

2019-06-17

You did not turn up I did not realise I was invited: understanding male attitudes towards engagement in fertility and reproductive health discussions

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<http://hdl.handle.net/10026.1/14600>

10.1093/hropen/hoz014

Human Reproduction Open

Oxford University Press

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1 **You did not turn up... I did not realise I was invited...: Understanding male attitudes towards**
2 **engagement in fertility and reproductive health discussions**

3 **Running Title:** Engaging men in reproductive health discussions

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22 **Abstract**

23 **STUDY QUESTION:**

24 What are the underlying reasons for low male engagement in fertility and reproductive health
25 discussions and decision making?
26

27 **SUMMARY ANSWER:**

28 The perception of women's primacy in fertility and reproductive health limits the extent to which
29 men believe their engagement is important.

30 **WHAT IS KNOWN ALREADY:**

31 Active participation of men in the process of informed decision making regarding childbearing is
32 beneficial for mother, father and child. However, in research studies in these areas, little attention
33 has been given to men. Additionally, there is poor engagement by men; as well as a dearth of
34 information from, and on, the male perspective.

35 **STUDY DESIGN, SIZE, AND DURATION:**

36 In total, 35 semi-structured telephone and face-to-face interviews were conducted in an office
37 setting with three groups: 13 lay women, 13 lay men and nine male and female healthcare
38 professionals. Interviews took place between October 2016 and February 2017.

39 **PARTICIPANTS/MATERIALS, SETTING, METHODS:**

40 Participants were men and women of reproductive age from the general population and healthcare
41 professionals who had completed an online fertility awareness survey and agreed to follow-up
42 interviews. Interviews were audio recorded and lasted approximately 1 hour, during which
43 participants were asked to provide their views on childbearing decision making, and male and

44 female representation in fertility and reproductive health. Data was transcribed verbatim and
45 analysed qualitatively via framework analysis.

46 **MAIN RESULTS AND THE ROLE OF CHANCE:**

47 Both men and women saw fertility as a woman's issue, but from different viewpoints. Women saw
48 it from the perspective of societal stereotypes regarding male and female roles, whereas men
49 tended to defer to the woman's primacy in reproductive decisions.

50 Men generally wanted to be involved in childbearing discussions and improve their fertility
51 knowledge. However, they felt they did not have a voice on the topic because discussions have
52 traditionally focused on women. The notion that men are not expected to be interested and
53 engaged thus becomes a self-fulfilling prophecy.

54 Healthcare professionals agreed that fertility was perceived as the woman's domain, but also
55 highlighted that poor male involvement is typically observed across healthcare needs and is not
56 necessarily unique to fertility and reproductive health.

57 **LIMITATIONS, REASONS FOR CAUTION:**

58 Due to the online recruitment method, there is a potential bias towards respondents of higher,
59 rather than lower, socioeconomic status within the general population.

60 **WIDER IMPLICATIONS OF THE FINDINGS:**

61 Fertility tends to be seen as a private topic. Additional concerted effort by reproductive health
62 researchers, charity organisations, educators, healthcare service providers and policy makers is
63 needed to proactively encourage male involvement in reproductive decision making. This can be
64 achieved through normalising and breaking taboos around the topic, male-friendly research study
65 design approaches, male-inclusive reproductive healthcare services, implementation of health
66 policies that recognise the needs of men, encouraging male research staff representation and age-

67 appropriate educational programmes on sexual and reproductive health, which include boys and
68 adolescents from a young age.

69 **STUDY FUNDING/COMPETING INTEREST(S):**

70 Research funding was received from SPD Development Co. Ltd. BG and SJ are employed by SPD
71 Development Co. Ltd. None of the other authors have any conflict of interest related to the
72 discussed topic.

73 **TRIAL REGISTRATION NUMBER:**

74 Not applicable.

75 **Key words**

76 Fertility awareness / family building / qualitative research/ men's health / preconception health
77 psychosocial issues / reproductive health / fatherhood / childbearing / relationships and sex
78 education.

79

80

81 **WHAT DOES THIS MEAN FOR PATIENTS?**

82 This study aimed to understand the reasons for low male engagement in fertility and reproductive
83 health discussions and decision making, compared with females, and to identify opportunities to
84 increase men's engagement in order to help men and women achieve their desired childbearing
85 intentions.

86 Men, women and healthcare professionals took part in telephone and face-to-face interviews. Both
87 men and women agreed that fertility was seen as a woman's issue, but from different perspectives.

88 Women saw it from the perspective of societal stereotypes regarding male and female roles but men

89 felt that women had more rights in this area because women get pregnant and physically carry the
90 child. The men who participated in this study wanted to be involved in childbearing discussions and
91 to improve their fertility knowledge but they felt they did not have a voice on the topic because
92 discussions typically focus on women. Healthcare professionals also agreed that fertility is seen as a
93 woman's issue but highlighted that low male engagement is seen across healthcare needs and is not
94 necessarily unique to fertility and reproductive health.

95 The researchers suggest that additional concerted effort is required by educators, researchers,
96 charities, healthcare service providers and policy makers to proactively encourage male involvement
97 in fertility and reproductive health. They recommend that reproductive health service provision and
98 research studies in this area should be more inclusive of men and support the implementation of
99 health policies that recognise men's reproductive health needs. Additionally, educational
100 programmes on sexual and reproductive health should be engaging and structured with age-
101 appropriate information to include boys from a young age.

102

103 **Introduction**

104 Global health policies recommend that men should be included in reproductive health discussions
105 since their involvement is beneficial for healthy pregnancies, reduction of unwanted pregnancies
106 and in promoting positive outcomes for mother, father and child (World Health Organization 2002;
107 Dean et al. 2013; World Health Organization 2015). Furthermore, the World Health Organization
108 recommends increasing the active participation of men, as well as their responsibility in the process
109 of informed decision making on sexual and reproductive health issues (World Health Organization
110 2015). The evidence about the importance of optimal paternal preconception health for the health
111 of the offspring is growing (Stephenson et al. 2018; Fleming et al. 2018).

112 The trend of delaying childbearing has led to an increase in involuntary childlessness or having fewer
113 children than desired, which has prompted attention to the need to improve fertility awareness
114 (Harper et al. 2017). Although the biological contribution of both men and women is necessary,
115 from public health and psychosocial perspectives, studies on fertility and reproductive health
116 disproportionately focus on women (Davison et al. 2016; Culley et al. 2013; Bodin et al. 2018). Where
117 men have been included in studies, the findings show low fertility awareness. A recent systematic
118 review of fertility awareness studies showed that men had poor knowledge of factors that influence
119 fertility (Hammarberg et al. 2017). However, research studies in these areas have highlighted a
120 dearth of information from, and on, the male perspective (Culley et al. 2013; Barnes 2014; Davis et
121 al. 2016).

122 The underrepresentation of men in fertility and reproductive health research studies impedes the
123 implementation and promotion of effective, male-friendly reproductive healthcare practices and
124 policies. While numerous reasons for the lack of inclusion of men in studies on fertility and
125 reproductive health have been put forward, few studies have actually included men (Greene &
126 Biddlecom 2000; Davison et al. 2017; Mitchell et al. 2007; Saewyc 2012). From researchers'
127 perspectives, men's poor engagement is often interpreted as low interest, which in turn often is

128 cited as a reason for the lack of inclusion of men in these studies (Mitchell et al. 2007; de Lacey
129 2014; Culley et al. 2013).

130 In this study, we interviewed men and women of reproductive age from the general population and
131 healthcare professionals, to better understand the underlying reasons for men's poor engagement in
132 reproductive decision-making and identify opportunities for improvement.

133

134 **Materials and Methods**

135 ***Participants***

136 This study was a qualitative component of a larger mixed-method study about fertility awareness.
137 Participants were men and women of reproductive age from the general population and health
138 professionals, who had completed a survey and agreed to a follow-up interview. Of the 1080 survey
139 respondents, 1029 agreed to be contacted for follow-up studies. A new study invitation email was
140 sent for the qualitative interviews. Criteria based purposive sampling was used to cover the socio-
141 demographic diversity of the population groups. For the men and women of the reproductive age,
142 selection criteria included age, ethnicity and level of education. In total, 171 survey respondents
143 were approached for follow-up interviews, of whom 13 lay men, 13 lay women and nine healthcare
144 professionals, 2 male and 7 female, were included. Thirty-two telephone interviews and three in-
145 person face-to-face interviews were conducted between October 2016 and February 2017 and
146 lasted 1 hour on average. Interviews were conducted in an office setting at the University College
147 London (UCL), London, England. The majority of interviews were conducted by telephone because of
148 the geographic spread of survey respondents across the UK; England, Wales, Scotland and Northern
149 Ireland. Participants received a £20 electronic shopping voucher for their participation in the
150 interviews.

151

152 ***Ethical approval***

153 Favourable ethical approval was obtained from UCL Research Ethics committee (Reference
154 8421/001). All participants in the study participated voluntarily and gave informed consent.

155

156 ***Data collection and analysis***

157 The face-to-face and telephone interviews were conducted sensitively by one female interviewer
158 trained in qualitative research methods. An interview topic guide was used to initiate discussion.
159 Broadly, the topics covered during the interviews included: introductions and study overview;
160 demographic questions; level of interest in fertility and reproductive health discussions; knowledge
161 of the topic; childbearing information and role in decision-making; views on male and female
162 representation in fertility and reproductive health discussions; underlying reasons for these
163 representations; opportunities for improvement and study conclusions. All interviews were digitally
164 recorded, transcribed verbatim and coded electronically using the NVIVO Pro qualitative data
165 analysis software Version 11 (QSR International Pty Ltd. Burlington, MA, USA). Data analysis was
166 conducted using the Framework methodology. The method's key feature is a matrix output
167 comprising rows (cases), columns (codes) and 'cells' of summarised data. This provides a structure
168 into which the data can be systematically reduced by the researcher in order to analyse it by case
169 and by code (Gale et al. 2013). The coded framework matrix was exported from the NVIVO software
170 into a Microsoft Excel file (Microsoft Corporation, Redmond, Washington USA) which was used for
171 further examination, categorisation and analysis. In summary, the data analysis process consisted of
172 the coding of individual quotations verbatim, summarising quotations, grouping into higher order
173 categories (themes) and conducting within-theme analysis. Inductive analysis was used to analyse
174 the themes that came from participants and preliminary summaries were generated, with minimal
175 interpretation, to allow the data to speak for itself.

176

177 **Results**

178 ***Participant demographics***

179 The demographic characteristics of study participants are shown in Table I.

180 ***Themes***

181 The themes which emerged from the interview data are presented in this section. These themes are
182 categorised into barriers identified and proposed solutions.

183 **Barriers identified**

184 *“We have not been invited”*

185 When men were asked why they have not typically engaged with this topic, a key recurring theme
186 was that men have traditionally not been encouraged to participate in fertility and reproductive
187 health discussions. Men in this study wanted to be more involved but felt that they did not have a
188 voice on the issue. They highlighted the fact that the focus was always on women when discussing
189 the topic. Consequently men gradually withdrew from involvement.

190 *“... It’s because we’ve not been invited, we’ve not been involved before, you know, we’ve not been*
191 *told anything - my generation anyway, I’ve never been given anything from the school or a doctor.*
192 *It’s like we should not be interested, so we’re not.”* Male participant, age 36 years.

193

194 ***Perception that fertility is only the woman’s issue***

195 The assumption of women’s primacy in fertility and reproductive health was a recurring theme,
196 particularly the perception of fertility being a “woman’s issue”. The fact that women get pregnant
197 and physically carry a child causes men to feel that the woman’s role is more important.

198 *“Fertility is more for the women. As in, they get pregnant and the bloke doesn’t... fertility is*
199 *something that men always take for granted anyway... it’s possibly just indicative of the level to*
200 *which men feel that they are responsible for the process... fertility is something that men always take*
201 *for granted anyway and also it’s a double-edged sword... but women always suffer the*
202 *consequences.”* Male participant, age 27 years.

203 In terms of fertility education provided on digital platforms, smartphone applications, or through use
204 of products that provide fertility information, men also reported gaps in this area because these
205 products are often targeted at women and focus on women exclusively.

206

207 *Views on reproductive rights*

208 *“Her body, her rights”* was another recurring theme. Strongly linked to the previous point raised by
209 men: that as women physically carry the child they consequently have more rights and decision-
210 making authority on any issues. This causes men to feel that their role is less important than that of
211 the woman.

212 *“... I don’t know, I just feels like it’s her body her rights you know? She has more say on it ... I just*
213 *went with her views?”* Male participant, age 38 years.

214

215 *Fertility being taken for granted*

216 When asked about their perception of male fertility, the men had poor awareness of age-related
217 fertility decline. Men frequently cited the “biological clock” as something that only affects women
218 and that men’s fertility is never in question.

219 *"I think that most men would look at the study [fertility awareness] and think that it was something*
220 *that women will do, because most men think that their fertility is never in question. They don't have a*
221 *biological clock. It's kind of like a chauvinistic thing"* Male participant, age 43 years.

222 Women also felt that men were not as engaged as they should be on this topic. Similar to male
223 participants, we found recurring themes from female participants regarding men being distanced
224 from fertility issues and the idea that only women have a biological clock. They reiterated the
225 perception that men feel that fertility is a woman's issue.

226

227 *Views on reproductive biology*

228 Women also echoed that the male attitude towards fertility may be driven by reproductive biology.
229 This was based on the fact that men have no menstrual cycle, have less obvious changes compared
230 to women, and the perception that the female reproductive system is more complex than male
231 system.

232 *"[For men] I mean, the whole month is exactly the same, there are no changes, no menstrual cycle...*
233 *But, you know, female body has more changes, it's more complicated, more difficult to understand...*
234 *That's why they [men] feel pregnancy's not their business, it's the woman's business, and the woman*
235 *should know all about it..."* Female participant, age 42 years.

236

237 *Cultural and societal stereotypes regarding male and female roles*

238 Another recurring theme concerned societal attitudes and stereotyping regarding male and female
239 roles. Women highlighted several cultural and societal norms regarding male and female roles,
240 which are often perpetuated by the media and society in general. Women also discussed the impact
241 of gender roles in raising children as one of the factors that influence male involvement.

242 *“She’s the one that gets pregnant and she’ll be the one who has to take time off work for maternity*
243 *leave, and has to actually have the child. Men think it’s still very much the woman is the main care*
244 *giver and will be the one who spends more time with the child when they’re growing up.”* Female
245 participant, age 30 years.

246 Although we quickly reached theme saturation on the impact of cultural and societal norms on male
247 and female roles, some optimism was expressed toward the younger generation of men and the
248 perception that younger men now have different attitudes towards fertility and reproductive health
249 information

250 *“Millennial or younger men probably are better because they’ve gone grown up with slightly better*
251 *attitude towards this information.”* Female participant, age 43 years.

252 Women and health care professionals emphasised that societal and cultural norms regarding female
253 and male roles contribute to men’s lack of engagement with reproductive decision-making.

254

255 *Low male engagement across healthcare needs*

256 Healthcare professionals expressed the view that although fertility knowledge is poor for both
257 genders, women appeared to be more aware of their fertility than men. Healthcare professionals
258 further stated that they tend to see more women than men for all healthcare needs, not just fertility
259 issues, and that women are generally more open and engaged in health discussions.

260 *“...in terms of talking about it, women are generally more likely to check about these things than men*
261 *would be concerned... Women, they will chat about responses whereas men, not certain if men say*
262 *they have actually chatted about fertility and pregnancy and having children.”* Healthcare
263 professional, age 33 years.

264

265 Proposed solutions

266 Participants were asked for suggestions on how to improve male engagement in this area. This
267 elicited several recommendations.

268

269 *Men as researchers: Encouraging male research staff representation*

270 One of the improvement opportunities for engaging men is having more male researchers in this
271 area. It was suggested that having more male staff involved in studies on men's health issues will
272 encourage lay men to feel more connected to the topic.

273 *"...If it's been done by a man, then they [men] might think, okay if this guy is discussing his health
274 problems or he's giving advice, if he can do that then okay we can do that ourselves or at least let's
275 try. So I think men may not want to speak to women about this but will listen to other men."* Male
276 participant, age 27 years.

277

278 *Using male-friendly research study design approaches*

279 Another crucial discussion point identified was methods to engage men when designing a study. For
280 example, less direct methods of engagement can be far more effective in engaging participants who
281 feel uncomfortable with the nature of the discussion or sensitive about providing information on
282 their fertility and reproductive health. The male interviewees highlighted a preference for online
283 sources of information on fertility and reproductive health due to perceived privacy and anonymity.
284 One respondent stated that the use of telephone interviews rather than face-to-face interviews
285 encouraged his participation in the study.

286 *“And as enjoyable and interesting as this conversation has been ...it is an awkward subject. It’s been*
287 *made a lot easier by not being able to see you [female interviewer]... It’s a lot less awkward having*
288 *this conversation over the phone”*. Male participant, age 33 years.

289 Depending on the nature of research, more interactive and hands-on approaches might also
290 encourage men to participate. In terms of strategies for improving male recruitment, suggestions
291 included targeting environments that men frequently use such as gyms, sport centres, health clubs,
292 gambling sites and also targeting specific population groups, such as men in university
293 environments. Other suggestions included the use of surveys and incentivising.

294

295 *Encouraging participation through partners*

296 Encouragement of male participation through partners was also discussed. Several points were
297 raised regarding encouraging female partners to speak up and include their partners in the
298 conversations.

299 *“Their wife or their girlfriend would be the way to get them engaged. And [laughs] by that it’s going*
300 *to be carrot and stick... you’d find lots of men would attend I think”*. Male participant, age 38 years.

301 Healthcare professionals felt that if women took the lead on involvement then men would follow.
302 Some healthcare professionals stated that they specifically encouraged women to come along to
303 appointments with their partners and often asked them to discuss partner’s views if they were not
304 present.

305

306 *Integrating the topic with other healthcare needs*

307 Another point raised by interviewees was the integration of fertility discussions with other health
308 topics that men may find more interesting, in order to make the discussion more attractive and

309 engaging. Examples include; discussing the effect of health and exercise on fertility; the impact of
310 nutrition on fertility; and psychological and mental health issues associated with infertility.

311 *"I read a lot about men's fitness and things like that, those publications, I'm very much into health,*
312 *healthy eating and exercising, so I really love that stuff... I'm interested in health and fitness, and I*
313 *believe what you eat affects everything, it affects your health, whether you're active, your moods,*
314 *you know everything."* Male participant, age 36 years.

315

316 *Addressing the view that fertility is a private topic*

317 Respondents suggested additional support for both men and women to make the topic easier to
318 discuss, as fertility is often viewed as a private topic.

319 *"Many people see fertility as a private thing between individuals so don't talk about this. Perhaps it's*
320 *a British thing?"* Female participant, age 28 years.

321 For those who have a strong preference for privacy, male friendly websites and smartphone
322 applications based on robust scientific evidence can be effective platforms for reaching men.

323

324 *Normalising and breaking taboos around the topic*

325 Suggestions were made to break barriers and taboos around the topic and encourage people start to
326 talk more and open up.

327 *"For a lot of men trying to get them to go to the doctor it's like "drawing blood". Men never think*
328 *there is anything wrong with them. They don't think they have fertility issues ... we need more*
329 *conversations about fertility and more open discussions e.g. with Samuel Jackson [US actor/celebrity]*
330 *and prostate cancer."* Female participant, age 21 years.

331 Male participants discussed increasing awareness through campaigns and advertisements on this
332 topic as well as the use of celebrities and male sports stars to raise awareness. Use of sports
333 celebrities and campaigns such as “Movember”¹ were seen as effective. It was suggested that
334 additional emphasis should be placed on the importance of male involvement in this area.

335 Healthcare professionals also supported the idea that poor engagement of men by healthcare
336 services and researchers was one of the key reasons for men’s low involvement. Active inclusion of
337 men in all aspects of reproductive health discussions was encouraged. Additionally, the issue of poor
338 knowledge in this area was highlighted by healthcare professionals. They called for better education
339 for all (men and women), with additional support for men on basic biology, fertility and reproductive
340 health.

341 *Planting the seed early*

342 Better education and involvement from a young age was discussed as a good way of engaging men
343 and reducing some of the negative and unhealthy cultural stereotypes.

344 *“To target men, you need to get them younger. They need to understand that having babies is not*
345 *just about women, it's about them as well. They need to understand they have just as much*
346 *responsibility and they need to make more of an effort. In my classroom I see the influence they get*
347 *from home, the perception that the dad is just a sperm donor.”* Female participant, age 38 years.

348

349 **Discussion**

350 There was a consensus by all groups in our study about low involvement of men in fertility,
351 reproductive health and preconception care discussions. The reasons given by different groups

¹ “The Movember Foundation started in Australia in 2004 with a mission to raise awareness and funds for men's health research. The Foundation's most visible activity is the Movember campaign, in which men from around the world grow moustaches and participate in fund raising activities during the month of November. There are currently more than two million registered 'Mo Bros' willing to grow moustaches in November, plus supportive 'Mo Sistas'”(Wassersug et al. 2015)

352 varied and implied a need to evaluate additional approaches for improving male involvement. For
353 example, both men and women discussed the idea that fertility was seen as a woman's issue.
354 However, women discussed this from the perspective of societal stereotypes regarding male and
355 female roles, whereas men came from a viewpoint of acknowledging and respecting the woman's
356 primacy in reproductive decisions, citing "Her body, her rights".

357 Research studies (Barnes 2014; Slauson-Blevins & Johnson 2016) have highlighted the general
358 perception that reproduction is a woman's domain. The perception that fertility is the "woman's
359 issue" also strongly emerged from our study data. However, the most frequently recurring theme for
360 poor engagement specifically cited by men was the fact that they have not been encouraged to
361 engage. Men felt that they did not have a voice on the topic. They felt that the focus was always on
362 women and that women had more 'rights' on the topic, so men gradually withdrew. The notion that
363 men are not expected to be interested, engaged, or involved thus becomes a self-fulfilling prophecy.

364 Our study also highlighted the negative impact of stereotypical male and female roles in
365 reproductive health, with men being disengaged from fertility and reproductive health discussions
366 and being unaware of the impact of paternal health on the child.

367 The participants in this study provided valuable insight into the male perspective on fertility
368 awareness and reproductive health. Similar to other studies (Davison et al. 2017; Slauson-Blevins &
369 Johnson 2016), we found that typical methods, such as newspaper adverts and shopping vouchers
370 for attracting and incentivising women to participate in studies, will not necessarily work for men.
371 More targeted approaches in different locations, such as gyms, sport centres, men's health
372 magazines or clinical settings, would be more effective for men.

373 Similar to other researchers (O'Brien et al. 2018; Hammarberg et al. 2017; Davis et al. 2016;
374 Kotelchuck & Lu 2017; Bodin et al. 2018; Shawe et al. 2019), we recommend increasing support for
375 men to engage with fertility awareness, childbearing, preconception care and reproductive health

376 services. Given the increasing recognition of the importance of paternal influences in child health
377 (Stephenson et al. 2018; Fleming et al. 2018), men should be encouraged to take a more active role
378 and support should be provided for men who may feel sensitive or embarrassed by the topic. Men
379 and women should also be encouraged to involve, and encourage the involvement of, their partners
380 in discussions. However, it is important to note that when encouraging partner involvement,
381 necessary safeguards should be put in place by the health services to prevent discrimination or
382 marginalisation of women who do not have a male partner, or choose not to involve the male
383 partner in their care.

384 Male friendly websites and mobile applications based on robust scientific evidence can serve as
385 effective means of reaching and educating men in this area. It is also possible that healthcare
386 providers and researchers have succumbed to traditionally held beliefs regarding male involvement
387 and interest in this area. We recommend that healthcare providers, researchers and educators
388 should routinely provide men with information on reproductive health; and support the
389 implementation of health policies that recognise men's reproductive health needs. We also support
390 recommendations (Barratt et al. 2018; Bhasin 2016) for the allocation of research funding to drive
391 improved and integrated reproductive healthcare for men, which in turn promotes transformative
392 changes in societal attitudes regarding men's reproductive health. We strongly recommend that
393 additional effort be made to provide boys and adolescents with age-appropriate education to
394 improve fertility awareness, normalise the discussion around men's sexual and reproductive health
395 and break taboos around the topic. An important step would be to encourage the inclusion of male
396 researchers in this area.

397

398 ***Study strengths and limitations***

399 One of the key strengths of this study was obtaining men's perspectives on their engagement in
400 fertility and reproductive health discussions. Several studies have hypothesised various reasons for
401 low male engagement in this area but not many have included men. Additionally, this study includes
402 a relatively large number of interviews spanning three different groups. Men, women and healthcare
403 professionals were interviewed using the same interview topic guide, thus providing diverse and
404 interesting perspectives on the subject.

405 However, it is important to note that the self-selection inherent in responding positively to
406 recruitment advertising indicates an interest in the topic, which we cannot generalise as a whole to
407 all male, female and healthcare professionals. The study findings therefore need to be interpreted
408 with caution. Another limitation is the predominantly online recruitment method, which could result
409 in potential bias towards respondents of higher, rather than lower, socioeconomic status. Finally,
410 this study was conducted in the UK, primarily reflecting western views regarding male involvement
411 in fertility and reproductive health discussions and childbearing decision making. Further research is
412 needed to explore these views in the context of other countries, especially in non-western countries.

413

414
415 The men and women in this study wanted to be engaged in fertility and reproductive health
416 discussions, but felt that men's involvement has not generally been encouraged because fertility is
417 traditionally viewed as the woman's domain. Changes in societal attitudes towards men's
418 reproductive health are required if men are to play a more informed role in fertility and reproductive
419 health. We recommend additional concerted efforts by educators, reproductive health researchers,
420 charity organisation, healthcare service providers and policy makers to proactively encourage male
421 involvement. Educational programmes on sexual and reproductive health should be engaging and
422 structured with age-appropriate information to include boys and adolescents from a young age.

423

424 **Acknowledgements**

425 The authors would like to thank Sharon Bond, Janet Grannells and Sinead Tohill for their assistance
426 with the study. The authors would also like to thank the men, women and healthcare professionals
427 who participated in the study.

428

429 **Authors' roles**

430 Study design and concept: B.G., J.S., S.J, J.S. Study execution: B.G. Analysis: B.G., J.S., J.S. Manuscript
431 draft: B.G. Critical discussion and manuscript approval: B.G., J.S. S.J and J.S.

432

433

434 **Funding**

435 Research funding was received from SPD Development Co. Ltd.

436 **Conflict of interest**

437 BG and SJ are employed by SPD Development Co. Ltd. None of the other authors have any conflict of
438 interest related to the discussed topic.

439

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