK	1	
	Not indicated	2	1
Pregnant		2	
Mothers (total number of children)		23 (40)	14 (22)

* One woman reported she was aged 17 after group participation: data from this participant not reported.

Preconception health awareness and attitudes

With the exception of avoiding smoking, alcohol and illicit drugs, women's awareness of preconception health was modest or poor. Beyond this, there was little evidence of any received wisdom or prevailing culture of 'preparing for pregnancy'. Rather, many thought a range of risks were relevant *during* rather than before pregnancy. For example, they didn't see the need to check immunisation status, medication or family history, rule out infectious

disease, or take folic acid prior to conception. Younger women were perceived to be less aware of these issues:

I don't think it would have crossed our mind to, sort of, 'hang on we need to read this' [information on preconception health] we were young we didn't really care much or think about children. (5/P3: 26-35, White ethnicity, 2 children)

While some attitudes towards certain health risks reflected the cultural or ethnic background of the participants ("*Nobody smokes in the Asian community, so that wouldn't really be an issue.*" 2/P1: 26-35, Pakistani), it was apparent that women of similar ethnic backgrounds had diverse attitudes as well as practices.

Some women had doubts about the value of reviewing certain health risks, and concerns about causing anxiety unnecessarily (Box 1).

Box 1 Concerns regarding preconception health review

5/P2 Some things are important but then some things are just a bit

5/P4 Over the top.

5/P2 Nanny state, you know, making people paranoid and worried and

5/P3 What are the infectious diseases before you're pregnant?

5/P1 Infectious diseases full stop probably but, yeah.

5/P3 The Government trying to frighten us again. (...)

5/P2 Sometimes yeah it gets to the point where you just think, oh

5/P1 Well then it feels a bit like there's too many, then it's like oh forget it. (...) And I think that's why you remember smoking and alcohol because they're sort of drummed home yeah and you just think oh forget it, it'll be alright. (5/P4 & 5/P3: Yeah)

5/P2 We're still here today, people have been having kids and babies for thousands and thousands of years without all this.

(Group 5/5: 18-35, White ethnicity, all mothers)

However, women appreciated the prospect of being better informed, especially if information was relevant to them as individuals. Some saw the potential of a preconception health assessment (PHA) questionnaire to raise awareness about preconception health, and others highlighted differences in concerns and information needs according to locality:

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(...) if you were thinking of having a baby and you saw that women's preconception health [questionnaire] (...) you'd at least have access to some information (...) to think about. (4/P4: 26-35, White ethnicity, 2 children)

I'm planning to have another one next summer and I'll need help quitting smoking, I know I've got to do that. And I've got to find out about what all that palaver is with lambs. I don't understand the lambs. (5/P2: 26-35, White ethnicity, 1 child, rural setting)

Women without children, or with only one child, appeared more attracted to the idea of preconception care. Mothers with more children spoke of the experience of previous successful pregnancies and also of having less time to consider their own health, fill in health assessment forms, or go to appointments with their GP. While existing mothers seemed slightly better informed about preconception health risks, some wished they had been more aware of them prior to their first pregnancy, and had them addressed, including those with significant risks such as lack of rubella immunity:

I think it would have helped me with the rubella because even though my pregnancy was planned and I'd been to see my GP, they never picked up on that I was needing it (...) so I went my whole pregnancy worrying that I was going to get it. (4/P2: 18-25, White ethnicity, 1 child)

(...) when I (...) went to see a family planning nurse, I wish that I had come out hearing 'folic acid' and 'get fit', because it's just impossible afterwards and I don't think anybody tells you about (...) how much your body's going to stretch (...). (4/P4: 26-35, White ethnicity, 2 children)

Preconception health opportunities in primary care

Women were generally positive about the prospect of greater preconception care from their GP or practice nurse, speaking of continuity of positive relationships, including familiarity, respect and trust in their practices. They discussed when preconception health might be appropriately raised, from their perspective, in general practice. This included consultations for contraception, infertility or difficulty conceiving, cervical smears, disease or treatment review, and other health checks. While more general invitations from their practice were not

suggested, some women were comfortable with being approached opportunistically with preconception health information at other times. They supported a more proactive approach tailored to knowledge of an individual's circumstances and social or cultural context. Women of South Asian background, for example, indicated their pregnancies may not be strictly "planned" but there was a heightened cultural expectation of pregnancy after marriage that might present opportunity to introduce preconception health (Box 2).

Box 2 Opportunities to consider preconception health in primary care

5/P1 *You could do when you're going for contraception, that's good actually, that would be a good way*

5/P2 *Most girls do go, don't they.*

5/P4 *They do want to go because they don't want to get pregnant do they, so yeah.*

(**Group 5/5:** 18-35, White ethnicity, all mothers)

Maybe if ... they are trying to have a baby for months and they realise they have to check ... if they have any problems, I think at that point you should fill in a form [PHA questionnaire] like this.

(**3/P3:** 18-25, African ethnicity, 1 child)

It could be an option maybe if you go for your smear check-up, if you're given it then, in case you can fill it out then or you can post it back so then it's done at that time whether you think about it or not (...).

(**8/P5:** 26-35, Black/African/Caribbean ethnicity)

I think if GPs were to have these [PHA questionnaires] and could hand them out as and when, I don't think they should wait either to be approached by someone for it, it should automatically be offered.

(**4/P1:** 18-25, White ethnicity, 1 child)

We go to doctors when we're ill, but actually what advice we are getting from the doctors about how we potentially prevent other illnesses or other things that maybe happening to us? (...) I think a bit of planning through your general practitioner may actually help you long term kind of thing.

(**9/P6:** 36-45, Caribbean ethnicity)

1/P1 *Well I mean the GP would know if you're married or single or whatever (...) If the GP said to me 'would you mind filling in this, you know for when you are ready to start a family?' I'd say 'yeah, no problem.' (...)*

1/P4 *(...) because we are thinking about our culture, if you are married then obviously you're going to be having babies. So maybe (...) let's get her to fill in this form... That would be a good idea.*

(**Group 1/5:** 26-45, Indian ethnicity, all mothers)

Some women, mainly those of South Asian background, were clear they would prefer talking about preconception health issues with female health professionals:

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3 **2/P3** *No, it would have to be a female GP or a practice nurse, it wouldn't be a male GP.*

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6 **2/P4** *It wouldn't. And that's not even to do with only – I don't think even my religious*
7 *beliefs would come into it – it's just me personally. (Group 2/5: 26-35, Pakistani & Indian*
8 *ethnicity, no children, 1 pregnant)*

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12 *But then I think, at the same time, if I was planning on having a child, I would probably*
13 *feel a little uncomfortable speaking to a man. (6/P3: 18-25, Pakistani ethnicity)*

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17 A further difficulty for several younger participants was experience of doctors as
18 unapproachable or being difficult to relate to. Family doctors were seen as problematic with
19 fear that confidential information may be passed on to other members of the family:

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23 *Because my GP is my family's doctor and you must hear that all the time because I knew*
24 *when my cousins needed injections for our holiday and they knew, do you know what I*
25 *mean, he's that type of doctor, where we all knew everyone's business! [laughter]*
26 *Which he's not supposed to do but yeah, it's part of life. (8/P4: 18-25, Caribbean*
27 *ethnicity, 1 child)*

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33 *No but then also with my experience, that I know lots of those girls are smokers but*
34 *when they have appointment with their midwife, in their record they says I don't smoke,*
35 *yeah? (...) and a lot of them don't tell their GPs either that they smoke (...). In the past,*
36 *the reason people lost trust in their GPs or some other professionals (...) information did*
37 *leak out and it did go back to the parents. (6/P1: 36-45, Pakistani ethnicity, 2 children)*

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43 Some women advocated that preconception health information be more widely available in the
44 community, in particular in schools and sexual health or 'family planning' clinics. Some saw the
45 latter as more welcoming than general practices, where it was routinely easier to see female
46 staff and remain anonymous. Many women knew teenage mothers with unhealthy lifestyles,
47 and felt their learning about health promotion at school might be improved to include positive
48 relevance to preconception health:

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55 *Yeah, as soon as they start sex education, if it's any good. Because it will start making*
56 *them think, as well, that this is about a baby. Rather than, because a lot of people in*
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3 *their teens get pregnant, they don't plan their pregnancy, but if they know everything*
4 *about pregnancy they might consider it more as well. (3/P2: 18-25, White ethnicity, 1*
5 *child)*
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10 *So perhaps if it went in the younger age and we were talking more about growing (...)*
11 *how plants grow, you know, how human beings grow and what we need to keep us*
12 *healthy and something that's (...)* altered all the way through each key stage, you know,
13 *age appropriate, but something that's just there from the very beginning on the*
14 *curriculum. (7/P1: 36-45, White/Black African ethnicity, 1 child)*
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20 **Challenges for promoting preconception care**

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22 Women highlighted their common experience of pregnancies being unplanned and that
23 thinking about their health and lifestyle only arose after conception (Box 3). They perceived
24 'preconception health' would feel similarly abstract to others, and not appear relevant in
25 women's day to day lives. No respondents had experienced broader preconception assessment
26 or care from any health professional. Only a few mothers had actively sought preconception
27 information or advice from their GP, prompted by fertility concerns or in order to receive a
28 prescription for folic acid (i.e. at no cost if eligible for free prescription).
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37 **Box 3 Relevant only after conception**

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39 *I was 19, my daughter wasn't planned (...) so I never thought of discussing anything like this. I was just*
40 *like OK I'm pregnant, oh!*

41 (5/P3: 26-35, White ethnicity, 2 children)

42
43 *I don't think I've ever known anyone that's really said 'right, I'm going to have a baby now, this is what*
44 *I'm going to go and do,' it's always kind of happened 'whoops, but I'm OK with it!'*

45 (8/P2: 26-35, Caribbean ethnicity)

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47
48 *The majority of people - honestly, I'm not joking [laughter] - are unaware of these things (...). Honestly, if*
49 *they were trying to get pregnant they wouldn't even think about these things. Really, lack of education*
50 *or lack of knowledge or whatever it is, they wouldn't. (...) If I was married and if I was trying for a baby I*
51 *wouldn't bloody think of any of those.*

52 (2/P2: 26-35, Indian ethnicity)

For some mothers who had 'planned' their pregnancies, the phase between active planning and conception was indistinct, for example because they had conceived sooner than expected, affecting their ability to communicate their plans to others prior to pregnancy. In particular, women spoke of the sometimes sensitive or secretive period between planning pregnancy and actual conception, affecting their willingness to tell others about their plans, including health professionals, and thus the open consideration of preconception health (Box 4).

Box 4 Difficulty being open about pregnancy planning

And also, like if you're planning, you do not want anybody, everybody else to know that you're planning, because that's a lot of pressure on you.

(8/P5: 26-35, Black/African/Caribbean ethnicity)

I wouldn't go to a GP, family or friends [for preconception health advice]. (...) I wouldn't feel comfortable going to anybody.

(2/P2: 26-35, Indian ethnicity)

I don't think I would have spoken to anyone about these issues if I was trying to conceive. (...) I'd just thought that it's just one of those things that 'if it's going to happen, it's going to happen'.

(2/P5: 26-35, Pakistani ethnicity)

Women of South Asian background highlighted that stigma associated with infertility was a further reason for keeping pregnancy plans secret. Faith, or fatalism, was sometimes mentioned as an important reason for not approaching health care professionals even if experiencing fertility problems.

Preconception health as part of wider health promotion

The possibilities for addressing preconception health as part of wider health promotion arose in some group discussions, with the terms 'women's health' or 'pre-pregnancy health' suggested as alternatives. They felt preconception health could be promoted more routinely in a positive way as relevant to women not immediately planning pregnancy, particularly as some communities may sanction 'conception' only in marriage:

It's the way that you frame it as well, I think if you frame it as it's another smear test health screening check-up thing, but (...) I know we're going just on women, because

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3 *that's the way I see it, but being able to bear children is such a blessing, it like makes us*
4 *like miracle people (...).* (6/P2: 26-35, Pakistani ethnicity)
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8 This resonated with other women's suggestions to introduce preconception health in to health
9 promotion offered to women when they reach reproductive age enabling "free guidance and
10 advice" (4/P4) and assurance that "you're OK and everything's still going tickety boo" (5/P3):
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14 *(...) maybe there should be a routine health check that just every person who reaches a*
15 *certain age (...) I don't know 16/17, I know some people it might miss, still, that's a*
16 *general health thing but incorporates that [preconception health questionnaire] if that*
17 *becomes appropriate. (...) it could be women's health assessment, couldn't it?* (4/P4:
18 26-35, White ethnicity, 2 children)
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24 Women felt that consideration of 'preconception health' should encompass men more directly.
25 They recognised preconception issues were "applicable to them as well" (7/P1) and "their
26 health [being] just as important" (6/P1). For example they raised the relevance of their
27 partners' history, and that in some communities health behaviours such as alcohol
28 consumption or smoking, could be more directly relevant to men than women, presenting
29 opportunities to engage men more (Box 5).
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37 **Box 5 Preconception health relevant for men as well**

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39 **2/P2** *My husband does drink occasionally and he's not very healthy and ... he's got problems*
40 *with a history, like his dad's side and his mum's - of illnesses. I think maybe on his side we would*
41 *think about these things but not on mine. Folic acid, that's the woman only, but certain things -*
42 *the men would probably be more.... in our culture, anyway. Because the men drink alcohol, and*
43 *they are the ones that - if they were to smoke - it's more likely to be the men.*
44

45 **2/P5** *Generally, when we think about conceiving, we think about ourselves, we don't think*
46 *about...*
47

48 **2/P4** *(...) I think the men are very isolated in the whole aftermath, kind of thing (...) Once you've*
49 *fallen pregnant it's just more about you and the baby.*
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51 **(Group2/5:** 26-35, Pakistani (Muslim) and Indian (Sikh) ethnicity, one pregnant)
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DISCUSSION

Summary

Women in this study had limited awareness of preconception health but perceived offering preconception care more routinely in general practice as appropriate, particularly if raised within a range of clinically 'relevant' consultations or when opportune for individuals in their social context. However there were challenges for engaging women in preconception care more routinely: lack of a prevailing culture of 'preparing for pregnancy', the realities of pregnancies often being unplanned, and, for those planning pregnancy, of sensitivity and secrecy about trying to conceive. Enhancing access in other settings, including for younger people and women less disposed to seeing their GP or male practitioners, education in schools, and for men, were suggested as part of integration with wider health promotion.

Strengths and limitations

This study offers a first qualitative exploration of perceptions about preconception health among those from ethnically diverse communities, including those at higher risk of poor maternal and child health outcomes in the UK. The findings may not be typical of other women, and must be interpreted with regard to the sample described. However the study benefits from data generated with women mostly familiar with each other, potentially reducing artificiality of discussions, and by researchers of gender, and diverse ethnic, faith and language backgrounds shared with participants.[33] Data from group interaction were complemented by one to one interviews, enabled participants to express themselves without potential constraints of the group, and helped refine and validate findings.[34]

While participants had relevant experiences as mothers or women of reproductive age, we recognise they were considering broader preconception care that is not currently routine. Although we included women who had been pregnant as teenagers, study ethics approval limited inclusion to those aged over 18, and further research with younger teenagers, and the perspectives of men on preconception health are still needed.

Comparison with existing literature

This study adds to limited existing evidence in the UK from a survey with a better educated sample in London with 40% of women reporting interest in preconception care in general practice.[22] Women in the current study took a broader perspective on when this might occur and be appropriate, highlighting particular opportunities and challenges for engaging women. Work in other countries, some with disadvantaged populations,[14 35-37] has similarly found women may have some awareness of, and similar attitudes towards, optimising health prior to conception, but have gaps in knowledge about maternal and foetal health risks.[35 38] For example, even though few women fully comply with pre-pregnancy messages,[10 25 39] most studies report awareness of the need to avoid smoking, alcohol and drugs during pregnancy, which corresponds with our results.

Our respondents highlighted pregnancies being 'unplanned', and not thinking about preconception health or lifestyle unless already pregnant, as problematic for anticipating and being receptive to preconception care. Similar challenges have been recognised in the USA and Australia,[25 35 38] and by health professionals.[8] In addition, women who already have children may perceive they know enough for preconception care to be less necessary,[25] and this was echoed by mothers in the current study.

Our findings suggest that even if pregnancy is 'planned', discussing or seeking preconception care may be hampered by women's ability and willingness to be open about their aspirations or plans with others, including health professionals.[40] This may be compounded by stigma associated with infertility[41] and this was highlighted by women in our sample. Cultural or religious taboos surrounding pre-marital relationships[42] may potentially deter some women. However, it is important to recognise the same cultural importance attached to fertility and family health after marriage was referred to in this study as a positive opportunity to facilitate greater engagement with preconception health for individuals.

Women elsewhere have also felt preconception health should be promoted more in 'family planning clinics',[43] though this may not appeal to others.[42] Improving younger people's

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3 awareness and knowledge about preconception health during their education, as suggested by
4 women here, forms part of guidance and some school curricula in the USA.[1]
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8 **Conclusions and implications for practice**

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10 This study highlights challenges but also opportunities for preconception health promotion. The
11 relatively positive attitudes found here may not equate to actual engagement. However this
12 study suggests raising preconception health more proactively may most promisingly occur
13 when this assumes heightened individual relevance for women. This could include clinical
14 contexts such as when attending for contraception, difficulty conceiving, treatment or disease
15 review, or as part of other routine health promotion such as cervical screening. Informational
16 aids such as preconception health questionnaire may help at these times. Primary care
17 practitioners may be well placed to capitalise on these opportunities given ongoing knowledge
18 not only of patients' medical histories and health care but also of their social and cultural
19 contexts, such as new relationships.
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30 Initiating the offer of preconception health intervention at these points also speaks to the
31 challenges women identify. Firstly, and arguably of particular importance for those from more
32 deprived backgrounds, it has potential to engage those with low awareness or not considering
33 or planning pregnancy. This group may be less receptive to more conventional health
34 promotion invitation, for example, if offered routinely to all women of reproductive age.
35
36 Secondly, it may advance opportunity to offer intervention to women who may be trying to
37 conceive, but have yet to share this with others. Given time constraints in health encounters,
38 initial offers could be followed by more dedicated preconception health review, for example
39 with nurse practitioners.
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48 Facilitating a culture of 'preparing for pregnancy' as part of life, and making preconception care
49 more attractive to women and their partners, even if they are not planning pregnancy, requires
50 further social marketing.[44] In addition to primary care, parallel approaches to raising
51 awareness of preconception health might use differing windows of opportunity, as part of
52 health care and education over the life course, in wider settings. Further intervention
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3 development research and evaluation, [45] exploring this range of possibilities, including
4 feasibility and acceptability with those implementing them is needed.
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7

8 **CONTRIBUTORS:**

9 LCB, MB and HT led data collection; HT led data analysis, developed with the study team; NQ
10 contributed to design and revision. JK was principal investigator, and designed and supervised
11 the study. HT and JK wrote the paper. All authors approved the final manuscript. We thank
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14
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20

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22 None
23

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25 Ethical approval was obtained from the Leicestershire, Northamptonshire and Rutland NHS
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27
28

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30 the CDC/ATSDR Preconception Care Work Group and the Select Panel on Preconception Care.
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11 **Opportunities and challenges for enhancing preconception health in primary**
12 **care: Qualitative study with women from ethnically diverse communities**
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60**ABSTRACT**

Objective: There is growing interest in developing and offering more systematic preconception health care. However it is unclear how this might be regarded by ethnically diverse communities at higher risk of poor maternal and child health outcomes. We sought to explore perceptions about preconception health and care among women from these communities to identify opportunities and challenges for intervention development in primary care.

Design: Qualitative study using focus groups and semi-structured interviews.

Setting: Ethnically diverse and socially disadvantaged community settings of the UK.

Participants: Forty-one women aged 18-45, of Pakistani, Indian, Caribbean, African, White and mixed ethnic origin, participating in nine focus groups, half of whom (n=19) had one to one follow up telephone interviews.

Results: Women had modest or poor awareness of preconception health issues. They perceived these could be addressed in primary care, particularly if raised within a range of clinically 'relevant' consultations, such as for contraception, or when opportune for individuals in their social context. However challenges for engaging women in preconception care more routinely were underlined. These included little prevailing culture of preparing for pregnancy and the realities of their pregnancies often being unplanned; and, for those planning pregnancy, sensitivity and maintaining secrecy when trying to conceive. A preference for female professionals, engaging men, and enhancing access for younger people or women less disposed to general practice, in educational and other settings were highlighted.

Conclusions: Raising preconception health when this has heightened clinical or social resonance for women may hold promise for initiating more systematic intervention. In primary care this could offer greater potential to directly engage those with low awareness or not considering pregnancy, while enlarging opportunity for others who may be seeking to conceive. Promoting 'preparation for pregnancy' more widely might form part of health care and education over the life course. Further intervention development research exploring these possibilities, including their feasibility and acceptability is needed.

ARTICLE SUMMARY

Article focus

- Implementing more routine and comprehensive preconception health care offers major opportunity to improve maternal and child health outcomes.
- There is a lack of qualitative evidence from minority communities who might form priorities for targeting.
- This study explored perceptions of women from diverse ethnic backgrounds about preconception health to inform preconception care development in primary care.

Key messages

- In the absence of a culture of preparing for pregnancy, raising preconception health when this has heightened clinical or social relevance for women may hold promise for initiating more systematic intervention.
- This could include when attending for contraception, difficulty conceiving, treatment or disease review, or other routine health promotion, and use ongoing knowledge of patients' social and cultural contexts.
- In primary care this could overcome some challenges women identify by offering potential to directly engage those with low awareness or not considering pregnancy, while advancing opportunity for intervention with women who may be trying to conceive but have yet to share this with others.

Strength and limitations

- Data were generated with women mostly familiar with each other, reducing artificiality of discussions, and by researchers of gender, and diverse ethnic, faith and language backgrounds shared with participants.
- Data and analysis from group interactions were complemented by one to one interviews, and helped refine and validate findings.
- While participants had relevant experiences as mothers, or women of reproductive age, they were considering broader preconception care that is not currently routine health care practice.

INTRODUCTION

Preconception care involves health promotion to identify and reduce risk factors that might affect future maternal, child and family health.[1-3] [Effective preconception care is likely to involve a range of therapeutic \(e.g. immunisation\) and behavioural \(e.g. smoking cessation\) interventions.](#) While relevant to all those of reproductive age, successfully engaging those at highest risk could help reduce social and ethnic disparities in maternal and child health, and in pregnancy outcomes such as low birth weight and infant mortality. For example, compared to the wider population, still birth, perinatal and infant mortality rates are significantly higher for mothers of African-Caribbean, South Asian and socially deprived backgrounds in the UK.[4] Explanations for such variations are poorly understood, involving interplay of disadvantage, physiological, behavioural and cultural factors.

[Whist there are NICE guidelines outlining specific aspects of preconception care for women with diabetes and for obese women,](#)[5 6] ~~there~~ there are no national guidelines for preconception care [aimed at the general population](#) in the UK. ~~but this~~ Preconception care is normally encouraged informally[7] and typically offered opportunistically by GPs and others, for example with advice on folic acid use.[8] Interventions for single risk factors such as folic acid deficiency and alcohol misuse are known to work,[9 10] [some having a robust evidence-base for cost-effectiveness in improving health outcomes](#)[11]. However, people often have several health and social risk factors impacting major outcomes such as still birth. Globally, there is increasing interest in offering more comprehensive interventions that address individuals' often multiple risks [in 'real life'](#), such as obesity, smoking or lack of rubella immunity,[12-15] [although it is not yet established if a more holistic approach can realise the benefits anticipated from single component interventions.](#)

Existing approaches to assessing preconception health more systematically typically involve self-completed questionnaire and health professional review.[16-18] None have been tested in UK primary care, but limited experience of using them, mainly from the US and Netherlands[16 17 19] suggest their promise. These approaches have potential to increase women's knowledge

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9 and enable behaviour change, without inducing harm or anxiety.[12 20 21] In these countries,
10 recommendations now advocate primary care delivery of preconception care.[1 3]

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12 While largely supported by professionals,[8 22 23] evidence about whether women really want
13 more preconception care is mixed,[22-25] and its successful implementation in routine health
14 practice has yet to occur. [The high number of unplanned pregnancies among women in most](#)
15 [countries \(approximately 50% of pregnancies in the UK\)\[26\] and lack of knowledge about the](#)
16 [aim of preconception counselling\[27\] are identified barriers for delivery of preconception care.](#)

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18 Women who desire it may prefer to receive this in primary care.[21 24 28 29] However there is
19 a paucity of relevant qualitative evidence, particularly from minority ethnic communities who
20 might form priorities for targeting. In this study, we explored perceptions about preconception
21 health and care among women from diverse ethnic backgrounds. We wished to identify
22 opportunities and challenges for preconception care in primary care in the UK to inform
23 intervention development and implementation.

24 25 26 27 28 29 30 **METHODS**

31 32 **Data generation**

33 We recruited and purposefully sampled from pre-existing social groups of women of
34 reproductive age (18-45), such as parent and toddler and faith based groups, in ethnically
35 diverse and [socially disadvantaged/deprived](#) inner city and rural localities of the Midlands, [with](#)
36 [Indices of Multiple Deprivation in the lowest quintile \(most deprived 20%\) for the UK.](#)[30] These
37 'naturally occurring' groups were chosen given health issues may be routinely discussed and
38 shared by women more familiar with each other. We aimed to involve women of Pakistani,
39 Indian, African Caribbean, and White origin. Community based groups were approached either
40 directly by the researchers or indirectly via a prior contact associated with the group- [and were](#)
41 [provided with information about the study. The explained purpose was to find out what women](#)
42 [aged 18-45 think about "preconception health", defined as "a woman's health before](#)
43 [pregnancy"](#). Recruitment within groups occurred face-to-face by study researchers or with the
44 help of key contacts. Study information included a consent form and was translated where
45 appropriate.

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Audio-recorded focus groups were convened at a location and time convenient to participants and each facilitated by two researchers ([HT, MB, LCB](#)), all of who were women, including from Muslim ~~and~~ Punjabi/Urdu speaking Sikh, ~~and white~~ backgrounds (~~HT, MB, LCB~~), with one moderating the discussion and the other taking notes. Prior to the group discussions, participants completed consent forms and a brief demographic questionnaire. A topic guide was developed from literature review and two pilot group discussions with GPs and practice nurses, to include:

- Previous experience of preconception health advice;
- Awareness of, and attitudes towards preconception health;
- Views on when and how preconception care might occur;
- Showing women areas of preconception health assessment (PHA) such as lifestyle, medical/family history, infectious disease and foetal exposure on a draft questionnaire[16 18 19] (see Appendix 1)

Participants were encouraged to freely discuss their experiences and views, with exploration evolving to accommodate emerging themes in the groups. [The PHA questionnaire was introduced half way through the focus groups, preceded by](#) explanation of [the purpose of the form and assessment. Participants were invited to fill in the PHA questionnaire at home. All women from the groups were invited to participate in follow up semi-structured one to one telephone interviews, and those who wished to do so were interviewed. These were undertaken to consider themes from the group or areas the individual may not have contributed to during earlier group discussion, for example because of shyness or being inhibited by the group context. Views on how they found completing the questionnaire were also invited \(these are not reported here\).](#)

Data analysis

[We analyzed data from focus groups and telephone interviews using qualitative research principles.](#)[31] Group discussions were transcribed verbatim, and telephone interviews summarised for pertinent themes. All transcripts were checked against the recording for accuracy, with ~~one group these data~~ involving spoken Punjabi ~~or Urdu~~ transcribed and

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9 translated by an independent translation service, and rechecked against the original recording
10 by a bilingual researcher for accuracy of translation and equivalence of meaning. Three
11 researchers generating data reviewed all transcripts independently, identifying initial concepts
12 and themes guiding the direction of succeeding interviews until no themes were emerging.
13 Data management and sorting were assisted by NVivo 9 (QSR) software, and a coding scheme
14 was developed drawing on a priori and emergent themes. Data were analysed using thematic
15 analysis and constant comparison, and the focus of analysis was both the individual and the
16 group.[32] Emerging themes were agreed jointly in parallel discussions with the wider clinical
17 research team. In the following, participants are identified with a code: e.g. 5/P3 indicates
18 participant (P) number three in group five; Group 5/5 denotes that group five had five
19 participants.

26 RESULTS

27 Ultimately, 41 women participated in nine focus groups, lasting about 90 minutes each, and
28 half of these women (19) took part in one to one semi-structured telephone interviews one to
29 two months later, lasting about 30 minutes each. Most groups were pre-existing social groups
30 (parent and toddler, community or faith centre based, workplace, extended family), though in
31 three not every participant knew each other beforehand. They included those who identified
32 themselves as predominantly African Caribbean or of mixed ethnicity (three groups with two,
33 five and eight participants, respectively), Pakistani Muslim (two groups with five and four
34 participants, respectively), Indian Punjabi-Sikh (one group with five participants, with discussion
35 occurring in English and Punjabi, and co-facilitation by Punjabi speaking researcher) and 'White'
36 (three groups with three, four and five participants, respectively). The largely, although not
37 exclusively, homogenous nature of the groups reflected the pre-existing social groups
38 approached and also the locality. For example, two of the groups with 'White' participants were
39 from rural county locations. Most women had left formal education at school level, and about
40 half were existing mothers. Sample characteristics are summarised in Table 1.
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Table 1	Participant characteristics	Total (n=41)	
		Focus groups	Telephone interviews
		<u>41</u>	<u>19</u>
Number of participants			
Age	18*-25	18	<u>10</u>
	26-35	15	<u>5</u>
	36-45	8	<u>4</u>
Ethnicity (Self-defined)	South Asian	14	<u>6</u>
	<i>Pakistani</i> (8)		<u>(3)</u>
	<i>Indian</i> (6)		<u>(3)</u>
	African Caribbean	11	<u>3</u>
	<i>Caribbean</i> (5)		<u>(3)</u>
	<i>Black/African/Caribbean</i> (2)		
	<i>African</i> (1)		
	<i>Other Black/African</i> (3)		
	White	11	<u>8</u>
	Mixed	5	<u>2</u>
		<i>White & Asian</i> (2)	
	<i>White & Black African</i> (1)		<u>(1)</u>
	<i>Other mixed</i> (2)		
Highest formal education	GCSE <u>or</u> equivalent (<16yr)	8	<u>3</u>
	A level <u>or</u> equivalent (<18yr)	22	<u>12</u>
	Higher education beyond school level	8	<u>3</u>
	Educated outside UK	1	
	Not indicated	2	<u>1</u>
Pregnant		2	
Mothers (total number of children)		23 (40)	<u>14 (22)</u>

* One woman reported she was aged 17 after group participation: data from this participant not reported.

Preconception health awareness and attitudes

With the exception of avoiding smoking, alcohol and illicit drugs, women's awareness of preconception health was modest or poor. Beyond this, there was little evidence of any received wisdom or prevailing culture of 'preparing for pregnancy'. Rather, many thought a range of risks were relevant *during* rather than before pregnancy. For example, they didn't see the need to check immunisation status, medication or family history, rule out infectious

disease, or take folic acid prior to conception. Younger women were perceived to be less aware of these issues:

I don't think it would have crossed our mind to, sort of, 'hang on we need to read this' [information on preconception health] we were young we didn't really care much or think about children. (5/P3: 26-35y, White ethnicity, 2 children)

While some attitudes towards certain health risks reflected the cultural or ethnic background of the participants ("Nobody smokes in the Asian community, so that wouldn't really be an issue." 2/P1: 26-35, Pakistani), it was apparent that women of similar ethnic backgrounds had diverse attitudes as well as practices.

Some women had doubts about the value of reviewing certain health risks, and concerns about causing anxiety unnecessarily (Box 1):

Box 1 Concerns regarding preconception health review

5/P2 Some things are important but then some things are just a bit

5/P4 Over the top.

5/P2 Nanny state, you know, making people paranoid and worried and

5/P3 What are the infectious diseases before you're pregnant?

5/P1 Infectious diseases full stop probably but, yeah.

5/P3 The Government trying to frighten us again. (...)

5/P2 Sometimes yeah it gets to the point where you just think, oh

5/P1 Well then it feels a bit like there's too many, then it's like oh forget it. (...) And I think that's why you remember smoking and alcohol because they're sort of drummed home yeah and you just think oh forget it, it'll be alright. (5/P4 & 5/P3: Yeah)

5/P2 We're still here today, people have been having kids and babies for thousands and thousands of years without all this.

(Group 5/5: 18-35, White ethnicity, all mothers)

~~5/P2 Some things are important but then some things are just a bit~~

~~5/P4 Over the top.~~

~~5/P2 Nanny state, you know, making people paranoid and worried and~~

~~5/P3 What are the infectious diseases before you're pregnant?~~

~~5/P1 Infectious diseases full stop probably but, yeah.~~

~~5/P3 The Government trying to frighten us again. (...)~~

~~5/P2 Sometimes yeah it gets to the point where you just think, oh~~

~~5/P1 Well then it feels a bit like there's too many, then it's like oh forget it. (...) And I think that's why you remember smoking and alcohol because they're sort of drummed home yeah and you just think oh forget it, it'll be alright. (5/P4 & 5/P3: Yeah)~~

~~5/P2 We're still here today, people have been having kids and babies for thousands and thousands of years without all this.~~

~~(Group 5/5: 18-35, White ethnicity, all mothers)~~

However, women appreciated the prospect of being better informed, especially if information was relevant to them as individuals. Some saw the potential of a preconception health assessment (PHA) questionnaire to raise awareness about preconception health, and others highlighted differences in concerns and information needs according to locality:

(...) if you were thinking of having a baby and you saw that women's preconception health [questionnaire] (...) you'd at least have access to some information (...) to think about. (4/P4: 26-35, White ethnicity, 2 children)

I'm planning to have another one next summer and I'll need help quitting smoking, I know I've got to do that. And I've got to find out about what all that palaver is with lambs. I don't understand the lambs. (5/P2: 26-35, White ethnicity, 1 child, rural setting)

Women without children, or with only one child, appeared more attracted to the idea of preconception care. Mothers with more children spoke of the experience of previous successful pregnancies and also of having less time to consider their own health, fill in health assessment forms, or go to appointments with their GP. While existing mothers seemed slightly better informed about preconception health risks, some wished they had been more aware of them prior to their first pregnancy, and had them addressed, including those with significant risks such as lack of rubella immunity:

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I think it would have helped me with the rubella because even though my pregnancy was planned and I'd been to see my GP, they never picked up on that I was needing it (...) so I went my whole pregnancy worrying that I was going to get it. (4/P2: 18-25, White ethnicity, 1 child)

(...) when I (...) went to see a family planning nurse, I wish that I had come out hearing 'folic acid' and 'get fit', because it's just impossible afterwards and I don't think anybody tells you about (...) how much your body's going to stretch (...). (4/P4: 26-35, White ethnicity, 2 children)

Preconception health opportunities in primary care

Women were generally positive about the prospect of greater preconception care from their GP or practice nurse, speaking of continuity of positive relationships, including familiarity, respect and trust in their practices. They discussed when preconception health might be appropriately raised, from their perspective, in general practice. This included consultations for contraception, infertility or difficulty conceiving, cervical smears, disease or treatment review, and other health checks. While more general invitations from their practice were not suggested, some women were comfortable with being approached opportunistically with preconception health information at other times. They supported a more proactive approach tailored to knowledge of an individual's circumstances and social or cultural context. Women of South Asian background, for example, indicated their pregnancies may not be strictly "planned" but there was a heightened cultural expectation of pregnancy after marriage that might present opportunity to introduce preconception health (Box 24).

Box 24 Opportunities to consider preconception health in primary care

5/P1 *You could do when you're going for contraception, that's good actually, that would be a good way*

5/P2 *Most girls do go, don't they.*

5/P4 *They do want to go because they don't want to get pregnant do they, so yeah.*

(Group 5/5: 18-35, White ethnicity, all mothers)

Maybe if ... they are trying to have a baby for months and they realise they have to check ... if they have any problems, I think at that point you should fill in a form [PHA questionnaire] like this.

(3/P3: 18-25, African ethnicity, 1 child)

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It could be an option maybe if you go for your smear check-up, if you're given it then, in case you can fill it out then or you can post it back so then it's done at that time whether you think about it or not (...).

(8/P5: 26-35, Black/African/Caribbean ethnicity)

I think if GPs were to have these [PHA questionnaires] and could hand them out as and when, I don't think they should wait either to be approached by someone for it, it should automatically be offered.

(4/P1: 18-25, White ethnicity, 1 child)

We go to doctors when we're ill, but actually what advice we are getting from the doctors about how we potentially prevent other illnesses or other things that maybe happening to us? (...) I think a bit of planning through your general practitioner may actually help you long term kind of thing.

(9/P6: 36-45, Caribbean ethnicity)

1/P1 *Well I mean the GP would know if you're married or single or whatever (...) If the GP said to me 'would you mind filling in this, you know for when you are ready to start a family?' I'd say 'yeah, no problem.' (...)*

1/P4 *(...) because we are thinking about our culture, if you are married then obviously you're going to be having babies. So maybe (...) let's get her to fill in this form... That would be a good idea.*

(Group 1/5: 26-45, Indian ethnicity, all mothers)

Some women, mainly those of South Asian background, were clear they would prefer talking about preconception health issues with female health professionals:

2/P3 *No, it would have to be a female GP or a practice nurse, it wouldn't be a male GP.*

2/P4 *It wouldn't. And that's not even to do with only – I don't think even my religious beliefs would come into it – it's just me personally. (Group 2/5: 26-35, Pakistani & Indian ethnicity, no children, 1 pregnant)*

But then I think, at the same time, if I was planning on having a child, I would probably feel a little uncomfortable speaking to a man. (6/P3: 18-25, Pakistani ethnicity)

A further difficulty for several younger participants was experience of doctors as unapproachable or being difficult to relate to. Family doctors were seen as problematic with fear that confidential information may be passed on to other members of the family:

Because my GP is my family's doctor and you must hear that all the time because I knew when my cousins needed injections for our holiday and they knew, do you know what I

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9 mean, he's that type of doctor, where we all knew everyone's business! [laughter]
10 Which he's not supposed to do but yeah, it's part of life. (8/P4: 18-25, Caribbean
11 ethnicity, 1 child)

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14 No but then also with my experience, that I know lots of those girls are smokers but
15 when they have appointment with their midwife, in their record they says I don't smoke,
16 yeah? (...) and a lot of them don't tell their GPs either that they smoke (...). In the past,
17 the reason people lost trust in their GPs or some other professionals (...) information did
18 leak out and it did go back to the parents. (6/P1: 36-45, Pakistani ethnicity, 2 children)

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21 Some women advocated that preconception health information be more widely available in the
22 community, in particular in schools and sexual health or 'family planning' clinics. Some saw the
23 latter as more welcoming than general practices, where it was routinely easier to see female
24 staff and remain anonymous. Many women knew teenage mothers with unhealthy lifestyles,
25 and felt their learning about health promotion at school might be improved to include positive
26 relevance to preconception health:
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32 Yeah, as soon as they start sex education, if it's any good. Because it will start making
33 them think, as well, that this is about a baby. Rather than, because a lot of people in
34 their teens get pregnant, they don't plan their pregnancy, but if they know everything
35 about pregnancy they might consider it more as well. (3/P2: 18-25, White ethnicity, 1
36 child)
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40 So perhaps if it went in the younger age and we were talking more about growing (...)
41 how plants grow, you know, how human beings grow and what we need to keep us
42 healthy and something that's (...) altered all the way through each key stage, you know,
43 age appropriate, but something that's just there from the very beginning on the
44 curriculum. (7/P1: 36-45, White/Black African ethnicity, 1 child)
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48 **Challenges for promoting preconception care**

49 Women highlighted their common experience of pregnancies being unplanned and that
50 thinking about their health and lifestyle only arose after conception (Box 23). They perceived
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9 'preconception health' would feel similarly abstract to others, and not appear relevant in
10 women's day to day lives. No respondents had experienced broader preconception assessment
11 or care from any health professional. Only a few mothers had actively sought preconception
12 information or advice from their GP, prompted by fertility concerns or in order to receive a
13 prescription for folic acid (i.e. at no cost if eligible for free prescription).
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18 **Box 32 Relevant only after conception**

19 *I was 19, my daughter wasn't planned (...) so I never thought of discussing anything like this. I was just*
20 *like OK I'm pregnant, oh!*

21 (5/P3: 26-35, White ethnicity, 2 children)

22
23 *I don't think I've ever known anyone that's really said 'right, I'm going to have a baby now, this is what*
24 *I'm going to go and do,' it's always kind of happened 'whoops, but I'm OK with it!'*

25 (8/P2: 26-35, Caribbean ethnicity)

26
27 *The majority of people - honestly, I'm not joking [laughter] - are unaware of these things (...). Honestly, if*
28 *they were trying to get pregnant they wouldn't even think about these things. Really, lack of education*
29 *or lack of knowledge or whatever it is, they wouldn't. (...) If I was married and if I was trying for a baby I*
30 *wouldn't bloody think of any of those.*

31 (2/P2: 26-35, Indian ethnicity)

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34 For some mothers who had 'planned' their pregnancies, the phase between active planning and
35 conception was indistinct, for example because they had conceived sooner than expected,
36 affecting their ability to communicate their plans to others prior to pregnancy. In particular,
37 women spoke of the sometimes sensitive or secretive period between planning pregnancy and
38 actual conception, affecting their willingness to tell others about their plans, including health
39 professionals, and thus the open consideration of preconception health (Box 43).
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44 **Box 43 Difficulty being open about pregnancy planning**

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46 *And also, like if you're planning, you do not want anybody, everybody else to know that you're planning,*
47 *because that's a lot of pressure on you.*

48 (8/P5: 26-35, Black/African/Caribbean ethnicity)

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50 *I wouldn't go to a GP, family or friends [for preconception health advice]. (...) I wouldn't feel comfortable*
51 *going to anybody.*

52 (2/P2: 26-35, Indian ethnicity)

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I don't think I would have spoken to anyone about these issues if I was trying to conceive. (...) I'd just thought that it's just one of those things that 'if it's going to happen, it's going to happen'.

(2/P5: 26-35, Pakistani ethnicity)

Women of South Asian background highlighted that stigma associated with infertility was a further reason for keeping pregnancy plans secret. Faith, or fatalism, was sometimes mentioned as an important reason for not approaching health care professionals even if experiencing fertility problems.

Preconception health as part of wider health promotion

The possibilities for addressing preconception health as part of wider health promotion arose in some group discussions, with the terms 'women's health' or 'pre-pregnancy health' suggested as alternatives. They felt preconception health could be promoted more routinely in a positive way as relevant to women not immediately planning pregnancy, particularly as some communities may sanction 'conception' only in marriage:

It's the way that you frame it as well, I think if you frame it as it's another smear test health screening check-up thing, but (...) I know we're going just on women, because that's the way I see it, but being able to bear children is such a blessing, it like makes us like miracle people (...). (6/P2: 26-35, Pakistani ethnicity)

This resonated with other women's suggestions to introduce preconception health in to health promotion offered to women when they reach reproductive age enabling "free guidance and advice" (4/P4) and assurance that "you're OK and everything's still going tickety boo" (5/P3):

(...) maybe there should be a routine health check that just every person who reaches a certain age (...) I don't know 16/17, I know some people it might miss, still, that's a general health thing but incorporates that [preconception health questionnaire] if that becomes appropriate. (...) it could be women's health assessment, couldn't it? (4/P4: 26-35, White ethnicity, 2 children)

Women felt that consideration of 'preconception health' should encompass men more directly. They recognised preconception issues were "applicable to them as well" (7/P1) and "their health [being] just as important" (6/P1). For example they raised the relevance of their partners' history, and that in some communities health behaviours such as alcohol consumption or smoking, could be more directly relevant to men than women, presenting opportunities to engage men more [\(Box 5\)](#):

Box 5 Preconception health relevant for men as well

2/P2 *My husband does drink occasionally and he's not very healthy and ... he's got problems with a history, like his dad's side and his mum's - of illnesses. I think "maybe on his side we would think about these things but not on mine". Folic acid, that's the woman only, but certain things - the men would probably be more.... in our culture, anyway. Because the men drink alcohol, and they are the ones that - if they were to smoke - it's more likely to be the men.*

2/P5 *Generally, when we think about conceiving, we think about ourselves, we don't think about...*

2/P4 *(...)- I think the men are very isolated in the whole aftermath, kind of thing (...)- Once you've fallen pregnant it's just more about you and the baby.*

(Group2/5: 26-35, Pakistani (Muslim) and Indian (Sikh) ethnicity, one pregnant)

~~*2/P2*~~ ~~*My husband does drink occasionally and he's not very healthy and... he's got problems with a history, like his dad's side and his mum's - of illnesses. I think "maybe on his side we would think about these things but not on mine". Folic acid, that's the woman only, but certain things - the men would probably be more.... in our culture, anyway. Because the men drink alcohol, and they are the ones that - if they were to smoke - it's more likely to be the men.*~~

~~*2/P5*~~ ~~*Generally, when we think about conceiving, we think about ourselves, we don't think about...*~~

~~*2/P4*~~ ~~*...I think the men are very isolated in the whole aftermath, kind of thing... Once you've fallen pregnant it's just more about you and the baby. (Group2/5: 26-35, Pakistani (Muslim) and Indian (Sikh) ethnicity, one pregnant)*~~

DISCUSSION

Summary

Women in this study had limited awareness of preconception health but perceived offering preconception care more routinely in general practice as appropriate, particularly if raised within a range of clinically 'relevant' consultations or when opportune for individuals in their social context. However there were challenges for engaging women in preconception care more routinely: lack of a prevailing culture of 'preparing for pregnancy', the realities of pregnancies often being unplanned, and, for those planning pregnancy, of sensitivity and secrecy about trying to conceive. Enhancing access in other settings, including for younger people and women less disposed to seeing their GP or male practitioners, education in schools, and for men, were suggested as part of integration with wider health promotion.

Strengths and limitations

This study offers a first qualitative exploration of perceptions about preconception health among those from socially-ethnically diverse communities, including those at higher risk of poor maternal and child health outcomes in the UK. The findings may not be typical of other women, and must be interpreted with regard to the sample described. However the study benefits from data generated with women mostly familiar with each other, potentially reducing artificiality of discussions, and by researchers of gender, and diverse ethnic, faith and language backgrounds shared with participants.[33] Data from group interaction were complemented by one to one interviews, enabled participants to express themselves without potential constraints of the group, and helped refine and validate findings.[34]

While participants had relevant experiences as mothers or women of reproductive age, we recognise they were considering broader preconception care that is not currently routine. Although we included women who had been pregnant as teenagers, study ethics approval limited inclusion to those aged over 18, and further research with younger teenagers, and the perspectives of men on preconception health are still needed.

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Comparison with existing literature

This study adds to limited existing evidence in the UK from a survey with a better educated sample in London with 40% of women reporting interest in preconception care in general practice.[22] Women in the current study took a broader perspective on when this might occur and be appropriate, highlighting particular opportunities and challenges for engaging women. Work in other countries, some with disadvantaged populations,[14 35-37] has similarly found women may have some awareness of, and similar attitudes towards, optimising health prior to conception, but have gaps in knowledge about maternal and foetal health risks.[35 38] [For example, even though few women fully comply with pre-pregnancy messages,\[10 25 39 \] most studies report awareness of the need to avoid smoking, alcohol and drugs during pregnancy, which corresponds with our results.](#)

Our respondents highlighted pregnancies being 'unplanned', and not thinking about preconception health or lifestyle unless already pregnant, as problematic for anticipating and being receptive to preconception care. Similar challenges have been recognised in the USA and Australia,[25 35 38] and by health professionals.[8] In addition, women who already have children may perceive they know enough for preconception care to be less necessary,[25] and this was echoed by mothers in the current study.

Our findings suggest that even if pregnancy is 'planned', discussing or seeking preconception care may be hampered by women's ability and willingness to be open about their aspirations or plans with others, including health professionals.[40] This may be compounded by stigma associated with infertility[41] and this was highlighted by women in our sample. Cultural or religious taboos surrounding pre-marital relationships[42] may potentially deter some women. However, it is important to recognise the same cultural importance attached to fertility and family health after marriage was referred to in this study as a positive opportunity to facilitate greater engagement with preconception health for individuals.

Women elsewhere have also felt preconception health should be promoted more in 'family planning clinics',[43] though this may not appeal to others.[42] Improving younger people's

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9 awareness and knowledge about preconception health during their education, as suggested by
10 women here, forms part of guidance and some school curricula in the USA.[1]
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12 **Conclusions and implications for practice**

14 This study highlights challenges but also opportunities for preconception health promotion. The
15 relatively positive attitudes found here may not equate to actual engagement. However this
16 study suggests raising preconception health more proactively may most promisingly occur
17 when this assumes heightened individual relevance for women. This could include clinical
18 contexts such as when attending for contraception, difficulty conceiving, treatment or disease
19 review, or as part of other routine health promotion such as cervical screening. Informational
20 aids such as preconception health questionnaire may help at these times. Primary care
21 practitioners may be well placed to capitalise on these opportunities given ongoing knowledge
22 not only of patients' medical histories and health care but also of their social and cultural
23 contexts, such as new relationships.
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30 Initiating the offer of preconception health intervention at these points also speaks to the
31 challenges women identify. Firstly, and arguably of particular importance for those from more
32 deprived backgrounds, it has potential to engage those with low awareness or not considering
33 or planning pregnancy. This group may be less receptive to more conventional health
34 promotion invitation, for example, if offered routinely to all women of reproductive age.
35 Secondly, it may advance opportunity to offer intervention to women who may be trying to
36 conceive, but have yet to share this with others. Given time constraints in health encounters,
37 initial offers could be followed by more dedicated preconception health review, for example
38 with nurse practitioners.
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45 Facilitating a culture of 'preparing for pregnancy' as part of life, and making preconception care
46 more attractive to women and their partners, even if they are not planning pregnancy, requires
47 further social marketing.[44] In addition to primary care, parallel approaches to raising
48 awareness of preconception health might use differing windows of opportunity, as part of
49 health care and education over the life course, in wider settings. Further intervention
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development research and evaluation, [45] exploring this range of possibilities, including feasibility and acceptability with those implementing them is needed.

CONTRIBUTORS:

LCB, MB and HT led data collection; HT led data analysis, developed with the study team; NQ contributed to design and revision. JK was principal investigator, and designed and supervised the study. HT and JK wrote the paper. All authors approved the final manuscript. We thank Sarah Rodgers for co-facilitation of a focus group, Julie Moss for administrative, and Tracey George for managerial support.

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DRAFT FOR DISCUSSION (Exploratory phase)

Women's Preconception Health

Preconception health is a woman's health before she becomes pregnant. It means knowing how health conditions and risk factors could affect her or her unborn baby.

The best time to learn about preconception health is before you become pregnant, because about half of all pregnancies are not planned. It may be possible to lower risks you find by taking action now.

Every woman should be thinking about her health whether or not she is planning pregnancy. Optimising your health is beneficial at any time.

What this form does:

- ✓ Asks about your preconception health
- ✓ Offers brief information about important areas of preconception health

How to complete the form:

- ✓ Take your time to read the information provided
- ✓ Read and answer each of the questions

Some of the questions are of a personal nature. You do not have to answer if you do not want to, but the questions are important to get a full picture of your preconception health.

Please be as honest as possible.

All questions are from previously tested questionnaires in the US and Holland: Frey & Files, 2006; Cefalo & Moos, 1987; de Weerd et al., 2002; Ajzen, 1991; <http://www.library.nhs.uk/screening/viewResource.aspx?resID=269308>.

DRAFT FOR DISCUSSION (Exploratory phase)

	YES	NO	UNCERTAIN
IMMUNISATION	YES	NO	UNSURE
Have you had:			
Rubella vaccine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

LIFESTYLE AND NUTRITION			
What is your height?			
What is your weight?			
Do you:			
take folic acid supplements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
take vitamins?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			
eat a special diet? (e.g. vegetarian, fasting)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe			
smoke cigarettes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, how many cigarettes per day?			
visit a dentist regularly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
drink more than two cups of coffee per day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Which of the following describes your alcohol use?

Never | Not in the past year | More than twice in the past year

Several times each month | Several times each week | Daily

Which of the following describes your recreational drug use? (e.g. cocaine, marijuana, ecstasy etc)

Never | Not in the past year | More than twice in the past year

Several times each month | Several times each week | Daily

YOUR PARTNER'S LIFESTYLE AND NUTRITION			
Does your partner:			
smoke cigarettes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, how many cigarettes per day?			

Which of the following describes your partner's use of alcohol?

Never | Not in the past year | More than twice in the past year

Several times each month | Several times each week | Daily

Which of the following describes your partner's use of recreational drugs?
(e.g. cocaine, marijuana, ecstasy etc)

Never | Not in the past year | More than twice in the past year

Several times each month | Several times each week | Daily

DRAFT FOR DISCUSSION (Exploratory phase)

Did you know?

- Babies whose mothers contract rubella (German measles) during pregnancy may be born with one or more birth defects. Women can be tested for rubella immunity before pregnancy using a simple blood test.
- Taking 400mg of folic acid every day before and during pregnancy can reduce the risk of birth defects.
- Eating a well-balanced diet and maintaining a healthy weight is important for a healthy pregnancy.
- There are no safe levels of smoking, alcohol, or recreational drug use during pregnancy.

What to do next

- Your practice nurse can check whether you are immune to rubella, and give you advice on how to plan a healthy diet.
- Your practice nurse or GP can also give you information about services that can help you to stop smoking, drinking, or taking drugs.

DRAFT FOR DISCUSSION (Exploratory phase)

	YES	NO	UNCERTAIN
FAMILY HISTORY AND ORIGIN			
Do you, your partner or anyone in either family have genetically inherited conditions or are you a 'carrier' of a condition (sometimes called having a 'trait') - such as cystic fibrosis, sickle cell anaemia, or thalassaemia?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			
Are you, or any of your ancestors (e.g. parents, grandparents) from a European country of origin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			
Are you, or any of your ancestors (e.g. parents, grandparents) from a non-European country of origin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please tick relevant box:			
Indian	<input type="checkbox"/>	Pakistani	<input type="checkbox"/>
Bangladeshi	<input type="checkbox"/>	Chinese	<input type="checkbox"/>
Other Asian background	<input type="checkbox"/>		
African	<input type="checkbox"/>	White and black Caribbean	<input type="checkbox"/>
Caribbean	<input type="checkbox"/>	White and black African	<input type="checkbox"/>
Any other Black/African/Caribbean background	<input type="checkbox"/>		
White and Asian	<input type="checkbox"/>	Other mixed/multiple ethnic background	<input type="checkbox"/>
Other ethnic group	<input type="checkbox"/>		
Is your partner, or any of their ancestors (e.g. parents, grandparents) from European country of origin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			
Is your partner, or any of their ancestors (e.g. parents, grandparents) from a non-European country of origin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			

DRAFT FOR DISCUSSION (Exploratory phase)

Did you know?

Some inherited conditions are more common in some groups of people. For example, thalassaemia and sickle cell disorders are present in all ethnic groups, but are commonest in people who originate from (or whose ancestors originated from) outside of Northern Europe. Risk of inherited conditions can be detected through screening prior to pregnancy.

Sickle cell and thalassaemia are disorders of the blood. The disorders are passed on from parents to children through unusual genes. Babies can only inherit the disorders if both parents carry the unusual gene.

Some people may have one unusual gene. These people are called “carriers”. Carriers are healthy people and do not have the disorders. They may not know they are a carrier. But if a carrier has a baby with someone else who is also a carrier (or who has one of the disorders), there is a chance that their baby could inherit a disorder.

Finding out before pregnancy whether you or your partner is a carrier gives you the chance to talk to a counsellor and find out more about the disorders and the care available.

What to do next

Your practice nurse can provide more information about inherited conditions and help you to decide whether preconception screening to see if you “carry” a condition would be useful for you.

DRAFT FOR DISCUSSION (Exploratory phase)

	YES	NO	UNCERTAIN
MEDICAL HISTORY AND MEDICATION HISTORY			
Do you now have or have you ever had any serious medical conditions (such as diabetes, epilepsy or depression?): If YES, please describe:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you: routinely or occasionally take prescribed medications? If YES, list names and dosages:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
routinely or occasionally take over-the-counter medications? If YES, list names and dosages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Did you know?

Some medications may cause problems for the baby's development when taken during pregnancy. This includes prescription and over-the-counter medicines, some dietary supplements and other drugs. It is important to review your medication before becoming pregnant.

	YES	NO	UNCERTAIN
INFECTIOUS DISEASE AND REPRODUCTIVE HISTORY			
Do you or your partner have a history of, or are you at risk of infectious diseases? (such as sexually transmitted, or from contact with blood): If YES, please describe:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have a history of pregnancy-related problems? (such as two or more miscarriages, or very low birth weight babies?) If YES, please describe:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Did you know?

Infectious diseases can be transferred from mother to baby, and may cause problems in fetal development. If you have a history of pregnancy-related problems, there are ways to have your future risk assessed that may help to reduce the likelihood of these problems occurring again.

What to do next

Your practice nurse can arrange screening for many infectious diseases and provide advice on how to avoid risks prior to pregnancy. Your practice nurse can also provide personalised assessment and counselling to reduce the likelihood of repeat pregnancy-related complications.

DRAFT FOR DISCUSSION (Exploratory phase)

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	YES	NO	UNCERTAIN
FETAL EXPOSURE			
Do you or your partner:			
use lead or chemicals at home or work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, list the chemicals if you know what they are:			
work with radiation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
own or work with cats?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Did you know?

Some substances and chemicals, for example, solvents, paints, cleaners and pesticides can cause birth defects or increase the risk of miscarriage. Contact with cat litter trays is also associated with risk of toxoplasmosis, which can cause a number of congenital health problems for the baby.

What to do next

Minimise your exposure to these substances. Your practice nurse can provide you with more information about environmental hazards and planning for pregnancy.

Peer review only



Opportunities and challenges for enhancing preconception health in primary care: Qualitative study with women from ethnically diverse communities

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7 **Opportunities and challenges for enhancing preconception health in primary**
8 **care: Qualitative study with women from ethnically diverse communities**
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ABSTRACT

Objective: There is growing interest in developing and offering more systematic preconception health care. However it is unclear how this might be regarded by ethnically diverse communities at higher risk of poor maternal and child health outcomes. We sought to explore perceptions about preconception health and care among women from these communities to identify opportunities and challenges for intervention development in primary care.

Design: Qualitative study using focus groups and semi-structured interviews.

Setting: Ethnically diverse and socially disadvantaged community settings of the UK.

Participants: Forty-one women aged 18-45, of Pakistani, Indian, Caribbean, African, White and mixed ethnic origin, participating in nine focus groups, half of whom (n=19) had one to one follow up telephone interviews.

Results: Women had modest or poor awareness of preconception health issues. They perceived these could be addressed in primary care, particularly if raised within a range of clinically 'relevant' consultations, such as for contraception, or when opportune for individuals in their social context. However challenges for engaging women in preconception care more routinely were underlined. These included little prevailing culture of preparing for pregnancy and the realities of their pregnancies often being unplanned; and, for those planning pregnancy, sensitivity and maintaining secrecy when trying to conceive. A preference for female professionals, engaging men, and enhancing access for younger people or women less disposed to general practice, in educational and other settings were highlighted.

Conclusions: Raising preconception health when this has heightened clinical or social resonance for women may hold promise for initiating more systematic intervention. In primary care this could offer greater potential to directly engage those with low awareness or not considering pregnancy, while enlarging opportunity for others who may be seeking to conceive. Promoting 'preparation for pregnancy' more widely might form part of health care and education over the life course. Further intervention development research exploring these possibilities, including their feasibility and acceptability is needed.

ARTICLE SUMMARY

Article focus

- Implementing more routine and comprehensive preconception health care offers major opportunity to improve maternal and child health outcomes.
- There is a lack of qualitative evidence from minority communities who might form priorities for targeting.
- This study explored perceptions of women from diverse ethnic backgrounds about preconception health to inform preconception care development in primary care.

Key messages

- In the absence of a culture of preparing for pregnancy, raising preconception health when this has heightened clinical or social relevance for women may hold promise for initiating more systematic intervention.
- This could include when attending for contraception, difficulty conceiving, treatment or disease review, or other routine health promotion, and use ongoing knowledge of patients' social and cultural contexts.
- In primary care this could overcome some challenges women identify by offering potential to directly engage those with low awareness or not considering pregnancy, while advancing opportunity for intervention with women who may be trying to conceive but have yet to share this with others.

Strength and limitations

- Data were generated with women mostly familiar with each other, reducing artificiality of discussions, and by researchers of gender, and diverse ethnic, faith and language backgrounds shared with participants.
- Data and analysis from group interactions were complemented by one to one interviews, and helped refine and validate findings.
- While participants had relevant experiences as mothers, or women of reproductive age, they were considering broader preconception care that is not currently routine health care practice.

INTRODUCTION

Preconception care involves health promotion to identify and reduce risk factors that might affect future maternal, child and family health.[1-3] Effective preconception care is likely to involve a range of therapeutic (e.g. immunisation) and behavioural (e.g. smoking cessation) interventions. While relevant to all those of reproductive age, successfully engaging those at highest risk could help reduce social and ethnic disparities in maternal and child health, and in pregnancy outcomes such as low birth weight and infant mortality. For example, compared to the wider population, still birth, perinatal and infant mortality rates are significantly higher for mothers of African-Caribbean, South Asian and socially deprived backgrounds in the UK.[4] Explanations for such variations are poorly understood, involving interplay of disadvantage, physiological, behavioural and cultural factors.

Whilst there are NICE guidelines outlining specific aspects of preconception care for women with diabetes and for obese women,[5 6] there are no national guidelines for preconception care aimed at the general population in the UK. Preconception care is normally encouraged informally[7] and typically offered opportunistically by GPs and others, for example with advice on folic acid use.[8] Interventions for single risk factors such as folic acid deficiency and alcohol misuse are known to work,[9 10] some having a robust evidence-base for cost-effectiveness in improving health outcomes[11]. However, people often have several health and social risk factors impacting major outcomes such as still birth. Globally, there is increasing interest in offering more comprehensive interventions that address individuals' often multiple risks in 'real life', such as obesity, smoking or lack of rubella immunity,[12-15] although it is not yet established if a more holistic approach can realise the benefits anticipated from single component interventions.

Existing approaches to assessing preconception health more systematically typically involve self-completed questionnaire and health professional review.[16-18] None have been tested in UK primary care, but limited experience of using them, mainly from the US and Netherlands[16 17 19] suggest their promise. These approaches have potential to increase women's knowledge

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3 and enable behaviour change, without inducing harm or anxiety.[12 20 21] In these countries,
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5 recommendations now advocate primary care delivery of preconception care.[1 3]
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8 While largely supported by professionals,[8 22 23] evidence about whether women really want
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10 more preconception care is mixed,[22-25] and its successful implementation in routine health
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12 practice has yet to occur. The high number of unplanned pregnancies among women in most
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14 countries (approximately 50% of pregnancies in the UK)[26] and lack of knowledge about the
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16 aim of preconception counselling[27] are identified barriers for delivery of preconception care.
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18 Women who desire it may prefer to receive this in primary care.[21 24 28 29] However there is
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20 a paucity of relevant qualitative evidence, particularly from minority ethnic communities who
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22 might form priorities for targeting. In this study, we explored perceptions about preconception
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24 health and care among women from diverse ethnic backgrounds. We wished to identify
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26 opportunities and challenges for preconception care in primary care in the UK to inform
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28 intervention development and implementation.

29 30 **METHODS**

31 32 **Data generation**

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34 We recruited and purposefully sampled from pre-existing social groups of women of
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36 reproductive age (18-45), such as parent and toddler and faith based groups, in ethnically
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38 diverse and deprived inner city and rural localities of the Midlands, with Indices of Multiple
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40 Deprivation in the lowest quintile (most deprived 20%) for the UK.[30] These 'naturally
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42 occurring' groups were chosen given health issues may be routinely discussed and shared by
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44 women more familiar with each other. We aimed to involve women of Pakistani, Indian, African
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46 Caribbean, and White origin. Community based groups were approached either directly by the
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48 researchers or indirectly via a prior contact associated with the group and were provided with
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50 information about the study. The explained purpose was to find out what women aged 18-45
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52 think about "preconception health", defined as "a woman's health before pregnancy".
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54 Recruitment within groups occurred face-to-face by study researchers or with the help of key
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56 contacts. Study information included a consent form and was translated where appropriate.
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3 Audio-recorded focus groups were convened at a location and time convenient to participants
4 and each facilitated by two of three field researchers (HT, MB, LCB), all of who were women,
5 including from Muslim and Punjabi/Urdu speaking Sikh backgrounds, with one moderating the
6 discussion and the other taking notes. Prior to the group discussions, participants completed
7 consent forms and a brief demographic questionnaire. A topic guide was developed from
8 literature review and two pilot group discussions with GPs and practice nurses, to include:
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- 14 • Previous experience of preconception health advice;
- 15 • Awareness of, and attitudes towards preconception health;
- 16 • Views on when and how preconception care might occur;
- 17 • Showing women areas of preconception health assessment (PHA) such as lifestyle,
18 medical/family history, infectious disease and foetal exposure on a draft
19 questionnaire[16 18 19] (see Appendix 1)
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28 Participants were encouraged to freely discuss their experiences and views, with exploration
29 evolving to accommodate emerging themes in the groups. The PHA questionnaire was
30 introduced half way through the focus groups, preceded by explanation of the purpose of the
31 form and assessment. Participants were invited to fill in the PHA questionnaire at home. All
32 women from the groups were invited to participate in follow up semi-structured one to one
33 telephone interviews, and those who wished to do so were interviewed. These were
34 undertaken to consider themes from the group or areas the individual may not have
35 contributed to during earlier group discussion, for example because of shyness or being
36 inhibited by the group context. Views on how they found completing the questionnaire were
37 also invited (these are not reported here).
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47 **Data analysis**

48 We analyzed data from focus groups and telephone interviews using qualitative research
49 principles.[31] Group discussions were transcribed verbatim, and telephone interviews
50 summarised for pertinent themes. All transcripts were checked against the recording for
51 accuracy, with one group involving spoken Punjabi transcribed and translated by an
52 independent translation service, and rechecked against the original recording by a bilingual
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3 researcher for accuracy of translation and equivalence of meaning. Three researchers
4 generating data reviewed all transcripts independently, identifying initial concepts and themes
5 guiding the direction of succeeding interviews until no themes were emerging. Data
6 management and sorting were assisted by NVivo 9 (QSR) software, and a coding scheme was
7 developed drawing on a priori and emergent themes. Data were analysed using thematic
8 analysis and constant comparison, and the focus of analysis was both the individual and the
9 group.[32] Emerging themes were agreed jointly in parallel discussions with the wider clinical
10 research team. In the following, participants are identified with a code: e.g. 5/P3 indicates
11 participant (P) number three in group five; Group 5/5 denotes that group five had five
12 participants.

23 RESULTS

24 Ultimately, 41 women participated in nine focus groups, lasting about 90 minutes each, and
25 half of these women (19) took part in one to one semi-structured telephone interviews one to
26 two months later, lasting about 30 minutes each. Most groups were pre-existing social groups
27 (parent and toddler, community or faith centre based, workplace, extended family), though in
28 three not every participant knew each other beforehand. They included those who identified
29 themselves as predominantly African Caribbean or of mixed ethnicity (three groups with two,
30 five and eight participants, respectively), Pakistani Muslim (two groups with five and four
31 participants, respectively), Indian Punjabi-Sikh (one group with five participants, with discussion
32 occurring in English and Punjabi, and co-facilitation by Punjabi speaking researcher) and 'White'
33 (three groups with three, four and five participants, respectively). The largely, although not
34 exclusively, homogenous nature of the groups reflected the pre-existing social groups
35 approached and also the locality. For example, two of the groups with 'White' participants were
36 from rural county locations. Most women had left formal education at school level, and about
37 half were existing mothers. Sample characteristics are summarised in Table 1.

Table 1 Participant characteristics		Focus groups	Telephone interviews
Number of participants		41	19
Age	18*-25	18	10
	26-35	15	5
	36-45	8	4
Ethnicity (Self-defined)	South Asian	14	6
	<i>Pakistani (8)</i>		(3)
	<i>Indian (6)</i>		(3)
	African Caribbean	11	3
	<i>Caribbean (5)</i>		(3)
	<i>Black/African/Caribbean (2)</i>		
	<i>African (1)</i>		
	<i>Other Black/African (3)</i>		
	White	11	8
	Mixed	5	2
	<i>White & Asian (2)</i>		(1)
<i>White & Black African (1)</i>		(1)	
<i>Other mixed (2)</i>			
Highest formal education	GCSE** or equivalent (<16yr)	8	3
	A level*** or equivalent (<18yr)	22	12
	Higher education beyond school level	8	3
	Educated outside UK	1	
	Not indicated	2	1
Pregnant		2	
Mothers (total number of children)		23 (40)	14 (22)

* One woman reported she was aged 17 after group participation: data from this participant not reported.

** General Certificate of Secondary Education

*** General Certificate of Education Advanced Level

Preconception health awareness and attitudes

With the exception of avoiding smoking, alcohol and illicit drugs, women's awareness of preconception health was modest or poor. Beyond this, there was little evidence of any received wisdom or prevailing culture of 'preparing for pregnancy'. Rather, many thought a

range of risks were relevant *during* rather than before pregnancy. For example, they didn't see the need to check immunisation status, medication or family history, rule out infectious disease, or take folic acid prior to conception. Younger women were perceived to be less aware of these issues:

I don't think it would have crossed our mind to, sort of, 'hang on we need to read this' [information on preconception health] we were young we didn't really care much or think about children. (5/P3: 26-35, White ethnicity, 2 children)

While some attitudes towards certain health risks reflected the cultural or ethnic background of the participants ("*Nobody smokes in the Asian community, so that wouldn't really be an issue.*" **2/P1**: 26-35, Pakistani), it was apparent that women of similar ethnic backgrounds had diverse attitudes as well as practices.

Some women had doubts about the value of reviewing certain health risks, and concerns about causing anxiety unnecessarily (Box 1).

Box 1 Concerns regarding preconception health review

5/P2 *Some things are important but then some things are just a bit*

5/P4 *Over the top.*

5/P2 *Nanny state, you know, making people paranoid and worried and*

5/P3 *What are the infectious diseases before you're pregnant?*

5/P1 *Infectious diseases full stop probably but, yeah.*

5/P3 *The Government trying to frighten us again. (...)*

5/P2 *Sometimes yeah it gets to the point where you just think, oh*

5/P1 *Well then it feels a bit like there's too many, then it's like oh forget it. (...) And I think that's why you remember smoking and alcohol because they're sort of drummed home yeah and you just think oh forget it, it'll be alright. (5/P4 & 5/P3: Yeah)*

5/P2 *We're still here today, people have been having kids and babies for thousands and thousands of years without all this.*

(Group 5/5: 18-35, White ethnicity, all mothers)

However, women appreciated the prospect of being better informed, especially if information was relevant to them as individuals. Some saw the potential of a preconception health

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3 assessment (PHA) questionnaire to raise awareness about preconception health, and others
4 highlighted differences in concerns and information needs according to locality:
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8 *(...) if you were thinking of having a baby and you saw that women's preconception*
9 *health [questionnaire] (...) you'd at least have access to some information (...) to think*
10 *about. (4/P4: 26-35, White ethnicity, 2 children)*
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14 *I'm planning to have another one next summer and I'll need help quitting smoking, I*
15 *know I've got to do that. And I've got to find out about what all that palaver is with*
16 *lambs. I don't understand the lambs. (5/P2: 26-35, White ethnicity, 1 child, rural setting)*
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20 Women without children, or with only one child, appeared more attracted to the idea of
21 preconception care. Mothers with more children spoke of the experience of previous successful
22 pregnancies and also of having less time to consider their own health, fill in health assessment
23 forms, or go to appointments with their GP. While existing mothers seemed slightly better
24 informed about preconception health risks, some wished they had been more aware of them
25 prior to their first pregnancy, and had them addressed, including those with significant risks
26 such as lack of rubella immunity:
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34 *I think it would have helped me with the rubella because even though my pregnancy was*
35 *planned and I'd been to see my GP, they never picked up on that I was needing it (...) so I*
36 *went my whole pregnancy worrying that I was going to get it. (4/P2: 18-25, White*
37 *ethnicity, 1 child)*
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42 *(...) when I (...) went to see a family planning nurse, I wish that I had come out hearing*
43 *'folic acid' and 'get fit', because it's just impossible afterwards and I don't think anybody*
44 *tells you about (...) how much your body's going to stretch (...). (4/P4: 26-35, White*
45 *ethnicity, 2 children)*
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51 **Preconception health opportunities in primary care**

52 Women were generally positive about the prospect of greater preconception care from their
53 GP or practice nurse, speaking of continuity of positive relationships, including familiarity,
54 respect and trust in their practices. They discussed when preconception health might be
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appropriately raised, from their perspective, in general practice. This included consultations for contraception, infertility or difficulty conceiving, cervical smears, disease or treatment review, and other health checks. While more general invitations from their practice were not suggested, some women were comfortable with being approached opportunistically with preconception health information at other times. They supported a more proactive approach tailored to knowledge of an individual's circumstances and social or cultural context. Women of South Asian background, for example, indicated their pregnancies may not be strictly "planned" but there was a heightened cultural expectation of pregnancy after marriage that might present opportunity to introduce preconception health (Box 2).

Box 2 Opportunities to consider preconception health in general practice

5/P1 *You could do when you're going for contraception, that's good actually, that would be a good way*

5/P2 *Most girls do go, don't they.*

5/P4 *They do want to go because they don't want to get pregnant do they, so yeah.*

(Group 5/5: 18-35, White ethnicity, all mothers)

Maybe if ... they are trying to have a baby for months and they realise they have to check ... if they have any problems, I think at that point you should fill in a form [PHA questionnaire] like this.

(3/P3: 18-25, African ethnicity, 1 child)

It could be an option maybe if you go for your smear check-up, if you're given it then, in case you can fill it out then or you can post it back so then it's done at that time whether you think about it or not (...).

(8/P5: 26-35, Black/African/Caribbean ethnicity)

I think if GPs were to have these [PHA questionnaires] and could hand them out as and when, I don't think they should wait either to be approached by someone for it, it should automatically be offered.

(4/P1: 18-25, White ethnicity, 1 child)

We go to doctors when we're ill, but actually what advice we are getting from the doctors about how we potentially prevent other illnesses or other things that maybe happening to us? (...) I think a bit of planning through your general practitioner may actually help you long term kind of thing.

(9/P6: 36-45, Caribbean ethnicity)

1/P1 *Well I mean the GP would know if you're married or single or whatever (...) If the GP said to me 'would you mind filling in this, you know for when you are ready to start a family?' I'd say 'yeah, no problem.' (...)*

1/P4 *(...) because we are thinking about our culture, if you are married then obviously you're going to be having babies. So maybe (...) let's get her to fill in this form... That would be a good idea.*

(Group 1/5: 26-45, Indian ethnicity, all mothers)

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Some women, mainly those of South Asian background, were clear they would prefer talking about preconception health issues with female health professionals:

2/P3 No, it would have to be a female GP or a practice nurse, it wouldn't be a male GP.

2/P4 It wouldn't. And that's not even to do with only – I don't think even my religious beliefs would come into it – it's just me personally. (Group 2/5: 26-35, Pakistani & Indian ethnicity, no children, 1 pregnant)

But then I think, at the same time, if I was planning on having a child, I would probably feel a little uncomfortable speaking to a man. (6/P3: 18-25, Pakistani ethnicity)

In addition, several younger participants had experience of doctors as unapproachable or being difficult to relate to. Family doctors were seen as problematic with fear that confidential information may be passed on to other members of the family:

Because my GP is my family's doctor and you must hear that all the time because I knew when my cousins needed injections for our holiday and they knew, do you know what I mean, he's that type of doctor, where we all knew everyone's business! [laughter] Which he's not supposed to do but yeah, it's part of life. (8/P4: 18-25, Caribbean ethnicity, 1 child)

No but then also with my experience, that I know lots of those girls are smokers but when they have appointment with their midwife, in their record they says I don't smoke, yeah? (...) and a lot of them don't tell their GPs either that they smoke (...). In the past, the reason people lost trust in their GPs or some other professionals (...) information did leak out and it did go back to the parents. (6/P1: 36-45, Pakistani ethnicity, 2 children)

In these contexts, some women advocated opportunities for preconception health information be more widely available in the community, in particular in schools and sexual health or 'family planning' clinics. Some saw the latter primary care settings as more welcoming than general practices, where it was routinely easier to see female staff and remain anonymous. Many women knew teenage mothers with unhealthy lifestyles, and felt their learning about health promotion at school might be improved to include positive relevance to preconception health:

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Yeah, as soon as they start sex education, if it's any good. Because it will start making them think, as well, that this is about a baby. Rather than, because a lot of people in their teens get pregnant, they don't plan their pregnancy, but if they know everything about pregnancy they might consider it more as well. (3/P2: 18-25, White ethnicity, 1 child)

So perhaps if it went in the younger age and we were talking more about growing (...) how plants grow, you know, how human beings grow and what we need to keep us healthy and something that's (...) altered all the way through each key stage, you know, age appropriate, but something that's just there from the very beginning on the curriculum. (7/P1: 36-45, White/Black African ethnicity, 1 child)

Challenges for promoting preconception care

Women highlighted their common experience of pregnancies being unplanned and that thinking about their health and lifestyle only arose after conception (Box 3). They perceived 'preconception health' would feel similarly abstract to others, and not appear relevant in women's day to day lives. No respondents had experienced broader preconception assessment or care from any health professional. Only a few mothers had actively sought preconception information or advice from their GP, prompted by fertility concerns or in order to receive a prescription for folic acid (i.e. at no cost if eligible for free prescription).

Box 3 Relevant only after conception

I was 19, my daughter wasn't planned (...) so I never thought of discussing anything like this. I was just like OK I'm pregnant, oh!

(5/P3: 26-35, White ethnicity, 2 children)

I don't think I've ever known anyone that's really said 'right, I'm going to have a baby now, this is what I'm going to go and do,' it's always kind of happened 'whoops, but I'm OK with it!'

(8/P2: 26-35, Caribbean ethnicity)

The majority of people - honestly, I'm not joking [laughter] - are unaware of these things (...). Honestly, if they were trying to get pregnant they wouldn't even think about these things. Really, lack of education or lack of knowledge or whatever it is, they wouldn't. (...) If I was married and if I was trying for a baby I wouldn't bloody think of any of those.

(2/P2: 26-35, Indian ethnicity)

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6 For some mothers who had 'planned' their pregnancies, the phase between active planning and
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8 conception was indistinct, for example because they had conceived sooner than expected,
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10 affecting their ability to communicate their plans to others prior to pregnancy. In particular,
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12 women spoke of the sometimes sensitive or secretive period between planning pregnancy and
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14 actual conception, affecting their willingness to tell others about their plans, including health
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16 professionals, and thus the open consideration of preconception health (Box 4).
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18 19 **Box 4 Difficulty being open about pregnancy planning**

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21 *And also, like if you're planning, you do not want anybody, everybody else to know that you're planning,*
22 *because that's a lot of pressure on you.*

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24 (8/P5: 26-35, Black/African/Caribbean ethnicity)

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26 *I wouldn't go to a GP, family or friends [for preconception health advice]. (...) I wouldn't feel comfortable*
27 *going to anybody.*

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29 (2/P2: 26-35, Indian ethnicity)

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31 *I don't think I would have spoken to anyone about these issues if I was trying to conceive. (...) I'd just*
32 *thought that it's just one of those things that 'if it's going to happen, it's going to happen'.*

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34 (2/P5: 26-35, Pakistani ethnicity)

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37 Women of South Asian background highlighted that stigma associated with infertility was a
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39 further reason for keeping pregnancy plans secret. Faith, or fatalism, was sometimes
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41 mentioned as an important reason for not approaching health care professionals even if
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43 experiencing fertility problems.
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45 46 **Preconception health as part of wider health promotion**

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48 The possibilities for addressing preconception health as part of wider health promotion arose in
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50 some group discussions, with the terms 'women's health' or 'pre-pregnancy health' suggested
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52 as alternatives. They felt preconception health could be promoted more routinely in a positive
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54 way as relevant to women not immediately planning pregnancy, particularly as some
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56 communities may sanction 'conception' only in marriage:
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3 *It's the way that you frame it as well, I think if you frame it as it's another smear test*
4 *health screening check-up thing, but (...) I know we're going just on women, because*
5 *that's the way I see it, but being able to bear children is such a blessing, it like makes us*
6 *like miracle people (...). (6/P2: 26-35, Pakistani ethnicity)*

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11 This resonated with other women's suggestions to introduce preconception health in to health
12 promotion offered to women when they reach reproductive age enabling "free guidance and
13 advice" (4/P4) and assurance that "you're OK and everything's still going tickety boo" (5/P3):

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18 *(...) maybe there should be a routine health check that just every person who reaches a*
19 *certain age (...) I don't know 16/17, I know some people it might miss, still, that's a*
20 *general health thing but incorporates that [preconception health questionnaire] if that*
21 *becomes appropriate. (...) it could be women's health assessment, couldn't it? (4/P4:*
22 *26-35, White ethnicity, 2 children)*

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28 Women felt that consideration of 'preconception health' should encompass men more directly.
29 They recognised preconception issues were "applicable to them as well" (7/P1) and "their
30 health [being] just as important" (6/P1). For example they raised the relevance of their
31 partners' history, and that in some communities health behaviours such as alcohol
32 consumption or smoking, could be more directly relevant to men than women, presenting
33 opportunities to engage men more (Box 5).
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40 41 **Box 5 Preconception health relevant for men as well**

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43 **2/P2** *My husband does drink occasionally and he's not very healthy and ... he's got problems*
44 *with a history, like his dad's side and his mum's - of illnesses. I think maybe on his side we would*
45 *think about these things but not on mine. Folic acid, that's the woman only, but certain things -*
46 *the men would probably be more.... in our culture, anyway. Because the men drink alcohol, and*
47 *they are the ones that - if they were to smoke - it's more likely to be the men.*

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49 **2/P5** *Generally, when we think about conceiving, we think about ourselves, we don't think*
50 *about...*

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52 **2/P4** *(...) I think the men are very isolated in the whole aftermath, kind of thing (...) Once you've*
53 *fallen pregnant it's just more about you and the baby.*

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55 **(Group2/5: 26-35, Pakistani (Muslim) and Indian (Sikh) ethnicity, one pregnant)**

DISCUSSION

Summary

Women in this study had limited awareness of preconception health but perceived offering preconception care more routinely in general practice as appropriate, particularly if raised within a range of clinically 'relevant' consultations or when opportune for individuals in their social context. However there were challenges for engaging women in preconception care more routinely: lack of a prevailing culture of 'preparing for pregnancy', the realities of pregnancies often being unplanned, and, for those planning pregnancy, of sensitivity and secrecy about trying to conceive. Enhancing access in other settings, including for younger people and women less disposed to seeing their GP or male practitioners, education in schools, and for men, were suggested as part of integration with wider health promotion.

Strengths and limitations

This study offers a first qualitative exploration of perceptions about preconception health among those from ethnically diverse and socially deprived communities, including those at higher risk of poor maternal and child health outcomes in the UK. The findings may not be typical of other women, and must be interpreted with regard to the sample described. However the study benefits from data generated with women mostly familiar with each other, potentially reducing artificiality of discussions, and by researchers of gender, and diverse ethnic, faith and language backgrounds shared with participants.[33] Some groups were smaller than intended, with fewer women than arranged able to attend, which may have reduced variety of input, but not depth of discussions. These were included as participants had convened, and still enabled relevant data to be obtained from 'hard to reach' community contexts. Data from group interaction were further complemented by one to one interviews, enabled participants to express themselves without potential constraints of the group, and helped refine and validate findings.[34]

While participants had relevant experiences as mothers or women of reproductive age, we recognise they were considering broader preconception care that is not currently routine.

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3 Although we included women who had been pregnant as teenagers, study ethics approval
4 limited inclusion to those aged over 18, and further research with younger teenagers, and the
5 perspectives of men on preconception health are still needed.
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9 10 **Comparison with existing literature**

11 This study adds to limited existing evidence in the UK from a survey with a better educated
12 sample in London with 40% of women reporting interest in preconception care in general
13 practice.[22] Women in the current study took a broader perspective on when this might occur
14 and be appropriate, highlighting particular opportunities and challenges for engaging women.
15 Work in other countries, some with disadvantaged populations,[14 35-37] has similarly found
16 women may have some awareness of, and similar attitudes towards, optimising health prior to
17 conception, but have gaps in knowledge about maternal and foetal health risks.[35 38] For
18 example, even though few women fully comply with pre-pregnancy messages,[10 25 39] most
19 studies report awareness of the need to avoid smoking, alcohol and drugs during pregnancy,
20 which corresponds with our results.
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31 Our respondents highlighted pregnancies being 'unplanned', and not thinking about
32 preconception health or lifestyle unless already pregnant, as problematic for anticipating and
33 being receptive to preconception care. Similar challenges have been recognised in the USA and
34 Australia,[25 35 38] and by health professionals.[8] In addition, women who already have
35 children may perceive they know enough for preconception care to be less necessary,[25] and
36 this was echoed by mothers in the current study.
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43 Our findings suggest that even if pregnancy is 'planned', discussing or seeking preconception
44 care may be hampered by women's ability and willingness to be open about their aspirations or
45 plans with others, including health professionals.[40] This may be compounded by stigma
46 associated with infertility[41] and this was highlighted by women in our sample. Cultural or
47 religious taboos surrounding pre-marital relationships[42] may potentially deter some women.
48 However, it is important to recognise the same cultural importance attached to fertility and
49 family health after marriage was referred to in this study as a positive opportunity to facilitate
50 greater engagement with preconception health for individuals.
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3 Women elsewhere have also felt preconception health should be promoted more in ‘family
4 planning clinics’,[43] though this may not appeal to others.[42] Improving younger people’s
5 awareness and knowledge about preconception health during their education, as suggested by
6 women here, forms part of guidance and some school curricula in the USA.[1]
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10 11 **Conclusions and implications for practice**

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14 This study highlights challenges but also opportunities for preconception health promotion. The
15 relatively positive attitudes found here may not equate to actual engagement. However this
16 study suggests raising preconception health more proactively may most promisingly occur
17 when this assumes heightened individual relevance for women. This could include clinical
18 contexts such as when attending for contraception, difficulty conceiving, treatment or disease
19 review, or as part of other routine health promotion such as cervical screening. Informational
20 aids such as preconception health questionnaire may help at these times. Primary care
21 practitioners may be well placed to capitalise on these opportunities given ongoing knowledge
22 not only of patients’ medical histories and health care but also of their social and cultural
23 contexts, such as new relationships.
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34 Initiating the offer of preconception health intervention at these points also speaks to the
35 challenges women identify. Firstly, and arguably of particular importance for those from more
36 deprived backgrounds, it has potential to engage those with low awareness or not considering
37 or planning pregnancy. This group may be less receptive to more conventional health
38 promotion invitation, for example, if offered routinely to all women of reproductive age.
39 Secondly, it may advance opportunity to offer intervention to women who may be trying to
40 conceive, but have yet to share this with others. Given time constraints in health encounters,
41 initial offers could be followed by more dedicated preconception health review, for example
42 with nurse practitioners.
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52 Facilitating a culture of ‘preparing for pregnancy’ as part of life, and making preconception care
53 more attractive to women and their partners, even if they are not planning pregnancy, requires
54 further social marketing.[44] In addition to primary care, parallel approaches to raising
55 awareness of preconception health might use differing windows of opportunity, as part of
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3 health care and education over the life course, in wider settings. Further intervention
4 development research and evaluation, [45] exploring this range of possibilities, including
5 feasibility and acceptability with those implementing them is needed.
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19

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22 LCB, MB and HT led data collection; HT led data analysis, developed with the study team; NQ
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25
26

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31

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34

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40 *DATA SHARING*

41 No additional data available.
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7 **Opportunities and challenges for enhancing preconception health in primary**
8 **care: Qualitative study with women from ethnically diverse communities**
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ABSTRACT

Objective: There is growing interest in developing and offering more systematic preconception health care. However it is unclear how this might be regarded by ethnically diverse communities at higher risk of poor maternal and child health outcomes. We sought to explore perceptions about preconception health and care among women from these communities to identify opportunities and challenges for intervention development in primary care.

Design: Qualitative study using focus groups and semi-structured interviews.

Setting: Ethnically diverse and socially disadvantaged community settings of the UK.

Participants: Forty-one women aged 18-45, of Pakistani, Indian, Caribbean, African, White and mixed ethnic origin, participating in nine focus groups, half of whom (n=19) had one to one follow up telephone interviews.

Results: Women had modest or poor awareness of preconception health issues. They perceived these could be addressed in primary care, particularly if raised within a range of clinically 'relevant' consultations, such as for contraception, or when opportune for individuals in their social context. However challenges for engaging women in preconception care more routinely were underlined. These included little prevailing culture of preparing for pregnancy and the realities of their pregnancies often being unplanned; and, for those planning pregnancy, sensitivity and maintaining secrecy when trying to conceive. A preference for female professionals, engaging men, and enhancing access for younger people or women less disposed to general practice, in educational and other settings were highlighted.

Conclusions: Raising preconception health when this has heightened clinical or social resonance for women may hold promise for initiating more systematic intervention. In primary care this could offer greater potential to directly engage those with low awareness or not considering pregnancy, while enlarging opportunity for others who may be seeking to conceive. Promoting 'preparation for pregnancy' more widely might form part of health care and education over the life course. Further intervention development research exploring these possibilities, including their feasibility and acceptability is needed.

ARTICLE SUMMARY

Article focus

- Implementing more routine and comprehensive preconception health care offers major opportunity to improve maternal and child health outcomes.
- There is a lack of qualitative evidence from minority communities who might form priorities for targeting.
- This study explored perceptions of women from diverse ethnic backgrounds about preconception health to inform preconception care development in primary care.

Key messages

- In the absence of a culture of preparing for pregnancy, raising preconception health when this has heightened clinical or social relevance for women may hold promise for initiating more systematic intervention.
- This could include when attending for contraception, difficulty conceiving, treatment or disease review, or other routine health promotion, and use ongoing knowledge of patients' social and cultural contexts.
- In primary care this could overcome some challenges women identify by offering potential to directly engage those with low awareness or not considering pregnancy, while advancing opportunity for intervention with women who may be trying to conceive but have yet to share this with others.

Strength and limitations

- Data were generated with women mostly familiar with each other, reducing artificiality of discussions, and by researchers of gender, and diverse ethnic, faith and language backgrounds shared with participants.
- Data and analysis from group interactions were complemented by one to one interviews, and helped refine and validate findings.
- While participants had relevant experiences as mothers, or women of reproductive age, they were considering broader preconception care that is not currently routine health care practice.

INTRODUCTION

Preconception care involves health promotion to identify and reduce risk factors that might affect future maternal, child and family health.[1-3] Effective preconception care is likely to involve a range of therapeutic (e.g. immunisation) and behavioural (e.g. smoking cessation) interventions. While relevant to all those of reproductive age, successfully engaging those at highest risk could help reduce social and ethnic disparities in maternal and child health, and in pregnancy outcomes such as low birth weight and infant mortality. For example, compared to the wider population, still birth, perinatal and infant mortality rates are significantly higher for mothers of African-Caribbean, South Asian and socially deprived backgrounds in the UK.[4] Explanations for such variations are poorly understood, involving interplay of disadvantage, physiological, behavioural and cultural factors.

Whilst there are NICE guidelines outlining specific aspects of preconception care for women with diabetes and for obese women,[5 6] there are no national guidelines for preconception care aimed at the general population in the UK. Preconception care is normally encouraged informally[7] and typically offered opportunistically by GPs and others, for example with advice on folic acid use.[8] Interventions for single risk factors such as folic acid deficiency and alcohol misuse are known to work,[9 10] some having a robust evidence-base for cost-effectiveness in improving health outcomes[11]. However, people often have several health and social risk factors impacting major outcomes such as still birth. Globally, there is increasing interest in offering more comprehensive interventions that address individuals' often multiple risks in 'real life', such as obesity, smoking or lack of rubella immunity,[12-15] although it is not yet established if a more holistic approach can realise the benefits anticipated from single component interventions.

Existing approaches to assessing preconception health more systematically typically involve self-completed questionnaire and health professional review.[16-18] None have been tested in UK primary care, but limited experience of using them, mainly from the US and Netherlands[16 17 19] suggest their promise. These approaches have potential to increase women's knowledge

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3 and enable behaviour change, without inducing harm or anxiety.[12 20 21] In these countries,
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5 recommendations now advocate primary care delivery of preconception care.[1 3]
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8 While largely supported by professionals,[8 22 23] evidence about whether women really want
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10 more preconception care is mixed,[22-25] and its successful implementation in routine health
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12 practice has yet to occur. The high number of unplanned pregnancies among women in most
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14 countries (approximately 50% of pregnancies in the UK)[26] and lack of knowledge about the
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16 aim of preconception counselling[27] are identified barriers for delivery of preconception care.
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18 Women who desire it may prefer to receive this in primary care.[21 24 28 29] However there is
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20 a paucity of relevant qualitative evidence, particularly from minority ethnic communities who
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22 might form priorities for targeting. In this study, we explored perceptions about preconception
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24 health and care among women from diverse ethnic backgrounds. We wished to identify
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26 opportunities and challenges for preconception care in primary care in the UK to inform
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28 intervention development and implementation.

29 30 **METHODS**

31 32 **Data generation**

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34 We recruited and purposefully sampled from pre-existing social groups of women of
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36 reproductive age (18-45), such as parent and toddler and faith based groups, in ethnically
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38 diverse and deprived inner city and rural localities of the Midlands, with Indices of Multiple
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40 Deprivation in the lowest quintile (most deprived 20%) for the UK.[30] These 'naturally
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42 occurring' groups were chosen given health issues may be routinely discussed and shared by
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44 women more familiar with each other. We aimed to involve women of Pakistani, Indian, African
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46 Caribbean, and White origin. Community based groups were approached either directly by the
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48 researchers or indirectly via a prior contact associated with the group and were provided with
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50 information about the study. The explained purpose was to find out what women aged 18-45
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52 think about "preconception health", defined as "a woman's health before pregnancy".
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54 Recruitment within groups occurred face-to-face by study researchers or with the help of key
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56 contacts. Study information included a consent form and was translated where appropriate.
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3 Audio-recorded focus groups were convened at a location and time convenient to participants
4 and each facilitated by two of three field researchers (HT, MB, LCB), all of who were women,
5 including from Muslim and Punjabi/Urdu speaking Sikh backgrounds, with one moderating the
6 discussion and the other taking notes. Prior to the group discussions, participants completed
7 consent forms and a brief demographic questionnaire. A topic guide was developed from
8 literature review and two pilot group discussions with GPs and practice nurses, to include:

- 9 • Previous experience of preconception health advice;
- 10 • Awareness of, and attitudes towards preconception health;
- 11 • Views on when and how preconception care might occur;
- 12 • Showing women areas of preconception health assessment (PHA) such as lifestyle,
13 medical/family history, infectious disease and foetal exposure on a draft
14 questionnaire[16 18 19] (see Appendix 1)

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28 Participants were encouraged to freely discuss their experiences and views, with exploration
29 evolving to accommodate emerging themes in the groups. The PHA questionnaire was
30 introduced half way through the focus groups, preceded by explanation of the purpose of the
31 form and assessment. Participants were invited to fill in the PHA questionnaire at home. All
32 women from the groups were invited to participate in follow up semi-structured one to one
33 telephone interviews, and those who wished to do so were interviewed. These were
34 undertaken to consider themes from the group or areas the individual may not have
35 contributed to during earlier group discussion, for example because of shyness or being
36 inhibited by the group context. Views on how they found completing the questionnaire were
37 also invited (these are not reported here).

38 39 40 41 42 43 44 45 46 47 **Data analysis**

48 We analyzed data from focus groups and telephone interviews using qualitative research
49 principles.[31] Group discussions were transcribed verbatim, and telephone interviews
50 summarised for pertinent themes. All transcripts were checked against the recording for
51 accuracy, with one group involving spoken Punjabi transcribed and translated by an
52 independent translation service, and rechecked against the original recording by a bilingual
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3 researcher for accuracy of translation and equivalence of meaning. Three researchers
4 generating data reviewed all transcripts independently, identifying initial concepts and themes
5 guiding the direction of succeeding interviews until no themes were emerging. Data
6 management and sorting were assisted by NVivo 9 (QSR) software, and a coding scheme was
7 developed drawing on a priori and emergent themes. Data were analysed using thematic
8 analysis and constant comparison, and the focus of analysis was both the individual and the
9 group.[32] Emerging themes were agreed jointly in parallel discussions with the wider clinical
10 research team. In the following, participants are identified with a code: e.g. 5/P3 indicates
11 participant (P) number three in group five; Group 5/5 denotes that group five had five
12 participants.

23 RESULTS

24 Ultimately, 41 women participated in nine focus groups, lasting about 90 minutes each, and
25 half of these women (19) took part in one to one semi-structured telephone interviews one to
26 two months later, lasting about 30 minutes each. Most groups were pre-existing social groups
27 (parent and toddler, community or faith centre based, workplace, extended family), though in
28 three not every participant knew each other beforehand. They included those who identified
29 themselves as predominantly African Caribbean or of mixed ethnicity (three groups with two,
30 five and eight participants, respectively), Pakistani Muslim (two groups with five and four
31 participants, respectively), Indian Punjabi-Sikh (one group with five participants, with discussion
32 occurring in English and Punjabi, and co-facilitation by Punjabi speaking researcher) and 'White'
33 (three groups with three, four and five participants, respectively). The largely, although not
34 exclusively, homogenous nature of the groups reflected the pre-existing social groups
35 approached and also the locality. For example, two of the groups with 'White' participants were
36 from rural county locations. Most women had left formal education at school level, and about
37 half were existing mothers. Sample characteristics are summarised in Table 1.

Table 1 Participant characteristics		Focus groups	Telephone interviews
Number of participants		41	19
Age	18*-25	18	10
	26-35	15	5
	36-45	8	4
Ethnicity (Self-defined)	South Asian	14	6
	<i>Pakistani</i> (8)		(3)
	<i>Indian</i> (6)		(3)
	African Caribbean	11	3
	<i>Caribbean</i> (5)		(3)
	<i>Black/African/Caribbean</i> (2)		
	<i>African</i> (1)		
	<i>Other Black/African</i> (3)		
	White	11	8
	Mixed	5	2
	<i>White & Asian</i> (2)		(1)
<i>White & Black African</i> (1)		(1)	
<i>Other mixed</i> (2)			
Highest formal education	GCSE** or equivalent (<16yr)	8	3
	A level*** or equivalent (<18yr)	22	12
	Higher education beyond school level	8	3
	Educated outside UK	1	
	Not indicated	2	1
Pregnant		2	
Mothers (total number of children)		23 (40)	14 (22)

* One woman reported she was aged 17 after group participation: data from this participant not reported.

** [General Certificate of Secondary Education](#)

*** [General Certificate of Education Advanced Level](#)

Preconception health awareness and attitudes

With the exception of avoiding smoking, alcohol and illicit drugs, women's awareness of preconception health was modest or poor. Beyond this, there was little evidence of any received wisdom or prevailing culture of 'preparing for pregnancy'. Rather, many thought a range of risks were relevant *during* rather than before pregnancy. For example, they didn't see the need to check immunisation status, medication or family history, rule out infectious

disease, or take folic acid prior to conception. Younger women were perceived to be less aware of these issues:

I don't think it would have crossed our mind to, sort of, 'hang on we need to read this' [information on preconception health] we were young we didn't really care much or think about children. (5/P3: 26-35, White ethnicity, 2 children)

While some attitudes towards certain health risks reflected the cultural or ethnic background of the participants ("*Nobody smokes in the Asian community, so that wouldn't really be an issue.*" **2/P1:** 26-35, Pakistani), it was apparent that women of similar ethnic backgrounds had diverse attitudes as well as practices.

Some women had doubts about the value of reviewing certain health risks, and concerns about causing anxiety unnecessarily (Box 1).

Box 1 Concerns regarding preconception health review

5/P2 *Some things are important but then some things are just a bit*

5/P4 *Over the top.*

5/P2 *Nanny state, you know, making people paranoid and worried and*

5/P3 *What are the infectious diseases before you're pregnant?*

5/P1 *Infectious diseases full stop probably but, yeah.*

5/P3 *The Government trying to frighten us again. (...)*

5/P2 *Sometimes yeah it gets to the point where you just think, oh*

5/P1 *Well then it feels a bit like there's too many, then it's like oh forget it. (...) And I think that's why you remember smoking and alcohol because they're sort of drummed home yeah and you just think oh forget it, it'll be alright. (5/P4 & 5/P3: Yeah)*

5/P2 *We're still here today, people have been having kids and babies for thousands and thousands of years without all this.*

(Group 5/5: 18-35, White ethnicity, all mothers)

However, women appreciated the prospect of being better informed, especially if information was relevant to them as individuals. Some saw the potential of a preconception health assessment (PHA) questionnaire to raise awareness about preconception health, and others highlighted differences in concerns and information needs according to locality:

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3 (...) if you were thinking of having a baby and you saw that women's preconception
4 health [questionnaire] (...) you'd at least have access to some information (...) to think
5 about. (4/P4: 26-35, White ethnicity, 2 children)
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9 I'm planning to have another one next summer and I'll need help quitting smoking, I
10 know I've got to do that. And I've got to find out about what all that palaver is with
11 lambs. I don't understand the lambs. (5/P2: 26-35, White ethnicity, 1 child, rural setting)
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16 Women without children, or with only one child, appeared more attracted to the idea of
17 preconception care. Mothers with more children spoke of the experience of previous successful
18 pregnancies and also of having less time to consider their own health, fill in health assessment
19 forms, or go to appointments with their GP. While existing mothers seemed slightly better
20 informed about preconception health risks, some wished they had been more aware of them
21 prior to their first pregnancy, and had them addressed, including those with significant risks
22 such as lack of rubella immunity:
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30 I think it would have helped me with the rubella because even though my pregnancy was
31 planned and I'd been to see my GP, they never picked up on that I was needing it (...) so I
32 went my whole pregnancy worrying that I was going to get it. (4/P2: 18-25, White
33 ethnicity, 1 child)
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38 (...) when I (...) went to see a family planning nurse, I wish that I had come out hearing
39 'folic acid' and 'get fit', because it's just impossible afterwards and I don't think anybody
40 tells you about (...) how much your body's going to stretch (...). (4/P4: 26-35, White
41 ethnicity, 2 children)
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46 **Preconception health opportunities in primary care**

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48 Women were generally positive about the prospect of greater preconception care from their
49 GP or practice nurse, speaking of continuity of positive relationships, including familiarity,
50 respect and trust in their practices. They discussed when preconception health might be
51 appropriately raised, from their perspective, in general practice. This included consultations for
52 contraception, infertility or difficulty conceiving, cervical smears, disease or treatment review,
53 and other health checks. While more general invitations from their practice were not
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suggested, some women were comfortable with being approached opportunistically with preconception health information at other times. They supported a more proactive approach tailored to knowledge of an individual's circumstances and social or cultural context. Women of South Asian background, for example, indicated their pregnancies may not be strictly "planned" but there was a heightened cultural expectation of pregnancy after marriage that might present opportunity to introduce preconception health (Box 2).

Box 2 Opportunities to consider preconception health in primary-care/general practice

5/P1 *You could do when you're going for contraception, that's good actually, that would be a good way*

5/P2 *Most girls do go, don't they.*

5/P4 *They do want to go because they don't want to get pregnant do they, so yeah.*

(**Group 5/5:** 18-35, White ethnicity, all mothers)

Maybe if ... they are trying to have a baby for months and they realise they have to check ... if they have any problems, I think at that point you should fill in a form [PHA questionnaire] like this.

(**3/P3:** 18-25, African ethnicity, 1 child)

It could be an option maybe if you go for your smear check-up, if you're given it then, in case you can fill it out then or you can post it back so then it's done at that time whether you think about it or not (...).

(**8/P5:** 26-35, Black/African/Caribbean ethnicity)

I think if GPs were to have these [PHA questionnaires] and could hand them out as and when, I don't think they should wait either to be approached by someone for it, it should automatically be offered.

(**4/P1:** 18-25, White ethnicity, 1 child)

We go to doctors when we're ill, but actually what advice we are getting from the doctors about how we potentially prevent other illnesses or other things that maybe happening to us? (...) I think a bit of planning through your general practitioner may actually help you long term kind of thing.

(**9/P6:** 36-45, Caribbean ethnicity)

1/P1 *Well I mean the GP would know if you're married or single or whatever (...) If the GP said to me 'would you mind filling in this, you know for when you are ready to start a family?' I'd say 'yeah, no problem.' (...)*

1/P4 *(...) because we are thinking about our culture, if you are married then obviously you're going to be having babies. So maybe (...) let's get her to fill in this form... That would be a good idea.*

(**Group 1/5:** 26-45, Indian ethnicity, all mothers)

Some women, mainly those of South Asian background, were clear they would prefer talking about preconception health issues with female health professionals:

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3 **2/P3** *No, it would have to be a female GP or a practice nurse, it wouldn't be a male GP.*

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6 **2/P4** *It wouldn't. And that's not even to do with only – I don't think even my religious*
7 *beliefs would come into it – it's just me personally. (Group 2/5: 26-35, Pakistani & Indian*
8 *ethnicity, no children, 1 pregnant)*

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13 *But then I think, at the same time, if I was planning on having a child, I would probably*
14 *feel a little uncomfortable speaking to a man. (6/P3: 18-25, Pakistani ethnicity)*

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17 ~~A further difficulty for several~~ In addition, several younger participants ~~was had~~ experience of
18 doctors as unapproachable or being difficult to relate to. Family doctors were seen as
19 problematic with fear that confidential information may be passed on to other members of the
20 family:
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25 *Because my GP is my family's doctor and you must hear that all the time because I knew*
26 *when my cousins needed injections for our holiday and they knew, do you know what I*
27 *mean, he's that type of doctor, where we all knew everyone's business! [laughter]*
28 *Which he's not supposed to do but yeah, it's part of life. (8/P4: 18-25, Caribbean*
29 *ethnicity, 1 child)*

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35 *No but then also with my experience, that I know lots of those girls are smokers but*
36 *when they have appointment with their midwife, in their record they says I don't smoke,*
37 *yeah? (...) and a lot of them don't tell their GPs either that they smoke (...). In the past,*
38 *the reason people lost trust in their GPs or some other professionals (...) information did*
39 *leak out and it did go back to the parents. (6/P1: 36-45, Pakistani ethnicity, 2 children)*

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45 ~~Some~~ In these contexts, some women advocated ~~that opportunities for~~ preconception health
46 information be more widely available in the community, in particular in schools and sexual
47 health or 'family planning' clinics. Some saw the latter primary care settings as more welcoming
48 than general practices, where it was routinely easier to see female staff and remain
49 anonymous. Many women knew teenage mothers with unhealthy lifestyles, and felt their
50 learning about health promotion at school might be improved to include positive relevance to
51 preconception health:
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Yeah, as soon as they start sex education, if it's any good. Because it will start making them think, as well, that this is about a baby. Rather than, because a lot of people in their teens get pregnant, they don't plan their pregnancy, but if they know everything about pregnancy they might consider it more as well. (3/P2: 18-25, White ethnicity, 1 child)

So perhaps if it went in the younger age and we were talking more about growing (...) how plants grow, you know, how human beings grow and what we need to keep us healthy and something that's (...) altered all the way through each key stage, you know, age appropriate, but something that's just there from the very beginning on the curriculum. (7/P1: 36-45, White/Black African ethnicity, 1 child)

Challenges for promoting preconception care

Women highlighted their common experience of pregnancies being unplanned and that thinking about their health and lifestyle only arose after conception (Box 3). They perceived 'preconception health' would feel similarly abstract to others, and not appear relevant in women's day to day lives. No respondents had experienced broader preconception assessment or care from any health professional. Only a few mothers had actively sought preconception information or advice from their GP, prompted by fertility concerns or in order to receive a prescription for folic acid (i.e. at no cost if eligible for free prescription).

Box 3 Relevant only after conception

I was 19, my daughter wasn't planned (...) so I never thought of discussing anything like this. I was just like OK I'm pregnant, oh!

(5/P3: 26-35, White ethnicity, 2 children)

I don't think I've ever known anyone that's really said 'right, I'm going to have a baby now, this is what I'm going to go and do,' it's always kind of happened 'whoops, but I'm OK with it!'

(8/P2: 26-35, Caribbean ethnicity)

The majority of people - honestly, I'm not joking [laughter] - are unaware of these things (...). Honestly, if they were trying to get pregnant they wouldn't even think about these things. Really, lack of education or lack of knowledge or whatever it is, they wouldn't. (...) If I was married and if I was trying for a baby I wouldn't bloody think of any of those.

(2/P2: 26-35, Indian ethnicity)

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6 For some mothers who had 'planned' their pregnancies, the phase between active planning and
7
8 conception was indistinct, for example because they had conceived sooner than expected,
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10 affecting their ability to communicate their plans to others prior to pregnancy. In particular,
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12 women spoke of the sometimes sensitive or secretive period between planning pregnancy and
13
14 actual conception, affecting their willingness to tell others about their plans, including health
15
16 professionals, and thus the open consideration of preconception health (Box 4).
17

18 19 **Box 4 Difficulty being open about pregnancy planning**

20
21 *And also, like if you're planning, you do not want anybody, everybody else to know that you're planning,*
22 *because that's a lot of pressure on you.*

23
24 (8/P5: 26-35, Black/African/Caribbean ethnicity)

25
26 *I wouldn't go to a GP, family or friends [for preconception health advice]. (...) I wouldn't feel comfortable*
27 *going to anybody.*

28
29 (2/P2: 26-35, Indian ethnicity)

30
31 *I don't think I would have spoken to anyone about these issues if I was trying to conceive. (...) I'd just*
32 *thought that it's just one of those things that 'if it's going to happen, it's going to happen'.*

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34 (2/P5: 26-35, Pakistani ethnicity)

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36
37 Women of South Asian background highlighted that stigma associated with infertility was a
38
39 further reason for keeping pregnancy plans secret. Faith, or fatalism, was sometimes
40
41 mentioned as an important reason for not approaching health care professionals even if
42
43 experiencing fertility problems.
44

45 46 **Preconception health as part of wider health promotion**

47
48 The possibilities for addressing preconception health as part of wider health promotion arose in
49
50 some group discussions, with the terms 'women's health' or 'pre-pregnancy health' suggested
51
52 as alternatives. They felt preconception health could be promoted more routinely in a positive
53
54 way as relevant to women not immediately planning pregnancy, particularly as some
55
56 communities may sanction 'conception' only in marriage:
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3 *It's the way that you frame it as well, I think if you frame it as it's another smear test*
4 *health screening check-up thing, but (...) I know we're going just on women, because*
5 *that's the way I see it, but being able to bear children is such a blessing, it like makes us*
6 *like miracle people (...).* (6/P2: 26-35, Pakistani ethnicity)
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11 This resonated with other women's suggestions to introduce preconception health in to health
12 promotion offered to women when they reach reproductive age enabling "free guidance and
13 advice" (4/P4) and assurance that "you're OK and everything's still going tickety boo" (5/P3):
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16
17 *(...) maybe there should be a routine health check that just every person who reaches a*
18 *certain age (...) I don't know 16/17, I know some people it might miss, still, that's a*
19 *general health thing but incorporates that [preconception health questionnaire] if that*
20 *becomes appropriate. (...) it could be women's health assessment, couldn't it?* (4/P4:
21 26-35, White ethnicity, 2 children)
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28 Women felt that consideration of 'preconception health' should encompass men more directly.
29 They recognised preconception issues were "applicable to them as well" (7/P1) and "their
30 health [being] just as important" (6/P1). For example they raised the relevance of their
31 partners' history, and that in some communities health behaviours such as alcohol
32 consumption or smoking, could be more directly relevant to men than women, presenting
33 opportunities to engage men more (Box 5).
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40 **Box 5 Preconception health relevant for men as well**

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43 **2/P2** *My husband does drink occasionally and he's not very healthy and ... he's got problems with a*
44 *history, like his dad's side and his mum's - of illnesses. I think maybe on his side we would think about*
45 *these things but not on mine. Folic acid, that's the woman only, but certain things - the men would*
46 *probably be more.... in our culture, anyway. Because the men drink alcohol, and they are the ones that -*
47 *if they were to smoke - it's more likely to be the men.*

48 **2/P5** *Generally, when we think about conceiving, we think about ourselves, we don't think about...*

49 **2/P4** *(...) I think the men are very isolated in the whole aftermath, kind of thing (...) Once you've fallen*
50 *pregnant it's just more about you and the baby.*
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52 (Group2/5: 26-35, Pakistani (Muslim) and Indian (Sikh) ethnicity, one pregnant)
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DISCUSSION

Summary

Women in this study had limited awareness of preconception health but perceived offering preconception care more routinely in general practice as appropriate, particularly if raised within a range of clinically 'relevant' consultations or when opportune for individuals in their social context. However there were challenges for engaging women in preconception care more routinely: lack of a prevailing culture of 'preparing for pregnancy', the realities of pregnancies often being unplanned, and, for those planning pregnancy, of sensitivity and secrecy about trying to conceive. Enhancing access in other settings, including for younger people and women less disposed to seeing their GP or male practitioners, education in schools, and for men, were suggested as part of integration with wider health promotion.

Strengths and limitations

This study offers a first qualitative exploration of perceptions about preconception health among those from ethnically diverse and socially deprived communities, including those at higher risk of poor maternal and child health outcomes in the UK. The findings may not be typical of other women, and must be interpreted with regard to the sample described. However the study benefits from data generated with women mostly familiar with each other, potentially reducing artificiality of discussions, and by researchers of gender, and diverse ethnic, faith and language backgrounds shared with participants.[33] Some groups were smaller than intended, with fewer women than arranged able to attend, which may have reduced variety of input, but not depth of discussions. These were included as participants had convened, and still enabled relevant data to be obtained from 'hard to reach' community contexts. Data from group interaction were further complemented by one to one interviews, enabled participants to express themselves without potential constraints of the group, and helped refine and validate findings.[34]

While participants had relevant experiences as mothers or women of reproductive age, we recognise they were considering broader preconception care that is not currently routine. Although we included women who had been pregnant as teenagers, study ethics approval

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3 limited inclusion to those aged over 18, and further research with younger teenagers, and the
4 perspectives of men on preconception health are still needed.
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7 8 **Comparison with existing literature**

9
10 This study adds to limited existing evidence in the UK from a survey with a better educated
11 sample in London with 40% of women reporting interest in preconception care in general
12 practice.[22] Women in the current study took a broader perspective on when this might occur
13 and be appropriate, highlighting particular opportunities and challenges for engaging women.
14 Work in other countries, some with disadvantaged populations,[14 35-37] has similarly found
15 women may have some awareness of, and similar attitudes towards, optimising health prior to
16 conception, but have gaps in knowledge about maternal and foetal health risks.[35 38] For
17 example, even though few women fully comply with pre-pregnancy messages,[10 25 39] most
18 studies report awareness of the need to avoid smoking, alcohol and drugs during pregnancy,
19 which corresponds with our results.
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29 Our respondents highlighted pregnancies being 'unplanned', and not thinking about
30 preconception health or lifestyle unless already pregnant, as problematic for anticipating and
31 being receptive to preconception care. Similar challenges have been recognised in the USA and
32 Australia,[25 35 38] and by health professionals.[8] In addition, women who already have
33 children may perceive they know enough for preconception care to be less necessary,[25] and
34 this was echoed by mothers in the current study.
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41 Our findings suggest that even if pregnancy is 'planned', discussing or seeking preconception
42 care may be hampered by women's ability and willingness to be open about their aspirations or
43 plans with others, including health professionals.[40] This may be compounded by stigma
44 associated with infertility[41] and this was highlighted by women in our sample. Cultural or
45 religious taboos surrounding pre-marital relationships[42] may potentially deter some women.
46 However, it is important to recognise the same cultural importance attached to fertility and
47 family health after marriage was referred to in this study as a positive opportunity to facilitate
48 greater engagement with preconception health for individuals.
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3 Women elsewhere have also felt preconception health should be promoted more in ‘family
4 planning clinics’,[43] though this may not appeal to others.[42] Improving younger people’s
5 awareness and knowledge about preconception health during their education, as suggested by
6 women here, forms part of guidance and some school curricula in the USA.[1]
7
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10 11 **Conclusions and implications for practice**

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14 This study highlights challenges but also opportunities for preconception health promotion. The
15 relatively positive attitudes found here may not equate to actual engagement. However this
16 study suggests raising preconception health more proactively may most promisingly occur
17 when this assumes heightened individual relevance for women. This could include clinical
18 contexts such as when attending for contraception, difficulty conceiving, treatment or disease
19 review, or as part of other routine health promotion such as cervical screening. Informational
20 aids such as preconception health questionnaire may help at these times. Primary care
21 practitioners may be well placed to capitalise on these opportunities given ongoing knowledge
22 not only of patients’ medical histories and health care but also of their social and cultural
23 contexts, such as new relationships.
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34 Initiating the offer of preconception health intervention at these points also speaks to the
35 challenges women identify. Firstly, and arguably of particular importance for those from more
36 deprived backgrounds, it has potential to engage those with low awareness or not considering
37 or planning pregnancy. This group may be less receptive to more conventional health
38 promotion invitation, for example, if offered routinely to all women of reproductive age.
39 Secondly, it may advance opportunity to offer intervention to women who may be trying to
40 conceive, but have yet to share this with others. Given time constraints in health encounters,
41 initial offers could be followed by more dedicated preconception health review, for example
42 with nurse practitioners.
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52 Facilitating a culture of ‘preparing for pregnancy’ as part of life, and making preconception care
53 more attractive to women and their partners, even if they are not planning pregnancy, requires
54 further social marketing.[44] In addition to primary care, parallel approaches to raising
55 awareness of preconception health might use differing windows of opportunity, as part of
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3 health care and education over the life course, in wider settings. Further intervention
4 development research and evaluation, [45] exploring this range of possibilities, including
5 feasibility and acceptability with those implementing them is needed.
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11 LCB, MB and HT led data collection; HT led data analysis, developed with the study team; NQ
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13 the study. HT and JK wrote the paper. All authors approved the final manuscript. We thank
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16

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21

22
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24 None
25

26
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30

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DRAFT FOR DISCUSSION (Exploratory phase)

Women's Preconception Health

Preconception health is a woman's health before she becomes pregnant. It means knowing how health conditions and risk factors could affect her or her unborn baby.

The best time to learn about preconception health is before you become pregnant, because about half of all pregnancies are not planned. It may be possible to lower risks you find by taking action now.

Every woman should be thinking about her health whether or not she is planning pregnancy. Optimising your health is beneficial at any time.

What this form does:

- ✓ Asks about your preconception health
- ✓ Offers brief information about important areas of preconception health

How to complete the form:

- ✓ Take your time to read the information provided
- ✓ Read and answer each of the questions

Some of the questions are of a personal nature. You do not have to answer if you do not want to, but the questions are important to get a full picture of your preconception health.

Please be as honest as possible.

All questions are from previously tested questionnaires in the US and Holland: Frey & Files, 2006; Cefalo & Moos, 1987; de Weerd et al., 2002; Ajzen, 1991; <http://www.library.nhs.uk/screening/viewResource.aspx?resID=269308>.

DRAFT FOR DISCUSSION (Exploratory phase)

	YES	NO	UNCERTAIN
IMMUNISATION	YES	NO	UNSURE
Have you had:			
Rubella vaccine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

LIFESTYLE AND NUTRITION			
What is your height?			
What is your weight?			
Do you:			
take folic acid supplements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
take vitamins?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			
eat a special diet? (e.g. vegetarian, fasting)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe			
smoke cigarettes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, how many cigarettes per day?			
visit a dentist regularly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
drink more than two cups of coffee per day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Which of the following describes your alcohol use?

Never | Not in the past year | More than twice in the past year
 Several times each month | Several times each week | Daily

Which of the following describes your recreational drug use? (e.g. cocaine, marijuana, ecstasy etc)

Never | Not in the past year | More than twice in the past year
 Several times each month | Several times each week | Daily

YOUR PARTNER'S LIFESTYLE AND NUTRITION

Does your partner:			
smoke cigarettes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, how many cigarettes per day?			

Which of the following describes your partner's use of alcohol?

Never | Not in the past year | More than twice in the past year
 Several times each month | Several times each week | Daily

Which of the following describes your partner's use of recreational drugs?

(e.g. cocaine, marijuana, ecstasy etc)

Never | Not in the past year | More than twice in the past year
 Several times each month | Several times each week | Daily

DRAFT FOR DISCUSSION (Exploratory phase)

Did you know?

- Babies whose mothers contract rubella (German measles) during pregnancy may be born with one or more birth defects. Women can be tested for rubella immunity before pregnancy using a simple blood test.
- Taking 400mg of folic acid every day before and during pregnancy can reduce the risk of birth defects.
- Eating a well-balanced diet and maintaining a healthy weight is important for a healthy pregnancy.
- There are no safe levels of smoking, alcohol, or recreational drug use during pregnancy.

What to do next

- Your practice nurse can check whether you are immune to rubella, and give you advice on how to plan a healthy diet.
- Your practice nurse or GP can also give you information about services that can help you to stop smoking, drinking, or taking drugs.

DRAFT FOR DISCUSSION (Exploratory phase)

	YES	NO	UNCERTAIN
FAMILY HISTORY AND ORIGIN			
Do you, your partner or anyone in either family have genetically inherited conditions or are you a 'carrier' of a condition (sometimes called having a 'trait') - such as cystic fibrosis, sickle cell anaemia, or thalassaemia?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			
Are you, or any of your ancestors (e.g. parents, grandparents) from a European country of origin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			
Are you, or any of your ancestors (e.g. parents, grandparents) from a non-European country of origin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please tick relevant box:			
Indian	<input type="checkbox"/>	Pakistani	<input type="checkbox"/>
Bangladeshi	<input type="checkbox"/>	Chinese	<input type="checkbox"/>
Other Asian background	<input type="checkbox"/>		
African	<input type="checkbox"/>	White and black Caribbean	<input type="checkbox"/>
Caribbean	<input type="checkbox"/>	White and black African	<input type="checkbox"/>
Any other Black/African/Caribbean background	<input type="checkbox"/>		
White and Asian	<input type="checkbox"/>	Other mixed/multiple ethnic background	<input type="checkbox"/>
Other ethnic group	<input type="checkbox"/>		
Is your partner, or any of their ancestors (e.g. parents, grandparents) from European country of origin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			
Is your partner, or any of their ancestors (e.g. parents, grandparents) from a non-European country of origin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, please describe:			

DRAFT FOR DISCUSSION (Exploratory phase)

Did you know?

Some inherited conditions are more common in some groups of people. For example, thalassaemia and sickle cell disorders are present in all ethnic groups, but are commonest in people who originate from (or whose ancestors originated from) outside of Northern Europe. Risk of inherited conditions can be detected through screening prior to pregnancy.

Sickle cell and thalassaemia are disorders of the blood. The disorders are passed on from parents to children through unusual genes. Babies can only inherit the disorders if both parents carry the unusual gene.

Some people may have one unusual gene. These people are called “carriers”. Carriers are healthy people and do not have the disorders. They may not know they are a carrier. But if a carrier has a baby with someone else who is also a carrier (or who has one of the disorders), there is a chance that their baby could inherit a disorder.

Finding out before pregnancy whether you or your partner is a carrier gives you the chance to talk to a counsellor and find out more about the disorders and the care available.

What to do next

Your practice nurse can provide more information about inherited conditions and help you to decide whether preconception screening to see if you “carry” a condition would be useful for you.

DRAFT FOR DISCUSSION (Exploratory phase)

	YES	NO	UNCERTAIN
MEDICAL HISTORY AND MEDICATION HISTORY			
Do you now have or have you ever had any serious medical conditions (such as diabetes, epilepsy or depression?): If YES, please describe:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you: routinely or occasionally take prescribed medications? If YES, list names and dosages:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
routinely or occasionally take over-the-counter medications? If YES, list names and dosages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Did you know?

Some medications may cause problems for the baby's development when taken during pregnancy. This includes prescription and over-the-counter medicines, some dietary supplements and other drugs. It is important to review your medication before becoming pregnant.

	YES	NO	UNCERTAIN
INFECTIOUS DISEASE AND REPRODUCTIVE HISTORY			
Do you or your partner have a history of, or are you at risk of infectious diseases? (such as sexually transmitted, or from contact with blood): If YES, please describe:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have a history of pregnancy-related problems? (such as two or more miscarriages, or very low birth weight babies?) If YES, please describe:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Did you know?

Infectious diseases can be transferred from mother to baby, and may cause problems in fetal development. If you have a history of pregnancy-related problems, there are ways to have your future risk assessed that may help to reduce the likelihood of these problems occurring again.

What to do next

Your practice nurse can arrange screening for many infectious diseases and provide advice on how to avoid risks prior to pregnancy. Your practice nurse can also provide personalised assessment and counselling to reduce the likelihood of repeat pregnancy-related complications.

DRAFT FOR DISCUSSION (Exploratory phase)

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	YES	NO	UNCERTAIN
FETAL EXPOSURE			
Do you or your partner:			
use lead or chemicals at home or work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If YES, list the chemicals if you know what they are:			
work with radiation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
own or work with cats?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Did you know?

Some substances and chemicals, for example, solvents, paints, cleaners and pesticides can cause birth defects or increase the risk of miscarriage. Contact with cat litter trays is also associated with risk of toxoplasmosis, which can cause a number of congenital health problems for the baby.

What to do next

Minimise your exposure to these substances. Your practice nurse can provide you with more information about environmental hazards and planning for pregnancy.

Peer review only