**Title: Implications of power imbalance in antenatal care seeking among pregnant adolescents in rural Tanzania: a qualitative study**

Wemaeli Mweteni[1], Julieth Kabirigi[1], Dismas Matovelo[3], Rose Laisser[4], Victoria Yohani[3], Girles Shabani[3], Prosper Shayo[3], Jennifer L. Brenner[5] Kathleen H. Chaput[6*].

Author Affiliations/contact:

1. Department of Community Health, Research and Consultancies

   Bugando Medical Centre (BMC)

   P.o. Box 1370

   Mwanza, Tanzania

2. Department of Pediatrics

   Catholic University of Health and Allied Sciences (CUHAS)

   P.O. Box 1464

   Mwanza, Tanzania.

3. Department of Gynecology and Obstetrics,

   Catholic University of Health and Allied Sciences (CUHAS)

   P.O. Box 1464

   Mwanza, Tanzania.

4. School of Nursing,

   Catholic University of Health and Allied Sciences (CUHAS)

   P.O. Box 1464

   Mwanza, Tanzania

5. Departments of Pediatrics, and Community Health Sciences

Cumming School of Medicine

University of Calgary

3330, Hospital Drive NW

Calgary, Alberta Canada

*6.* * Corresponding Author; Department of Obstetrics and Gynecology,

Cumming School of Medicine,

University of Calgary

1403 - 29 Street NW

Calgary, Alberta

Canada T2N 2T9

Email: khchaput@ucalgary.ca

**Abstract**

**Background:** Adolescent girls (age 10-19 years) are at increased risk of morbidity and mortality due to pregnancy and childbirth complications, compared with older mothers. Low and middle-income countries, including Tanzania, bear the largest proportion of adolescent perinatal deaths globally. Most adolescent girls in Tanzania do not access antenatal care at health facilities, but the reasons for lack of antenatal care attendance are poorly understood.

**Methods:** We conducted a qualitative thematic analysis study of the experiences of pregnant adolescents with accessing antenatal care in Misungwi district, Mwanza Region, Tanzania. We recruited 22 adolescent girls who were pregnant or parenting a child aged less than 5 years, using purposive sampling, and collected data about their lived experiences using in-depth individual interviews (IDIs). IDI data were triangulated with data from eight focus group discussions (FGDs) involving young fathers and elder men/women, and nine key informant interviews (KIIs) conducted with local health care providers. FGDs, KIIs and all but two IDIs were conducted and audiotaped in Swahili. All Swahili recordings were transcribed verbatim in Swahili. Two IDIs were conducted in local vernacular (Sukuma), and were transcribed into Swahili (as Sukuma is uncommon), by bilingual research assistants. All Swahili transcripts were then translated to English. A team of researchers analysed transcripts using emergent thematic analysis and constant comparison technique.

**Results:** We identified four main themes: 1) Lack of maternal personal autonomy (Diminished power for decision making, Lack of financial and personal independence), 2) Stigma and judgment, 3) Vulnerability to violence and abuse, and 4) Knowledge about antenatal care.

**Conclusion:** Pregnant adolescent care seeking for antenatal services is compromised by a complex power imbalance that involves financial dependence, lack of choice, lack of personal autonomy in decision making, experiences of social stigma, judgement, violence and abuse.

Multi-level interventions are needed to empower adolescent girls, and to address policies and social constructs that may contribute to observed power imbalance; addressing these barriers can improve access to antenatal care among pregnant adolescents, and potentially reduce maternal morbidity and mortality.

**Key words:** Power imbalance, Adolescent pregnancy, Antenatal care, Maternal mortality, Maternal morbidity, Rural Tanzania

## Background

Globally, pregnancy and childbirth complications are the leading cause of death among adolescent girls (10-19 years of age)(1). Recent evidence shows that 18.8% of all pregnancies in Africa, 19.3% of those in Sub-Saharan Africa, and 21.5% in East Africa (including Tanzania) are attributed to adolescent girls (2,3). Results from the Tanzania Demographics Health Survey (TDHS) indicate that adolescent pregnancies increased from 23% to 27% between 2010 and 2016 (3). Low and middle income countries (LMIC) including Tanzania, have the world's highest maternal mortality rates for pregnant adolescentss at 36 per 100 000 births (4). Adolescent girls in developing countries are twice as likely to die during childbirth as older mothers, and their infants are at 50% increased risk of neonatal mortality (5).

Improving ANC, delivery and postnatal care attendance is directly associated with decreasing maternal and infant mortality (6). The WHO currently recommends that pregnant women in LMIC attend at least four ANC visits, with at least one in the first trimester (1). ANC visits are especially important for reinforcing healthy pregnancy practices, discussing delivery/postnatal care and family planning needs, and to allow for screening and treatment of infection, pregnancy-related, and pre-existing conditions, to reduce risks of maternal and infant morbidity and mortality (1). In Tanzania the proportion of pregnant women achieving at least four ANC visits has increased from 43% in 2010, to 51% in 2016, with 24% of pregnant women attending ANC in the first trimester (3). However, in the rural Misungwi district, only 41% of pregnant adolescents attended four or more ANC visits in 2016, and only 13% received ANC prior to 12 weeks gestation (7). The reasons for ANC attendance below the national average and the specific care-seeking barriers experienced by adolescent girls in Misungwi district are largely unexplored.

25 During adolescence, rapid physical, psychological, social, and emotional changes occur.
26 Adolescence is marked by an imbalance in brain maturity wherein, social-emotional
27 functioning matures more rapidly than the prefrontal cortex, which acts as the cognitive control
28 system (5). Adolescents thus often engage in risk-behaviors including sexual risk-taking which
29 can result in teen pregnancy (8). While social independence and decision making increase
30 during adolescence, most teens remain dependent on parents/guardians for food, shelter,
31 education, clothing and health, which may contribute to a unique set of challenges for them in
32 accessing maternal, neonatal and child health services (5,9). Globally, pregnant adolescents
33 can have difficulty meeting the responsibilities of pregnancy and parenthood, due to their social
34 and cognitive development, lack of independence, resources, and education, and due to social
35 stigma, and lack of family/social support (10). These challenges may be amplified in LMIC by
36 extreme poverty, sexism, and social constructs in which adolescents lack power to decide if
37 and when to get married and have children, and how many children to have (11). Further,
38 adolescent girls and young women in LMIC have less power to make their own health decisions
39 compared with men (12). Socio-cultural factors such as gendered power imbalances have been
40 reported in Bangladesh as contributors to decreased autonomy in adolescent health-seeking
41 behaviour, but less has reported in the East African context (13).
42
43 Given the increased risks for maternal and infant mortality among pregnant adolescents, and
44 their increased risk for attending fewer than the recommended four ANC visits, a more nuanced
45 understanding of the unique challenges faced by pregnant adolescents to accessing ANC
46 particularly in LMIC is needed. Improved understanding of complex barriers and facilitators
47 to ANC attendance among pregnant adolescents can inform future targeted interventions,
48 services and policies that can improve access to adequate ANC, and potentially decrease
49 maternal and infant mortality in this vulnerable group. This study explored experiences of

50 pregnant and parenting adolescents to better understand the barriers and facilitators to
51 accessing ANC in Misungwi district, Mwanza Region, Tanzania.
52
53 **Methods**
54 Study design:
55 We conducted an in-depth qualitative thematic analysis study to explore the lived experiences
56 of pregnant adolescents with accessing antenatal care in the rural Misungwi district, Tanzania.
57 Our study was nested as a sub-study within a larger longitudinal implementation and evaluation
58 of the Mama na Mtoto ("Mother and Child") intervention in Tanzania, which aimed to improve
59 the delivery of essential health services to pregnant women, mothers, newborns and children
60 under five; and to improve the health practices and utilization of essential health services by
61 the same target groups(14). This was conducted through implementation of district-led
62 activities to improve the planning and delivery of high-quality facility-based maternal,
63 newborn and child health (MNCH) services combined with strengthening the demand for these
64 services at the community level while increasing linkages between the community and local
65 health facilities through mobilization of a volunteer community health worker network.
66
67 Setting:
68 We conducted our study between July 2018 and September 2019 in the Misungwi district of
69 Northern Tanzania. Misungwi has a population of approximately 400,000 people, over 90% of
70 whom live in rural areas (15). The district consists of over 724 small hamlets scattered
71 throughout flatland terrain, where piped water, electricity and sanitation facilities are
72 exceptionally rare (10). Rural households are typically low-income and highly dependent on
73 subsistence farming, pastoralism, petty trade, and fishing. Misungwi district is served by 49

74 health facilities (43 dispensaries, 4 health centres, 1 government hospital, and 1 private non-
75 profit hospital).
76
77
78 Sampling and recruitment:
79 We recruited adolescent girls aged 10-19 years who were pregnant or parenting a child aged
80 less than five years at the time of data collection, using a maximum variation purposive
81 sampling strategy, in four rural villages; Isesa, Buhunda, Nyamayinza and Kijima. We obtained
82 permission from the Misungwi District Medical Officer via the Misungwi District Executive
83 Director to the village government, Village leaders, and through Health facilities
84 administration, to conduct the study.
85
86 Before recruiting adolescent girls, we held engagement meetings with community leaders and
87 community members to introduce the study and explain its purpose. Community leaders and
88 volunteer community health workers (CHWs) further engaged with community members to
89 generate awareness and support for the study. CHWs, trained on study aims, protocol, and
90 inclusion and exclusion criteria, helped to identify eligible adolescent participants. Trained
91 research assistants met with prospective participants as many as three times: The first visit
92 involved community engagement through meeting community leaders and conducting a
93 community meeting to provide detailed information about the study. The second visit involved
94 meeting an identified adolescent and her parents/partner at her household to prepare for the
95 interview process, to build trust and rapport. If adolescents indicated interest in participating
96 in the study, the research assistant invited them to engage in an in-depth individual interview
97 (third visit) (IDI) in their preferred language (Swahili, or Sukuma) and at a location of their
98 choice, to ensure comfort.

99

100 Using the same method of community engagement, we also identified elder women, elder men
101 (parents, guardians, and in-laws) living with an adolescent who was pregnant or parenting a
102 child under five at the time of data collection, and young husbands (aged less than 25 years),
103 and invited them to participate in focus group discussions (FGDs). Finally, we invited local
104 health care workers (nurses, midwives, physicians) to share their perspectives on the barriers
105 and facilitators faced by pregnant adolescents in accessing ANC, in individual key informant
106 interviews (KIIs). FGD and KII data were triangulated with data obtained from IDIs.
107 Participants who could not read or write were asked to select a trusted witness who could
108 translate the information written in the consent form, and were asked to sign the consent with
109 a thumbprint. All participants 18 years of age and above signed a written consent with a witness
110 signing as well. Parents/guardians or husbands (18+) signed consent forms for adolescents less
111 than 18 years of age, and the adolescents signed assent forms. Participation was voluntary and
112 only those who fulfilled consent processes were interviewed. Confidentiality was observed and
113 all information given by the participants was de-identified and assigned a pseudonym, or
114 generic title for data analysis and reporting.

115

116 Data collection:

117 We used a narrative data collection approach, supplemented by in-depth, semi-structured
118 interviews for IDIs, and semi-structured interview guides for FGD and KIIs. All data collection
119 guides and questions were pilot tested (16). For IDIs we asked participants to tell us the story
120 of their pregnancy and followed up with open-ended questions about their pregnancy
121 circumstances and experiences, experiences with accessing ANC, decision-making around
122 ANC, knowledge about ANC, and perceptions of their family's, community's, and health
123 workers' attitudes about adolescent pregnancy. Our open-ended in-depth questions were based

124 on the socio-ecological model and explored experiences on the personal, family, community,
125 health-system and societal levels (17). All interviews and focus groups were conducted by
126 trained and experienced members of the research team.
127
128 We conducted IDIs in the location that was selected as most comfortable by the participant.
129 FGDs were held in schools, churches or local leaders' offices, based on availability and
130 accessibility for the participants. Interviewers explained the aim of the study and led all
131 participants through the informed consent process before interviews or discussions were
132 started. Interviews and FGDs were conducted and audiotaped in the preferred language of the
133 participant (either Sukuma or Swahili), and field notes were taken. All Sukuma interviews were
134 transcribed verbatim in Swahili (as Sukuma is not commonly written) by research assistants
135 who were fluent in both languages. Quality checks of the translations were conducted, wherein
136 a second bilingual research assistant listened to the audio recording while reading the Swahili
137 transcription, and added to or edited the transcript as needed, to ensure accuracy. A discussion
138 among the research assistants was used to finalize the wording in cases where direct
139 translations were challenging. Swahili recordings were transcribed verbatim in Swahili. All
140 transcripts were then translated from Swahili to English by trained bilingual members of the
141 research team for analysis. We then conducted a second set of quality checks by comparing the
142 English translations to the original language recordings in a group that included native speakers
143 of each language, to ensure that meaning nor content were lost in the translation process.
144 Participants were provided a transport allowance of 2000 Tanzanian shillings (equivalent to
145 approximately 1 United States Dollar (USD)) and health care workers were given 5000
146 Tanzanian shillings (approximately 2 USD).
147
148 Data analysis:

149 We imported transcripts into NVIVO® 12 to conduct coding and emergent thematic analysis,
150 using a constant comparison technique (18). The authors read the transcripts a minimum of
151 twice each to familiarize themselves with and become immersed in the data. All members of
152 the research team jointly coded the first three transcripts and used regular meetings to arrive at
153 consensus on codes, and to create a common codebook. Subsequently we coded the remaining
154 transcripts individually, with continuous sharing for consistency of codes. We grouped codes
155 to form broader themes. An iterative process was employed, when needed, to re-categorize and
156 revisit themes.
157

158 **RESULTS**

159 We conducted 22 IDIs with adolescent girls, eight focus group discussions (FGDs) three with
160 young husbands, three with elder mothers (or mothers-in-law) of a pregnant or parenting
161 adolescent, and two with elder fathers (or fathers-in-law) of pregnant or parenting adolescents
162 from the participants' communities. We completed nine Key Informant Interviews (KIIs) with
163 local CHWs, doctors, midwives and nurses. All IDI participants chose to have their intervews
164 in their homes. IDIs and KIIs ranged in length between 30 and 60 minutes each and FGDs were
165 75 to 110 minutes. The demographic characteristics of all study participants are summarized
166 in Table 1.
167 Our IDI participants ranged from 15-19 years of age at the time of their first pregnancies. Half
168 of the adolescents interviewed (48.8%) were either single or in a relationship, but unmarried,
169 compared with the elder parents/in-laws who participated in FGDs, of whom 82% were
170 married. All but one of the pregnant adolescents had completed some level of formal schooling,
171 with 5% having completed primary school, and 43% having partially completed secondary
172 school (Table 1).
173

175 **Table 1: Participant Characteristics**
176

| | IDIs | | FGDs | | KIIs | |
|---|---|---|---|---|---|---|
| | **Mean** | **(Range)** | **Mean** | **(Range)** | **Mean** | **(Range)** |
| ***Age in years*** | | | | | | |
| *1st Pregnancy* | 17.5 | (15-19) | - | - | - | - |
| *At study intake* | 19.4 | (17-21) | 40.2 | (20-91) | 35 | (25-54) |
| | **%** | **(n)** | **%** | **(n)** | **%** | **(n)** |
| ***Sex*** | | | | | | |
| *Female* | 100 | (22) | 36.2 | (21) | 42.8 | (3) |
| ***Marital Status*** | | | | | | |
| *Single* | 14.3 | (3) | 0 | (0) | 0 | (0) |
| *In a relationship* | 33.3 | (7) | 7 | (12) | 28.6 | (2) |
| *Married* | 58.4 | (11) | 47 | (81) | 71.4 | (5) |
| *Divorced/widow(ed)* | 0 | (0) | 4 | (7) | 0 | (0) |
| ***Education*** | | | | | | |
| *None* | 4.7 | (1) | 6.9 | (4) | 0 | (0) |
| *Primary* | 52.4 | (11) | 77.5 | (45) | 0 | (0) |
| *Secondary* | 42.8 | (9) | 15.5 | (9) | 57.1 | (4) |
| *Diploma/university* | 0 | (0) | 0 | (0) | 42.9 | (3) |
| ***Children under 5 yr.*** | | | | | | |
| *None* | 35 | (7) | 45.8 | (22) | 57.1 | (4) |
| *One* | 65 | (13) | 39.6 | (19) | 28.6 | (2) |
| *Two or more* | 0 | (0) | 14.6 | (7) | 14.3 | (1) |

177

178 Emergent Themes:

179 Four primary themes, some with sub-themes, emerged from the data:

180 Theme 1) Lack of maternal personal autonomy

181 a) Lack of finances and material resources

182 b) Diminished power for decision making

183 c) Necessity of partner accompaniment

184 Theme 2) Experiences of stigma and judgment

185 a) Blame

186 Theme 3) Vulnerability to neglect and abuse

187 a) Partner abandonment

188 b) Fear and experiences of abuse

189 Theme 4) Knowledge about ANC

190 Each theme and respective sub-themes (if applicable) are listed below, followed by illustrative
191 quotes.

192 **Theme 1: Lack of maternal personal autonomy**

193 We found that pregnant and parenting adolescent girls lacked the power to support themselves
194 and to make and enact decisions around their own antenatal, delivery and postnatal care. The
195 majority of adolescent participants lived with their parents and remained dependent on them or
196 their partners to fulfill their basic needs including subsistence, shelter, clothing, medical
197 supplies and transport. Adolescents rarely had access to these resources on their own, nor to
198 their own sources of income. The lack of resources was identified as a greater challenge among
199 unmarried adolescents.

200 ***Sub-theme 1a) Lack of finances and material resources***

201

202 *"The one who gave me the pregnancy is the one who made things very hard for me…*
203 *he never covered my expenditures*" - Shija

204

205 *"Transport is one of the obstacles, it was better if I could be attending here in our*
206 *village…It was one thousand and five hundred before, but it is currently two thousand*
207 *one way going, and two thousand returning. Sometimes the ANC visit date reached,*
208 *and my mom had no money. I decided to use a bicycle."* - Limi

209

210 *"[My partner] sent me some money. I bought [maternity] clothes … for me."* – Holo

211

212 *"The one responsible for the pregnant was bringing the needs and requirements at*
213 *home. Till the day I delivered he was there to support me up to now he is still*
214 *responsible for me."* - Ngeke

215
216
217 Further complicating the personal lack of finances and resources, is a scarcity of finances and
218 resources accessible to those upon whom the adolescent is dependent. The adolescent's
219 pregnancy thus becomes a burden at the family level.

220

221 *"Even those aged 19 years they can't say who is responsible for the pregnancy. We*
222 *take full responsibility like buying clothes and food for our adolescent girls whose*
223 *partners are unknown. It's hard for girls to speak out! to be open!"* - Elder father

224

225 *"… I faced challenges in supporting her. I don't know who her husband is. As mothers*
226 *those are challenges we face. That is why we are suffering."* - Elder mother

227

228 ***Sub-theme 1b) Diminished power for decision making:***
229 Participants described decision making about ANC attendance as a family-level decision,
230 ultimately made by the parents, guardian(s) or husband, and not by themselves.

231

232 *"When I got pregnant, I told mom I was pregnant and she asked who was responsible,*
233 *I told her the person. She told me to start going to clinic, I agreed and started going."*
234 - Sayi

235

236 *"I must go to Misasi health center… because it is my first pregnancy. I told my*
237 *mother about that and she insisted I must go. My mother in law forbids me to go, what*
238 *should I do?"* - Kamundye
239
240 *"My father asked me to start attending ANC services. He insisted that I go, and so I*
241 *must go."* - Shindye
242
243 Other members of the family echoed descriptions of how decisions to seek healthcare are made
244 by others on behalf of pregnant adolescents.
245
246 *"We sit down, me and my husband to discuss about taking her to clinic, and my husband*
247 *said he will allow me to take her to clinic."* – Elder Mother
248
249 ***Subtheme 1c) necessity of partner accompaniment:***
250 Laws and regulations formulated at community level necessitate that pregnant women are
251 accompanied by their partners at the first ANC visit. This proves more difficult to pregnant
252 adolescents as they are often unwed, or do not have partners. Thus, when pregnant adolescents
253 do attempt to access ANC, they are often turned away from clinic when they arrive.
254
255 *"They told me I should have taken the letter from my hamlet leader if it was true that*
256 *my boyfriend ran away, so I had to go back to my hamlet leader and took the letter"*
257 - Kabula
258
259 *"Recently, when a teenager gets pregnant, she has to attend the clinic with her partner.*
260 *As [another participant] said, most of these girls return home when they break up with*

261 *their husbands, or it might happen that your daughter gets pregnant at home and never*
262 *mentions the man responsible for that pregnancy. She cannot attend clinic without a*
263 *partner, as health workers deny those who attend their first clinic without a partner.*
264 *This is a problem."* - Elder father
265
266 ***Theme 2) Stigma and judgment:***
267 Adolescents expressed experiences of stigmatization within their communities. Their
268 perceptions centered around feelings of being seen differently from other girls their age, and
269 from how they were seen prior to pregnancy, including perceptions of people talking about
270 them or looking at them differently. The experience of stigmatization leads to a reluctance to
271 be seen in their villages, including attendance at ANC clinics, and contributes to a hesitancy to
272 reveal their pregnancies, hindering early initiation of care.
273
274 *"[the community perception] was bad, and some tried to advise me to abort it but I*
275 *refused. ... I would go to [traditional birth attendant]'s place... because I was*
276 *worried. I was worried to go to the health facility."* - Limi
277
278 *"friends from school are no longer my friends, just villagers… there is a difference*
279 *that they are still students and I am no longer"* - Kwezi
280
281
282 *"… there is a difference … because of age, the young ones below 20. [the community]*
283 *see[s] it as negative."* – Nkwaya
284
285

> *"I got pregnant when I was at school, we closed for break and that was when I discovered that I was pregnant. I was not happy at all. I knew that I lost education… my parents, …[the community], they were very furiously provoking me."* - Mwija

Elder family members and other key informants echoed the stories of stigma faced by pregnant adolescents, and their reluctance to be seen in the community as a result. Additionally, it is noted that the stigma is primarily faced due to the reactions of men (rather than women) in the community:

> *"…for these early pregnancies, she won't get advice from any one because she hides her pregnancy a lot, for example the daughter I am living with, after school she won't even go out to fetch water, if you send her to the market, she won't go"* - Elder mother-in-law

> *"And the girls are very scared to come to the clinic alone, so you must take her, and come with her every month. But when you just tell her to go alone, she might not reach the clinic. She might be so shy, because she is so young to be pregnant. So she doesn't want people to see her."* - Elder mother

> *"They also do not show up early for ANC services as they fear to expose their pregnancies to the community, as it is considered as great shame for an adolescent girl to become pregnant while still living at home. This affects them a lot in early ANC service visits, as they keep thinking how the community will perceive them for being in such a situation at teenage."* - Healthcare provider

311 *"The problem is with men but not us women (laughing)… you might find that he is*
312 *provoking you, especially because of these adolescents who gets pregnant while at*
313 *school, maybe you should give men some seminars too"* – Elder mother
314
315 At times the stigmatization of pregnant adolescents was blamed on the girls themselves,
316 insinuating that their experiences of stigmatization are self-inflicted:
317
318 *"…for that case I can say it's because of stigmatizing themselves, that people might see*
319 *and laugh at them ask why they are pregnant while still very young. But we still*
320 *encourage them through education, but I think the barrier is the self-stigmatization and*
321 *the fear to be seen and laughed at by everybody out there."* - Healthcare provider
322
323 *Subtheme 2a) Blame:*
324 Pregnant adolescents bear a burden of blame for the pregnancy at family and community levels.
325 Even in cases where the father of the pregnancy abandoned the mother or was unknown to the
326 family, the blame for the pregnancy and the consequences of the pregnancy fell entirely on the
327 pregnant adolescents. If the pregnancy occurs while still in school, the mother is forced to
328 withdraw, ending her formal education, yet the fathers do not face the same consequence.
329
330 *"they were insulting me…. they told me I had sex when I was too young…*
331 *many people… friends at school."* - Shindye
332
333 *"[My parents] felt so bad because I had to quit my studies because of pregnancy."*
334 – Mwalu

335

336 *"[My parents] furiously provoked me … that I lost education"* - Kulwa

337

338 *"Honestly, we are not happy with these daughters… once it becomes so, we decide to*
339 *be silent, but we are not happy about it at all."* - Elder father

340

341

342 ***Theme 3: Vulnerability to neglect and abuse:***

343 ***Subtheme 3a) Abandonment by the partner***

344 Many adolescent girls lack support from their partners and stories of the partners leaving them
345 once the pregnancy was revealed were common. Partner absence is a barrier to accessing care
346 on its own, however it is exacerbated by the common local by-laws and practices which limit
347 care to women accompanied by a partner. While this practice increases opportunities for HIV
348 testing, and aims to encourage male engagement in MNCH care, prioritizing care to women
349 with partners in attendance has potential for causing unintended harm to pregnant adolescents
350 who already face numerous barriers to accessing care. Pregnant adolescents are sometimes
351 required to get written permission from local leaders to access antenatal care without their
352 partner, which, in light of the stigma they experience, can not only prove daunting, but
353 contributes to late start of ANC, and may discourage some from accessing facility-based ANC.

354

355 *"They started searching for my boyfriend who impregnated me in order to take him to*
356 *court. He decided to run away from the village to secure himself from jail."*
357 – Kulwa

358

359 *"They told me I should have taken the letter from my hamlet leader if it was true that*
360 *my boyfriend ran away, so I had to go back to my hamlet leader and took the letter"*
361 - Buyegi
362
363 *"Before I was pregnant, I was happily living with the one I was pregnant with. But*
364 *when I was four months pregnant, then he disappeared and looked aside. From there*
365 *the one who was taking care of me was my mother."* - Manungwa
366
367 *"Adolescent girls who get pregnant while still at school hide their pregnancy and the*
368 *man who is responsible for her pregnancy always run away once they know their*
369 *partners are pregnant."* - Elder woman
370
371 *"I would like to clarify about these girls aged 19 years and below, when she gets*
372 *pregnant and you ask her about the partner, partners are nowhere to be found!"*
373 - Elder woman
374
375 Partner abandonment can also exacerbate the dependence of pregnant adolescents on their
376 families, who must then bear the cost of the pregnancy and care of the infant. Further, the
377 Fathers of adolescent girls sometimes face the legal repercussions when there is no adolescent
378 partner to blame:
379
380 *"[my father] is the one helping me all this time, he has been there for me in difficult*
381 *times, he buys me all the needs I want."* - Minza
382

383 *"A case was drawn by school administration. My father was taken to Mbarika police*
384 *post, we had to pay some money for his bond, and he was released. When he returned*
385 *home, they planned to arrest him once again he asked them it will be much wiser to*
386 *go arrest the father of the man impregnated me instead."* - Sato

387
388
389 *"I struggle alone with her, ... the one who gave her pregnant is living away from*
390 *where we live so I wasn't even able to inform him. So, I had to take her to clinic by*
391 *myself. I struggle with it. I incur expenses to pay for the motorbike to take her to*
392 *clinic."* - Elder father

393

394 ***Subtheme 3b) Fear and experiences of neglect and abuse***

395 Participants shared stories of their own fears and experiences of neglect and abuse during
396 pregnancy, in addition to their fears that their partners would also be subject to abuse if
397 identified. The pregnancies of adolescent girls, particularly those who are unwed, are not
398 viewed favorably by the community. As a result, pregnant adolescents spoke often of facing
399 negative consequences and punishments from their families, or others.

400

401 *"During my pregnancy, I was getting sick frequently but my mother in law was*
402 *accusing me of lying about it. I sometimes spent the whole day without eating anything,*
403 *but I sometimes had to sneak and go to my home place to eat because it is not far from*
404 *here... They[in-laws] treated me like trash."* - Nchama

405

406 *"... my mother in law chases me out this place often. She orders me to go to work*
407 *even when am seriously sick. The first month of my pregnancy I couldn't eat for*
408 *weeks. One day she came in and woke me up to go to the farm to cultivate. I went to*

*the farm while seriously sick, I fell down unconscious, you see?”*

- Kija

*“There is a girl at my home who previously went away with a man and started their life, but when she conceived that man chased her away. Then she decided to come back home”.* – Nchama

*“…[at clinic] when they are asked who their partners are, they don’t have anything to say [laughing], so that is very challenging to them. And they are sent back home, with very harsh words, to “go back home with your stomach!”.”* – Elder mother

Pregnant adolescents expressed fears to reveal the names of fathers of their pregnancies, for fear that they would face abusive consequences, which compounds the impact of the abandonment they experience. The men who leave them often escape consequence. As a result, all consequence and responsibility fall on the young mother. Families and others in the community do not acknowledge that these adolescents are victims of abandonment by the father, rather the pregnant adolescents bear the full weight of the actions of two people, and feel powerless to control the father’s involvement.

*“I think adolescent girls do not mention the ones responsible for their pregnancies because they think they have carried a heavy burden wrongly at a tender age. She thinks if she mentions the name to her father, she might end up bitterly beaten or end up called a prostitute, that’s why they decide not to mention the names”* - Elder Mother

**Theme 4: Knowledge about ANC.**

Participant stories revealed that pregnant adolescents generally have a good understanding of the reasons and importance of early ANC visits. Many expressed that they understood the importance of ANC for the health of the pregnancy and the baby, and knew that ANC should be accessed early.

> *"They examine blood for HIV test, after that an expectant mother undergoes abdomen examination before returning back home… It ensures the fetus' wellbeing in the womb; you can hear the fetus' pulse."* – Mwija

> *"They do weight check-ups, as well as they follow up the baby's growth in the womb. I was just given [pills] only once… they were helpful for hemoglobin boost…we were also checked for blood pressure. [Others] were advising me to attend ANC services but I wasn't interested.* – Dotto

Healthcare workers expressed concerns that lack of understanding about the importance of ANC were the primary reason that pregnant adolescents did not seek care. However, this view was incongruent with the experiences of the majority of pregnant adolescents, highlighting a lack of understanding among health care workers about the complexity of the financial, and decision-making barriers to care seeking, faced by adolescents.

> *"I can say, that [not attending ANC] is attributed by lack of education on the importance of ANC services. People differ in understanding things. If someone understands the importance for ANC services, they will obviously not fail to access the facility for ANC services."* - Healthcare provider

459

460 While lack of knowledge is assumed by some care providers to contribute to reluctance to seek
461 early ANC, it was expressed only as a partial reason by our adolescent participants. When
462 questioned about their knowledge of the importance of early ANC, their responses focused on
463 other perceived barriers:

464

465 *"Why should I start accessing ANC services at the first month of my pregnancy? I*
466 *wanted some months to pass by. How should I attend all the nine ANC services?"*
467 - Tabu

468

469 *"I was worried… there was a lot of terms to adhere to at the nearby facility. First, I*
470 *had to go with my partner, then paying three thousand as the first service expense and*
471 *then one thousand per each ANC visit monthly."* - Dotto

472
473

474 In some cases, a lack of understanding about the reasons for specific antenatal
475 treatments/supplements were revealed, but they did not hinder ANC attendance or adherence
476 to treatment.

477

478 *"The health care providers didn't tell me exactly what the pills are meant for. Yes, I*
479 *take them, but I don't know what they are for."* - Sayi

480

481

482

483

## Discussion

Our study revealed that pregnant adolescent girls in Misungwi, Tanzania face multiple complex challenges to accessing recommended ANC. Pregnant adolescents' stories revealed their dependence on others, including parents and or husbands/partners, their experiences of stigmatization, their vulnerability to neglect and abuse, and a general reluctance to access ANC, based on multiple barriers.

Our thematic analysis results can be synthesized to highlight a complex power imbalance that is faced by pregnant adolescents on multiple levels. The imbalance of power acts to form a network of barriers to accessing ANC. Weber (1947) defines power as "the probability that one actor within a social relationship will be in a position to carry out his or her own will despite resistance, regardless of the basis on which this probability rests."(19). The things that enable a person to carry out his or her own will, in a given situation, are considered "power sources", and include knowledge, skills, and physical resources, among others (19). Thus, the power of any given actor in a relationship can be expressed as a function of the sources of power available to him or her at any given time of need (20). Power imbalance occurs when power sources are unequally distributed between two or more actors in a given situation (21). The imbalance of power increases as the availability of power sources to the individual in need decreases (22). While our study themes can be used to create a simple list of barriers to accessing ANC for pregnant adolescents, an incorporation of the concept of power imbalance in their interpretation allows a much more complete picture of the complexity of the adolescent girl's pregnancy experience living in Misungwi district to emerge. This in turn can help to ensure that the findings of this research can inform policy change and interventions that will be effective for optimizing ANC for this population.

508 Our participants' experiences and those of their families and community highlight how
509 pregnant adolescents in Misungwi become stuck between childhood dependence and the
510 expectation that they will take full responsibility as mothers. Nearly half of the adolescents in
511 our study became pregnant while still single, and not yet employed. Similar results were
512 reported in a South African study where 94% of pregnant teenage mothers were unemployed
513 and 82.4% were single and remained dependent on others (23). Financial and material
514 resources are an important power source in the imbalance faced by pregnant adolescents in this
515 setting. Although Tanzania's National Health System is mandated to provide maternal health
516 services free of charge (24), the reality is that those accessing ANC, delivery and postnatal
517 health care often face considerable financial burden, that leads, in some cases, to families
518 selling crops or other assets or borrowing money to afford the necessary care(25). The finances
519 necessary to engage in seeking ANC, such as transportation costs, buying maternity clothing,
520 paying for diagnostics and in some cases user-fees, are not directly available to adolescent girls.
521 Thus, the lack of financial independence reduces an adolescent mother's power to make her
522 own decisions, and take action to access ANC. The power imbalance this causes is exacerbated
523 by partner abandonment, and stigma.

524

525 Experiences of stigma were prominent in the stories of our adolescent participants. Pregnancy
526 before marriage, and at a young age remain socially unacceptable. The resulting stigma
527 adolescent girls face, to be seen in their villages, makes it more difficult for them to ask for the
528 assistance and resources they need. A previous study from Northwest Tanzania similarly found
529 that stigma was a significant barrier for unmarried women seeking reproductive healthcare
530 (26). In addition, partners frequently abandon pregnant adolescents, which not only leaves the
531 young mother to bear the full burden of the stigma, it also decreases the number of people
532 available to her to potentially provide the resources necessary for accessing ANC.

While the assumption was expressed by healthcare workers that pregnant adolescents lack understanding of the importance of ANC, our participants demonstrated very good knowledge about the need for early ANC. This incongruence between the views of healthcare workers and the knowledge level of pregnant adolescents should be addressed, as healthcare workers may otherwise over-invest in trying to educate adolescent girls, which is likely to have little impact on their care seeking, and ANC attendance. Knowledge about adequate ANC as a power source was overshadowed by the adolescent's lack of decision making ability; participants shared with us how it is a societal norm in Misungwi district for elders (parents, parents-in-law) or husbands to make the decision about whether a pregnant adolescent is allowed to access ANC. Further, some who do seek care are turned away by healthcare staff, and in some cases face abuse as a result of being abandoned by their partners. A previous qualitative studies of pregnant adolescents in have had similar findings, which revealed significant violence and abuse sustained by pregnant adolescents following partner abandonment (27,28). It is therefore unlikely that improving education and knowledge about ANC alone, would have much impact on ANC attendance among pregnant adolescents in Misungwi.

Systems-level laws and policies, in place for the general good of the population might also contribute to the power imbalance faced by pregnant adolescents in Tanzania. For example, impregnating or marrying a primary or a secondary school pupil in Tanzania is illegal, and punishable by fines of not less than five million shillings ($2600 US) or a five-year prison term, or both (29). While this law aims to protect the rights and safety of young girls, it may inadvertently contribute to partners (young or older) of adolescent girls who become pregnant, to abandon them and remain unidentified, and thus uninvolved in the pregnancy. Additionally, in the absence of a male partner, the adolescent girl's father may be targeted by law enforcement to answer to the legal repercussions of her pregnancy, furthering negative

558 consequences to her family, and potentially exacerbating the stigma and judgement she faces.
559 The fear of these negative repercussions compounds the stigma and shame these adolescent
560 girls face, and may contribute to delayed ANC, as they fear revealing the pregnancy early.

561 The bylaws in Many Tanzanian communities requiring husband/partner ANC attendance
562 cause substantial difficulties for the pregnant adolescent population in accessing adequate
563 ANC as nearly half (42%) do not have a partner to accompany them to clinic (Table 1).
564 Single pregnant adolescents attempting to seek care are turned away if their partner is absent,
565 which leads to embarrassment, and undermines personal autonomy.

566 Thus, partner abandonment, lack of knowledge, resources, and decision-making, as well as
567 fears and experiences of stigma and abuse all act in combination to reduce the power and
568 autonomy of pregnant adolescents with respect to others in the family, the community and the
569 health system. This power imbalance and the resulting barriers to healthcare access may have
570 a substantial impact on the health outcomes of pregnant adolescents and those of their
571 children. Our study themes highlight several barriers to accessing adequate ANC experienced
572 by pregnant adolescents in a rural Tanzanian community. However, a synthesis of these
573 themes in the context of the social power imbalance experienced by our participants uncovers
574 a more complex picture, which will be necessary to consider if effective interventions and
575 changes are to be made to optimize ANC access for this vulnerable population.

576

577 **Strengths and limitations:**

578 Although we endeavoured to include the voices of pregnant adolescents aged 10 through 19 in
579 this study, were unable to identify or invite any participants aged 10 to 14 years, which may
580 have narrowed the range of experiences we were able to uncover. Additionally, the authors

581 acknowledge that the conceptualization of pregnancy and childbirth is heavily tied to social
582 and cultural factors which can vary widely between communities. For these reasons, the
583 transferability of our study's findings beyond rural Tanzania, must be undertaken with caution.
584 However, our results echo those found in qualitative studies of similar topics in other
585 communities in South Africa and Brazil, demonstrating that the transferability of our results is
586 not entirely limited.

587

588 Our study used triangulation of data sources, and data collection methods, which adds to the
589 dependability of our results. The use of multiple coders on the team for analysis as well as audit
590 of the coding and analysis by a senior qualitative researcher have ensured the neutrality of our
591 findings. This study also included a broad range of participant characteristics, which has
592 contributed to the breadth and richness of the data.

593

## 594 Conclusion

595 Antenatal care access among pregnant adolescents in Misungwi district, Tanzania is mediated
596 by complex personal, family, social and systems-level issues that interact to form complex
597 power imbalances that define the adolescent mother's pregnancy and antenatal care
598 experiences. The themes that emerged in our study of financial dependence, lack of power in
599 decision making, experiences of stigma and judgement, violence and abuse do compromise
600 access to ANC among adolescent girls. Future interventions and potential policy changes are
601 needed to optimize ANC access in this vulnerable population. Interventions should aim to
602 mitigate financial burdens on adolescents and their families, and aim to break down power
603 imbalances by educating elders, and husbands in the community about the harms of social
604 stigma, blame and abuse as well as the importance of access to ANC for the adolescent

605 members of their communities. Further interventions should focus on empowering adolescent

606 girls through aiming to normalize pregnancy and ANC, and rewarding ANC attendance, in

607 order to improve their personal autonomy and ability to access ANC services.

608
609
610
611
612

613 **Abbreviations**
614
615 ANC: Antenatal Care; CHWs: Community Health workers; FGDs: Focused Group
616 Discussions; IDIs: In-depth Interviews; KIIs: Key informant interviews; HCW: Health care
617 workers
618
619 **Declarations:**
620 **Acknowledgement**
621 We would like to acknowledge with gratitude all members of the data collection team who
622 played a great role in this study: Boniphace Maendeleo, Zabron Masatu, Hadija S. Maulidi,
623 Hannah Mercader, Sylvia Tinka, Edgar Ndaboine, Tumsifu Matutu, Hellen James Mahindi,
624 Pendo Ndaki, Magdalena Mwaikambo, Rosemary Godfrey Maro, Elisha Joel Ndaki. Sincere
625 gratitude goes to all participants and the Mama na Mtoto research and implementation staff for
626 their valuable support in this research.
627
628 **Funding**
629 This work was carried out with the aid of a grant from the Innovating for Maternal and Child
630 Health in Africa (IMCHA) initiative- a partnership of Global Affairs Canada (GAC), the
631 Canadian Institutes of Health Research (CIHR), and Canada's International Development
632 Research Centre (IDRC). Funding was provided for field activities, personnel, and travel.
633 Funders had no role in study design, data collection, or data analysis. The views expressed
634 herein do not necessarily represent those of IDRC or its Board of Governors.
635 Project implementation for Mama na Mtoto was undertaken with the financial support of the
636 Government of Canada provided through Global Affairs Canada (GAC).
637
638 **Availability of data and materials**

639 The transcripts are available from the corresponding authors on a reasonable request.

640

641 **Authors' contributions**

642 Authors contributions is as follows, WM, JK, RL, DM, VD, GS, and KC were involved in
643 study design, data collection, data analysis, manuscript writing, and substantive manuscript
644 editing. JB was involved in the study design, data collection, interpretation and substantive
645 review and editing of the manuscript. All authors read and approved the final manuscript.

646

647 **Ethics approval and consent to participate**

648 This study was approved by the Catholic University of Health and Allied Sciences Research
649 & Ethical Committee (CREC/201/2017), National Institute for Medical Research Lake Zone
650 Institutional Review Board (MR/53/100/493), Mbarara University of Science and
651 Technology Research Ethics Committee (MUREC 1/7), Uganda National Council for
652 Science and Technology (SS 4386), and the University of Calgary Conjoint Health Research
653 Ethics Board (REB17-1741). All informants 18 years of age and above signed a
654 written consent with a witness signing as well. Parents/guardians or husbands (18+) signed
655 consent forms for adolescents less than 18 years of age, and the adolescents signed assent
656 forms. Only those adolescents with fulfilled consent requirements took part in the study.

657

658

659 **Consent for publication**

660 Consent for publication was obtained from all participants for the anonymous quotes in the
661 transcript for publication in peer review journal publications. All names appearing in this
662 manuscript are pseudonyms, and do not reflect the true identities of the individual participants.

663

664 **Competing interest**

665 No authors have competing interests to declare.

666

667 **REFERENCES**

668 1. WHO. Adolescents: health risks and solutions 2018. Available from
669 https//www.who.int/news-room/fact-sheets/detail/adolescents-health-risks-and-
670 solutions.
671 2. Kassa GM, Arowojolu AO, Odukogbe AA, Yalew AW. Prevalence and determinants
672 of adolescent pregnancy in Africa: a systematic review and Meta-analysis. Reprod
673 Health [Internet]. 2018;15(1):195. Available from: https://doi.org/10.1186/s12978-
674 018-0640-2
675 3. Tanzania Demographic and Health Survey and Malaria Indicator Survey 2015-2016.
676 Dar es Salaam: MoHCDGEC, MoH, NBS, OCGS, and ICF; 2016.
677 4. WHO. Global accelerated action for the health of adolescents (AA-HA!) [Internet].
678 2017. Available from:
679 https://apps.who.int/iris/bitstream/handle/10665/255415/9789241512343-
680 eng.pdf?sequence=1
681 5. Bailey LD. Adolescent girls: A vulnerable population. Adv Neonatal Care.
682 2012;12(2):102–6.
683 6. Campbell OM, Graham WJ. Strategies for reducing maternal mortality: getting on with
684 what works. Lancet. 2006.
685 7. Brenner JL et al. Mama na Mtoto (MnM) Programme in Misungwi District MR.
686 Equity Analysis. Unpublished. 2016;
687 8. Olausson PO, Cnattingius S, Haglund B. Teenage pregnancies and risk of late fetal
688 death and infant mortality. BJOG An Int J Obstet Gynaecol. 1999;106(2):116–21.
689 9. Kuzma EK, Peters RM. Adolescent vulnerability, sexual health, and the NP's role in
690 health advocacy. J Am Assoc Nurse Pr. 2016;28(7):353–61.
691 10. Kaphagawani NC, Kalipeni E. Sociocultural factors contributing to teenage pregnancy

692 in Zomba district, Malawi. Glob Public Health. 2017;12(6):694–710.
693 11. UNAIDS. Empower young women and adolescent girls. In: Fast-tracking the end of
694 the AIDS epidemic in Africa. Geneva; 2015.
695 12. Organization WH. Adolescent pregnancy: adolescence is a time of opportunity during
696 which a range of actions can be taken to set the stage for healthy adulthood: fact sheet.
697 2014.
698 13. Shahabuddin A, N�stlinger C, Delvaux T, Sarker M, Delamou A, Bardaj� A, et al.
699 Exploring Maternal Health Care-Seeking Behavior of Married Adolescent Girls in
700 Bangladesh: A Social-Ecological Approach. PLoS One [Internet].
701 2017;12(1):e0169109. Available from: https://doi.org/10.1371/journal.pone.0169109
702 14. Brenner Jennifer l. Mama Na Mtoto website. Available from:
703 https://www.mnmtanzania.com, last accessed May 19, 2020.
704 15. No Title [Internet]. Vol. 2019. 2019. Available from:
705 https://www.nbs.go.tz/index.php/en/census-surveys/population-and-housing-
706 census/178-tanzania-total-population-by-district-regions-2016-2017
707 16. Heise LL. Violence against women: An integrated, ecological framework. Violence
708 Against Woman. 1998;
709 17. Bronfenbrenner U. Toward an experimental ecology of human development. Am
710 Psychol. 1977;
711 18. Lincoln Y, Guba NJ. Naturalistic inquiry. Vol. 1. Beverly Hills: Sage Publications;
712 1985.
713 19. Weber M. The Theory Of Economic And Social Organization. Trans AM Henderson
714 Talcott Parsons New York. 1947;
715 20. El-Ansary AI, Stern LW. Power Measurement in the Distribution Channel. J Mark
716 Res. 1972;

717 21. Driss E, Maria Z, Marc Z. Power imbalance in collaboration relationships. Int J Supply
718 Oper Manag [Internet]. 2016;2(4):1021–34. Available from: https://hal.archives-
719 ouvertes.fr/hal-01588944
720 22. Emerson RM. Power-Dependence Relations. Am Sociol Rev [Internet].
721 1962;27(1):31–41. Available from: http://www.jstor.org/stable/2089716
722 23. Worku EB, Woldesenbet SA. Factors that Influence Teenage Antenatal Care
723 Utilization in John Taolo Gaetsewe (JTG) District of Northern Cape Province, South
724 Africa: Underscoring the Need for Tackling Social Determinants of Health. Int J MCH
725 AIDS [Internet]. 2016;5(2):134–45. Available from:
726 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5187645/
727 24. Mubyazi GM. The Tanzanian policy on health-care fee waivers and exemptions in
728 practice as compared with other developing countries: evidence from recent local
729 studies and international literature. East Afr J Public Health. 2004;
730 25. Kruk ME, Mbaruku G, Rockers PC, Galea S. User fee exemptions are not enough:
731 Out-of-pocket payments for “free” delivery services in rural Tanzania. Trop Med Int
732 Heal. 2008;
733 26. Hokororo A, Kihunrwa AF, Kalluvya S, Changalucha J, Fitzgerald DW, Downs JA.
734 Barriers to access reproductive health care for pregnant adolescent girls: a qualitative
735 study in Tanzania. Acta Paediatr. 2015;104(12):1291–7.
736 27. Miura PO, Tardivo LS de LPC, Barrientos DMS. O desamparo vivenciado por mães
737 adolescentes e adolescentes gravidas acolhidas institucionalmente (Helplessness
738 experienced by adolescent mothers and pregnant adolescents sheltered in institutions).
739 Ciéncia & Saúde Coletiva. 2018;23:1601–10. Available from:
740 http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1413-
741 81232018000501601&nrm=iso

742 28. Kumar M, Huang K-Y, Othieno C, Wamalwa D, Madeghe B, Osok J, et al. Adolescent
743 Pregnancy and Challenges in Kenyan Context: Perspectives from Multiple Community
744 Stakeholders. Glob Soc Welf [Internet]. 2018;5(1):11–27. Available from:
745 https://doi.org/10.1007/s40609-017-0102-8
746 29. United Republic of Tanzania. Written laws (Miscellaneous Amendments ) (No.2) Act
747 2016. 2016.
748