Urban young women's preferences for intervention strategies to promote physical and mental health preconception: A Healthy Life Trajectories Initiative (HeLTI)

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A B S T R A C T

This study aimed to qualitatively investigate young women's preferences for preconception intervention strategies to promote physical and mental health in a rapidly transitioning, urban setting. Four semi-structured focus group discussions were conducted with young women (n = 29, 18–24 years old) from Soweto, South Africa. Qualitative data were thematically analysed. Two main themes were identified: 1) challenges and needs of intervention beneficiaries; and 2) preferences for intervention strategies (content and delivery). The challenges participants mentioned could be classified as those relating to social pressure, identity, and socioeconomic circumstances. Mental health support appeared to be a greater need than physical health, and this was featured in their preferences for intervention content, although a number of physical health topics were also mentioned (healthy eating and contraception). Participants had mixed preferences for intervention materials, ranging from printed to electronic and mobile resources. Their preferences for intervention activities ranged from educational sessions, to fun and interactive practical activities, and activities they could take home. Community health workers (CHWs) were the preferred agent of delivery for interventions, though participants emphasised the importance of CHWs having appropriate interpersonal skills and own life experience. Some women preferred one-on-one sessions with a CHW, while others preferred group sessions. While recognising the value of family sessions, young women were less enthusiastic about this approach. These findings provide valuable formative data for developing effective interventions to optimise young women's preconception health in urban Africa. These contextual realities should be acknowledged when addressing key physical and mental health issues facing young women.

1. Introduction

South Africa is undergoing rapid epidemiological and nutrition transition (Abrahams et al., 2011) (Steyn et al., 2012), with non-communicable diseases impacting low-income urban populations the most (Mayosi et al., 2009). Soweto, South Africa (SA) is one such urban setting where young women are frequently consuming a diet of excess calories and poor nutritional value (Sedibe et al., 2014, 2018; Wrottesley et al., 2017). Although young women in Soweto have been reported to be sufficiently physically active, their time spent sitting is high, which puts them at higher risk of metabolic conditions (Micklesfield et al., 2017; Prioreschi et al., 2017). Mental health, specifically anxiety and depression, is also a concern for young women in Soweto (Redinger et al., 2018), as well as in other similar settings in SA (van Heyningen et al., 2017, 2018). These risks have implications for the preconception health of young women in these settings, since the health of a woman at conception is particularly important (Fleming et al., 2018), and has implications for her health during pregnancy and that of her child (Barker et al., 2018; Stephenson et al., 2018).

Although the importance of preconception health is being increasingly acknowledged (Lang et al., 2018; Mason et al., 2014), no preconception interventions have been implemented in South Africa; most have been developed and implemented in high-income countries, particularly the United States (Brown et al., 2017). These involve education on a range of physical and mental health issues, lifestyle behaviour change, and micronutrient supplementation; using a variety of delivery strategies, from media to electronic resources, and group sessions (Brown et al., 2017). Although the effects of these interventions have generally been positive, these interventions have had a somewhat narrow focus (Brown et al., 2017). Furthermore, evidence for the applicability of these interventions in low- and middle-income countries (LMICs) is limited, although it has been argued that the health and social benefits of preconception interventions in LMICs could be particularly impactful (Mason et al., 2014). One such preconception intervention has been developed for young women in Pakistan, where a community-based intervention is focussing on life skills education and
micronutrient supplementation (Baxter et al., 2018). In Malaysia, a community-based preconception behaviour change intervention is also being implemented with young couples, with a particular emphasis on diabetes prevention (Skau et al., 2016).

To respond to the need for preconception interventions in LMICs, the Healthy Lifestyle Trajectory Initiative (HeLTI) was initiated in SA (Soweto), Canada, China and India in 2016. Soweto is a large urban area lining the mining belt in Johannesburg, South Africa, with a mixture of low- to middle-income, and formal as well as informal housing. According to the most recent national census (2011), Soweto has a population of just over 1.27 million people, with a population density of 6357 people per km² (Statistics South Africa, 2012). In Soweto, a third of women have their first child by the time they are 19 years old (National Department of Health et al., 2017).

HeLTI aims to develop and evaluate an integrated continuum of care intervention (4-phases) starting preconception and extending through pregnancy, infancy and childhood, to optimise women's physical and mental health, and reduce childhood obesity and the risk for non-communicable disease, as well as to improve child development. Preferences for intervention strategies to promote physical and mental health preconception need to be considered alongside the evidence supporting the need for intervention, in order to investigate the feasibility and acceptability of potential intervention strategies, as well as the factors that could influence the implementation of these strategies (Craig et al., 2008). The aim of this study was therefore to explore young women's preferences for intervention strategies to promote physical and mental health to inform the development of preconception interventions.

2. Methods

2.1. Research design and participant recruitment

Twenty-nine women aged between 18 and 24 years participated in this qualitative study, and were recruited using snowball sampling. This age group matches the target age group for the HeLTI trial. Women in the target age group who were part of previous studies in the MRC/Wits DPHRU were approached to participate in a focus group discussion (FGD), initially with flyers, and followed up telephonically. These women were then asked to suggest other women from Soweto whom they thought would be willing to participate, and these women were contacted telephonically. Inclusion criteria were: women living in Soweto, aged between 18 and 24 years, without a child/children, not pregnant at the time of recruitment, and who consented to participate in a FGD.

2.2. Data collection

Four semi-structured FGDs, each with 6–9 participants, were conducted in a private room at the research unit at Chris Hani Baragwanath Academic Hospital. The FGDs were conducted in the first half of 2018 by two multilingual research assistants and lasted between 2 and 2.5 h. A semi-structured FGD guide was used as it provided flexibility of responses during the discussions, and included questions about the living context in Soweto, health, diet, obesity, and general family life (full FGD guide provided as Supplementary Table 1. Participants were then asked about their perceptions of a community-based intervention delivered by community health workers to young women, their families, and their peers. Questions were also asked about intervention delivery methods, dose and delivery agent; as well as intervention content, materials and activities. The FGDs were conducted in English with flexibility of using vernacular languages. Each focus group interview was recorded and transcribed verbatim, with translations done where necessary. All transcripts were checked against the recordings to verify accuracy and credibility and small changes were made where necessary. All participants received reimbursement for transport to the research facility.

2.3. Data analysis

Data were thematically analysed using both inductive and deductive approaches (Braun and Clarke, 2006). The discussion guide formed the basis of an initial thematic framework, and this was further developed to encompass two main themes: 1) the challenges and needs of those who would be the main beneficiaries of the proposed intervention for young women in Soweto; 2) beneficiaries’ preferences for intervention strategies, which was divided into two sub-themes: intervention content and intervention delivery preferences. The first theme was largely derived inductively from participants’ responses, whereas the second theme was linked more strongly to the questions within the discussion guide. After the initial stage of familiarisation with the data, codes were generated based on these themes. The next step involved searching for themes in the transcripts, and continuously reviewing and refining themes. Once coded sections of text were summarised for each theme and sub-theme, illustrative quotes for each theme and sub-theme were extracted.

2.4. Data credibility and trustworthiness

With regards to issues of data credibility and trustworthiness in qualitative research, there has been a move away from universal criteria, and towards criteria for judging qualitative inquiry that can be applied to different qualitative studies (Sparks and Smith, 2009). Tracy (2010) has suggested criteria of qualitative quality that can be adapted according to a study’s goals and methods, and the authors have attempted to meet these criteria:

2.4.1. A worthy topic

The literature presented in the Introduction makes a strong case for the significance of preconception health, and the need to conduct appropriate formative work for the planning of preconception health interventions in SA. Such interventions are timely in SA, and relevant to the health issues being faced by SA women.

2.4.2. Rich rigour

The study used appropriate sampling, data collection and analysis methods; all authors were able to critique the interpretation and presentation of the findings.

2.4.3. Sincerity

The authors have been transparent in their description of the methods, and the limitations and strengths of the study.

2.4.4. Credibility

This paper presents in-depth descriptions of the themes, while providing concrete detail through the selected quotes.

2.4.5. Resonance

The quotes included have attempted to meaningfully present the participants’ voices and experiences in such a way that the reader is affected by their responses.

2.4.6. Significant contribution

Due to the novelty of this work in SA, and in Africa, the authors would content that this study makes a significant contribution to the field of preconception health in LMICs.

2.4.7. Ethical

Ethical approval for the study was granted by The University of the Witwatersrand Human Research Ethics Committee (M171066). All participants gave written informed consent before the commencement of the FGDs. In addition, attention was paid during the research process
### Table 1
Quotations: beneficiaries’ challenges and needs.

| Challenges and needs                          | Illustrative quotes                                                                 |
|----------------------------------------------|--------------------------------------------------------------------------------------|
| **Social pressure**                          | "It’s school stress, it’s family, it’s just like you know there is always those people in your family who will just pressurise you or expect, okay let me just start here. I’m a pastor’s kid. So, even our pastors kids are expected to live in a certain way like go by the bible. They forget that I am human we all make mistakes...They all want that now you know, you always have to please everyone, the family, the church everyone." |
| **Peer pressure**                            | "I feel pressure, like in a way I’m a role model, so it means now I can’t live my life the way I want, my social life must be like this or that, so now I must stay- you know, because one mistake- also stress because now I can’t focus, or live my life the way I wanted to live it...I feel like I’m being pressured by my family." |
| **Need for support**                         | "Everyone is pressuring you to be something that you are not, that you cannot handle. These people when they involve your family it’s an additional pressure that you can’t even sleep at night. Sometimes it’s even your school work it’s a lot you cannot handle..." |
| **Other social issues**                      | "We want to fit into a certain group. If you don’t drink, if you don’t have a Blesser, if you don’t have a child you won’t fit into a certain group. So, that is why most of the time we do things. Because we want to fit in. We want to be known oh this is her." |
| **Other social issues**                      | "Treatment by men: Or sometimes some people want love because they didn’t get it from their fathers, and then you meet someone and they use that to control you, a lot of things, like your voice isn’t audible anymore, they’re the only ones that talk."
| **Other social issues**                      | "Then I also face pressure from males in the community making sexual comments about you and then harassing you not only verbally but like they would do it physically." |
| **Other social issues**                      | "As well when you go out you are always scared of what if today it’s going to be big with regards to kidnapping and rape or somebody just hitting me because you are dressed in a certain way. Because South Africa had situations where women were beaten up for dressing a certain way. So, like for me when I walk out of the house I say a little pray oh God can it not be me all the time, can it not be me." |
| **Need for support**                         | "Then I also feel like I do like entirely like this support because I feel like university is really overwhelming there is just a lot of pressures. There is a lot to face. So, I feel like I need every support academically, maybe emotionally. But I feel people don’t do that. But ja, I need support and financially." |

(including analysis and interpretation of findings) to be sensitive to situational and cultural ethics.

#### 2.4.8. Meaningful coherence

This study has achieved what it set out to do. It builds on extensive formative work in the Soweto setting on life course epidemiology and provides valuable insights for the continuation of this work into intervention research.

### 3. Results

#### 3.1. Beneficiaries’ challenges and needs

The following section specifically discusses beneficiaries’ challenges and needs, with illustrative quotes provided in Table 1. With regards to their physical health, participants had mixed views and some misconceptions about obesity in terms of its link to health behaviour and poor health outcomes, and whether it needs to be addressed in their community. The relationship between unhealthy eating habits and obesity seemed to be clearer, and it was apparent that participants had easy access to unhealthy food in their communities, making healthy eating choices particularly difficult. There also seemed to be limited value placed on the health services available to them, since they were not perceived to have benefit for them. It was evident from participants’ responses that mental health is far more salient for these young women. These challenges were apparent in the challenges they face, and the needs they expressed, which appear to be a consequence of these challenges. The challenges that participants spoke about could be classified as those relating to social pressure, identity, and socioeconomic circumstances.

Social pressure emerged as the greatest challenge facing these young women, and many argued that they face more pressure than men in their communities. For example, it was reported that parents prioritise their daughter’s education over their health and wellbeing; thus women were under pressure to succeed in school. This was intensified if a young woman is the first in her family to finish school and enrol in tertiary education. Furthermore, existing family conflicts, “difficult family backgrounds”, and communication challenges between young women and parents (especially mothers), exacerbated this pressure.

Peer pressure was also discussed frequently, and it was mentioned that women are more concerned than men about what others think of them. Social media was believed to worsen this peer pressure, and relationship dynamics (with men) appeared to both contribute to peer pressure and create competition amongst young women. The issue of “blessers” was mentioned often, referring to older men having a sexual relationship with younger girls in exchange for gifts or money, which helped young women “fit in”. In addition, women reported feeling disrespected, judged, unsupported and disempowered in their communities, especially by men. This feeling impacted negatively on their self-esteem and identity, causing them to not be true to who they are.

Socioeconomic challenges mentioned by participants included a lack of financial resources, food insecurity, unemployment, and difficulty finding work. Other social issues mentioned that could be related to the economic context of participants’ communities included abuse (physical, emotional and sexual), crime (particularly rape, robbery, abduction), safety concerns, drug and alcohol abuse, teenage pregnancy, and not completing school. Linked to these challenges, particularly those relating to social pressure and identity, participants expressed feelings of loneliness, and the need for acceptance, encouragement, motivation, support, and someone to believe in them. This support would be emotional, as well as social support for healthy choices. In addition, participants expressed the need for role models and mentors to help them deal with the challenges they face.

#### 3.2. Preferences for intervention strategies

#### 3.2.1. Intervention content

Illustrative quotes for participants’ preferences for intervention content are provided in Table 2. In terms of participants’ preferences for intervention content on physical health, the most frequently mentioned suggestions were healthy eating and contraception. Other topics relating to physical health included HIV, pregnancy, diabetes, general health, disease prevention, weight loss, exercise, looking after a baby, and accessing healthcare facilities. Participants also requested content relating to mental health more generally, with one participant arguing that mental health is far more salient for these young women. This was apparent in the challenges they face, and the needs they expressed, which appear to be a consequence of these challenges. The challenges that participants spoke about could be classified as those relating to social pressure, identity, and socioeconomic circumstances.

Regarding possible intervention materials, some indicated a preference for reading, and for engaging with printed or written materials to encourage them to document their experiences of and progress within an intervention. Suggestions included a journal or diary, a workbook, pamphlets, cue cards and charts; there were concerns that ‘others’ could access a written journal, while a journal on a phone could be more private. Some participants also preferred digital material or information via their cell phone (SMS, WhatsApp or email). Other
suggestions were group chats; a Facebook page; television programmes; and digitally recording their experience or progress i.e. photos of healthy food choices or creating video diaries or ‘vlogs’ (video blogs).

Participants’ preferences for intervention activities ranged from educational sessions, to fun and interactive practical activities including games (e.g. netball, tennis, aerobics, bowling, skipping) and activities (team building, bonding, retreats) that helped them get to know each other and build relationships. Other suggestions included learning new skills, such as doing makeup, nails, hair; and outdoor activities, such as hiking and rock climbing. Participants were generally receptive to the idea of “homework”, as it was perceived as a way to keep them engaged in the intervention between sessions.

### 3.2.2. Intervention delivery

Illustrative quotes for participants’ preferences for intervention delivery are provided in Table 3. Participants were unanimous in their negativity towards nurses delivering interventions due to having
experienced mistreatment by nurses at clinics. They believed that nurses did not respect confidentiality, were rude and judgemental, and did not listen to them or provide relevant information. This was particularly the case for contraception services, where judgement appeared linked to nurses’ beliefs that young women should be focused on education and not be sexually active, often not acknowledging that pregnancy could be the result of rape. This adds to the pressure young women feel, leading them to not access information about contraception.

In contrast, participants liked the idea of an intervention delivered by community health workers (CHWs), who were generally viewed in a positive light. Most participants agreed that the CHWs should be female. They felt strongly that the CHWs should not come from the same community, and specifically that they should not already know the participants, or anything about them, highlighting the importance of CHWs being able to maintain confidentiality and be “professional”. Despite the emphasis on CHWs being “strangers”, participants in one group emphasised that those providing health information (such as CHWs) should be from the community, or at least familiar with the community, if they are trying to address health issues within the community and be seen as relatable. This implies that the social distance between participants and CHWs should not be too great that the CHWs are not able to relate to the context in which participants live.

Ideal character traits described for these CHWs included: non-judgemental, compassionate, motivating, patient, understanding, supportive, open and helpful. Participants felt that CHWs should be “easy going”, not “grumpy”, good at communicating and listening to them, well trained, and accessible (e.g. by phone) if needed. They also believed CHWs could provide mental and social support, mentorship and life coaching. One key characteristic of the CHW was her life experience, which should be greater, or at least similar to participants, and able to provide valuable advice on how they had overcome similar challenges. Participants wanted CHWs old enough to have this life experience (although not so old as to be too “serious” or “judgemental”), and young enough to still be vibrant and relate well to the young women. While a range of ages for CHWs were suggested, it appeared that around 30 years old would be the most widely accepted age range.

Participants were asked about their preferences for intervention delivery, i.e. one-on-one sessions with a CHW, family sessions, or peer group sessions. While there were mixed views, the idea of meeting up with peers was generally agreeable and seen as a forum for sharing experiences and providing mutual social support. Again, the issue of “strangers” emerged, with many participants wanting groups comprised of women they did not know, fearing issues around confidentiality and trust. Strangers were perceived as: less judgemental; less inclined to talk externally about what has been discussed in the group; and an opportunity to gain inspiration or new ideas from different perspectives and life experiences. Although, participants highlighted the importance of having common experiences and challenges within the group. Balancing the need for confidentiality with opportunities for new ideas, activities and educational sessions were preferred for group meetings, with discussion of personal issues reserved for one-on-one sessions with CHWs.

The suggested locations for the group sessions were community venues, e.g. churches. For one-on-one CHW sessions, many participants felt that their home environment was not sufficiently private, and they would not feel comfortable. Community venues were also suggested for one-on-one meetings, although the feasibility of this was not explored. Most participants were not particularly positive about the idea of family sessions, and did not feel comfortable about having these in their home. For some, this related to existing communication difficulties with parents, and feeling mothers may be upset if their daughters talked to CHWs but not to them. Some participants felt that their family members would not be interested in speaking with a CHW, or would be resistant to new knowledge or being open in family sessions. A few participants were worried their family members might be rude to a CHW, particularly if they felt “attacked” in the family sessions. Some participants had concerns about privacy during the family sessions, and whether what they shared with the CHW would then be shared with their family, particularly if it was of a personal nature. Despite these concerns, many participants saw value in these family sessions, and some felt that these sessions could help to strengthen family relationships.

Participants agreed that they would be able to make time for the proposed intervention sessions, and that they would be happy to meet with a CHW at least three times a month. Participants were also happy with attending group sessions once or twice a month on a Saturday.

4. Discussion

The findings of this study present new insights into young women’s preferences for intervention strategies to promote physical and mental health preconception, in a rapidly transitioning, poor, urban South African setting. Perhaps the most helpful insight from these findings is the importance of integrating mental health as a prominent component of preconception strategies for these women, rather than only focus on their physical health.

It is clear that the challenges these women face are extensive, and that their need for support is great. These challenges and needs provide a complex background against which interventions must be developed and implemented. However, it is clear that the appetite for more support and assistance for young women is substantial.

This research provides evidence for the intervention strategies that could be feasible and acceptable for young women in Soweto in the preconception period. An intervention that does not adequately acknowledge context (Barker et al., 2018; Hoddinott, 2015), considering the socioeconomic challenges mentioned by participants and the pressure they feel, is unlikely to be feasible and acceptable. Acknowledging this social pressure and helping to empower women with a sense of agency (able to make personal decisions, and influence the factors that shape their lives (Williams, 2017))) about their healthy behaviour choices is an approach much more likely to result in an acceptable intervention, and one that could have a positive impact on their health. Furthermore, interventions should recognise the way in which young women’s identities are being shaped by these challenges and pressures, and aim to contribute positively to their identity development.

From a content and delivery perspective, while evidence is compelling for addressing physical health in the preconception period is important for the future health of the mother and child (Stephenson et al., 2018), the prominence of mental health concerns in the FGDs highlights the importance of incorporating this into interventions. This is supported by evidence that indicates that poor preconception mental health can negatively impact on pregnancy and birth outcomes (Witt et al., 2012) This should be considered from a content point of view, as well as from a delivery perspective. The emotional support and encouragement that could be provided by CHWs and peers could be greatly beneficial for the mental health of young women receiving intervention, and could help to address some of the needs articulated by participants. Particularly, as the mental health support/services in the public healthcare sector in South Africa, as it is in most Sub-Saharan African countries, are desperately limited. The difficult family relationships spoken about by young women explain why they are not as enthusiastic about family sessions. Furthermore, the value of social and emotional support for the promotion of health has been emphasised (Reblin and Uchino, 2008), and parents should be involved in providing this support, since they are a strong influence of health behaviours in the preconception period (Draper et al., 2015).

A limitation of this study is that it has focussed on young women from one particular setting. However, given the highly urbanised and transitioning context of Soweto, these findings are likely to be relevant to other urban environments but also are indicative of issues affecting young women for populations that are transitioning towards the Soweto
context. This focussed recruitment strategy can also be viewed as a strength, since these findings provide contextually specific information that is directly relevant to HeLTI and the development of intervention strategies in this setting.

5. Conclusion

Preconception health is an area that has received insufficient attention thus far African research and practice. This study provides valuable qualitative insights that contribute to the development of intervention strategies, while considering the challenges and needs of young women to equip and empower them to make healthier choices, for themselves and for the next generation.

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Conflict of interest statement

The authors declare that there are no conflicts of interest.

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