Gender norms associated with adolescent sexual behaviours in Uganda

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1. Introduction

Gender norm attitudes and practices remain deeply entrenched in many African societies (Gibson *et al.* 2014; Wight *et al.* 2006). Countries driven by gender inequalities that constrain individual behaviour in sexual interactions often have the highest rates of HIV and teenage pregnancies (Hardee *et al.* 2014; Richards *et al.* 2013; Van den Berg *et al.* 2013). Women and girls face more gendered risks than their male counterparts, which affects their social, economic and political opportunities (Mbonye *et al.* 2012; UNAIDS 2016; UNICEF 2015). Risks such as poverty, school dropout owing to pregnancy or early marriage, sexual harassment and continuing parental preference to invest in the education of boys, limit girls from reaching their full potential (Amin *et al.* 2013; Bantebya *et al.* 2014; Burgess and Campbell 2016; Ssewamala *et al.* 2010). Gender norms and power dynamics between men and women have been widely studied in the context of HIV and gender-based violence in adult populations (Nanda 2011). However, less is known about the association between gender norms and sexual behaviours among adolescents in Uganda, and whether adolescents approve or disapprove of the gender inequitable norms. Yet messages around gender norms that influence behaviour are transmitted early in life, and by adolescence are internalised in a young person's world-view (Vu *et al.* 2017). Therefore, adolescents' gender perspectives and inequitable gender norms found to affect sexual and reproductive health service uptake need to be addressed in the design of adolescent health programmes (Chandra-Mouli *et al.* 2017). This is because gender inequitable norms often lead to gender power imbalance and affects adolescents' ability to negotiate safe sex (UNESCO 2017), thereby putting them at risk of HIV and unplanned pregnancies (UBOS 2018). Thus, the present study focuses on understanding the gender norms associated with sexual and reproductive health (SRH) behaviours such as behavioural intention and self-efficacy to the use of condoms, contraception and reduction of multiple concurrent sexual partnerships as outcome measures. The Gender Equitable Men [GEM] scale was used to assess the gender norms in this study.

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2. Methods

2.1 *The Gender Equitable Men (GEM) scale*

This study used the GEM scale to explore the perceptions and associations of gender norms and SRH

ISSJ 231 © 2019 The Authors *International Social Science Journal* Published by John Wiley & Sons Ltd

behaviours among adolescent girls and boys aged 15 to 19. The GEM scale, which emerged out of a social constructionist perspective of gender identity, postulates that any given cultural setting provides multiple versions of appropriate behaviour for men and women (Pulerwitz and Barker 2008). It contains 34 items that have been validated and used over time in different country settings among both men and women (Harrison *et al.* 2006; Pulerwitz and Barker 2008; Shattuck *et al.* 2013; Singh *et al.* 2013; Vu *et al.* 2017). The general discourse in studies that used the GEM scale in sub-Saharan Africa (SSA) settings found that both men and women were in high support for gender inequitable norms, with women being less gender equitable (Kazaura *et al.* 2015; Flood and Lang 2015; Harrison *et al.* 2006; Vu *et al.* 2017). We adopted the GEM scale because it is a standardised measure widely used to explore gender norms perspectives. The specific sub-groups/sub-scales adopted from the GEM scale to measure gender-related attitudes among adolescents include: domestic chores/ household decision-making, sexual relationships/habits, reproductive health and pregnancy and disease prevention, and physical violence. These sub-groups were adopted based on previous research on gender norms (Nanda 2011; Pulerwitz and Barker 2008). The respondents who agreed and partly agreed to the GEM scale statements were identified as being gender inequitable.

2.2 Study design and sampling

We used data from a cross-sectional survey, conducted in 2015, that covered 16 purposively selected districts of Uganda (Lira, Amuru, Ntungamo, Ibanda, Mbale, Kumi, Iganga, Buyende, Arua, Nebbi, Moroto, Kaabong, Mukono, Sembabule, Kasese, Kyenjojo). A stratified multi-stage probability sampling design was employed where sampling occurred in four stages: 80 parishes were randomly selected from the 16 districts using stratified, probability proportional to size (PPS) systematic sampling, for which a list of villages in the parish was obtained and three villages randomly sampled using PPS. Ten households from each randomly selected village and household samples were drawn with uniform probability using a sampling frame/list generated with the local leaders. A members list for each sampled household was generated and basic demographic information about each household member was collected and used for selection of eligible individual participants using a Kish grid. The latter is a method for selecting members within a household to be interviewed if there is more than one eligible member in each stratum (CHC 2016; Kish 1949). Although data from men and women aged 15 to 49 was collected, the current study only included data from 867 adolescent girls and boys aged 15 to 19.

2.3 Measures

Table 1 summarises the socio-demographic and SRH behavioural measures, as well as the GEM scale measures, including questions and response categories. The study assessed the following socio-demographics: age, education level, marital status, religion, occupation, sexual debut, and begun childbearing. All three sexual behaviours (condom use, multiple sexual partnerships, and contraception use) were assessed with two items (behavioural intention and self-efficacy) using a three to four point Likert scale (e.g., very likely, likely, unlikely, very unlikely, and extremely confident, moderately confident, not at all confident). The survey tool was structured with automatic skips to ensure respondents were only asked questions they could ethically respond to. This applied especially to questions of past and/or current sexual activity (e.g., sexual debut, contraceptive use) for which a conditional response may follow. Except in such occurrences, most questions on sexual and reproductive health were asked of every respondent, including general questions on health seeking, behavioural determinants, and future intentions. The GEM scale measure used four items (domestic chores and household decision-making, sexual relationships/habits, reproductive health and pregnancy and disease prevention, and physical violence) whose variables were assessed using a three-point Likert scale (agree, partly agree, do not agree).

2.4 Data analysis

The GEM scale is comprised of items categorised in two ways: gender inequitable norms and equitable gender norms sub-scales (Antal and Rothenbühler 2015). The gender norms survey instrument used in this study adopted 16 items from the gender inequitable norms sub-scale. The sub-groupings of the 16 items (Table 4) adopted from the GEM scale

TABLE 1. Socio-demographics, SRH behaviours and GEM scale measures in this study

Measures	***Questions and response categories***
Socio-demographic characteristics	*Age:* respondents were asked the age at their last birthday. *Education level:* participants were asked their highest level of school. Responses were: *Primary (= 1), "O" level (= 2), "A" level (= 3), Tertiary (= 4)* *Marital status:* responses were *Not married (= 1), Married (= 2)* *Religion:* responses were *Catholic (= 1), Protestant (= 2), Muslim (= 3), Pentecostal (= 4), Seventh Day Adventist (= 5), Other (= 6)* *Occupation:* responses were *Subsistence farmer (= 1), Commercial farmer (= 2), Labourer/ domestic worker (= 3), Petty trader/ Hawke (= 4), Owns business with three or more employees (= 5), Student (= 6), Other (= 7)* *Sexual debut:* for age at first sex, respondents were asked how old they were when they had sexual intercourse for the very first time Responses: *entered age at first sex (1), did not enter age (2)* *Already had a child:* respondents were asked if they had a child at the time of the survey. Responses: *Yes (= 1), No (= 0)*
Sexual and reproductive health behaviours	*Behavioural intention to use contraception:* a) How likely are you to use a contraceptive method in the next six months? Responses: *Very likely (= 3), Likely (= 2), Unlikely (= 1), Very unlikely (= 0)* *Self-efficacy to use contraception:* b) How confident are you that you can use a contraceptive method if you want to? Responses: *Extremely Confident (= 2), Moderately confident (= 1), Not at all confident (= 0)*
	Behavioural intention to use condoms at every sexual encounter: a) How likely are you to use a condom during sex in the next six months? b) How likely are you to use a condom the next time you have sexual intercourse? Responses: *Very likely (= 3), Likely (= 2), Unlikely (= 1), Very unlikely (= 0)* *Self-efficacy to use a condom at every sexual encounter:* c) It is easy to suggest to partner to use a condom Responses recoded as: *Strongly agree (= 3), Agree (= 2), Disagree (= 1), Strongly disagree (= 0)* d) How comfortable are you talking with a sexual partner about condoms? Responses: *Very comfortable (= 2), Somewhat comfortable (= 1), Not very comfortable (= 0)*
	Behavioural intention to have one sexual partner: a) How likely are you to only have one sexual partner in the next six months? Responses: *Very likely (= 3), Likely (= 2), Unlikely (= 1), Very unlikely (0).* *Self-efficacy to avoid multiple concurrent sexual partnerships* b) How confident are you that you could have only one sexual partner in the next six months? Responses: *Extremely Confident (= 2), Moderately confident (= 1), Not at all confident (= 0).*

(Continued)

TABLE 1. Continued

Measures	*Questions and response categories*
GEM scale	
Domestic chores and household decision-making	a) Changing diapers, giving a bath, and feeding children is the mother's responsibility b) A man should have the final word about decisions in his home c) A woman's most important role is taking care of her home and cook for her family All responses coded as: *Agree (0), Partly agree (1), Do not agree (2)*
Sexual relationships/ habits	a) It is the man who decides what type of sex to have b) Men need sex more than women do c) Men are always ready to have sex d) You don't talk about sex, you just do it. All responses coded as: *Agree (0), Partly agree (1), Do not agree (2)*
Reproductive health and pregnancy and disease prevention	a) It is a woman's responsibility to avoid getting pregnant b) Women who carry condoms on them are *"cheap"* c) I would be outraged if my wife asked me to use a condom d) A man must have sex with other women, even if things with his wife are fine All responses coded as: *Agree (0), Partly agree (1), Do not agree (2)*
Physical violence	a) A woman should tolerate violence to keep the family together b) It is okay for a man to hit his wife if she won't have sex with him c) If a woman cheats on a man, it is okay for him to hit her d) If someone insults me, I will defend my reputation with force if I have to e) There are times when a woman deserves to be beaten All responses coded as: *Agree (0), Partly agree (1), Do not agree (2)*

Source: own adjustment based on CHC Evaluative survey data.

was based on previous research on gender norms which showed that GEM scale consists of several sub-scales/sub-groups (Nanda 2011; Pulerwitz and Barker 2008). The use of the sub-scales within the GEM scale were deemed appropriate based on the factor loadings in Table 6. The dropped items were not assessed during data collection because they were not considered appropriate for the programme context, and the unfavourable policy environment. Some of the dropped items include: "I would never have a gay friend"; "If she wants, a woman can have more than one sexual partner"; "A man always deserves the respect of his wife and children".

2.4.1. Sampling weights

Before analysis, sample weights were calculated based on parish, village, household and household member. The weights were determined based on probabilities that: parish is selected; village is selected conditional to parish being selected; household is selected conditional to village being selected; and household member is selected conditional to household being selected. Those probabilities were multiplied, and then the inverse was taken as the individual sampling weights (CHC 2016). The weight domain variable was created, set as 1 if the person was included in the analysis, and 0 if not. In these analyses, the highest-level sampling unit, the parish, was specified as the primary sampling unit. Adding sampling weights helped to ensure that individuals were sampled with equal probabilities. This aimed at correcting the bias introduced by an imperfect sampling frame, compensating for non-response and an under- or over- representation of certain groups (Antal and Rothenbühler 2015).

2.4.2. Descriptive statistics analysis

Descriptive statistics for socio-demographics including: age, education level, marital status, religion, occupation, and sexual debut were analysed to describe gender norms characteristics in the data. Descriptive statistics disaggregated by gender were run to assess their perceptions on the gender norms variables explored in this study.

TABLE 2. Assessment of scale structure for GEM sub-scales

GEM sub-scale	***Eigenvalue***	**Ω**	***95% CI***
Domestic chores and household decision-making sub-scale	1.61	0.76	0.74, 0.79
Sexual relationships/habits sub-scale	1.87	0.76	0.73, 0.79
Reproductive health and pregnancy and disease prevention sub-scale	1.43	0.56	0.51, 0.62
Physical violence sub-scale	2.15	0.80	0.77, 0.82

Note: see Appendix for items in each sub-scale.
Source: own adjustment based on CHC Evaluative survey data.

2.4.3. Scale structure

To assess the internal structure of the scales, factor analysis and omega hierarchical were computed for the GEM sub-scales (Crutzen and Peters 2017), whose eigenvalues and omega hierarchical were deemed appropriate for the measurement (Table 2). The mean scores for the respective sub-scale items were computed to combine them into one variable for analysis.

The same procedure was applied to the SRH behaviour variables. The scale structure of the measurements for behavioural intention to use condoms at every sexual encounter *(eigenvalue 1.58; r = .79; 95% CI .76, .81*); and self-efficacy to use condoms at every sexual encounter *(eigenvalue 1.55; r = .78; 95% CI .75, .80*) were both deemed appropriate. The mean of the variables was computed to derive one variable for analysis.

Generating data associations: Using bivariate correlation analysis, associations between the GEM sub-scale variables and SRH behaviour variables were analysed. Using a frequentist approach, the most widely accepted method would be to draw conclusions based on the confidence intervals (CI) for these associations (Crutzen *et al.* 2017).

2.5 Ethical approval

Ethical approval for the study was obtained from the United States of America federally registered institutional review board of FHI 360 (Family Health International), the Protection of Human Subjects Committee, under reference 616862-1, and in Uganda by the government accredited Makerere School of Public Health Research Ethics Committee, under reference 259. Consent to conduct the study was obtained from the Uganda National Council for Science and Technology and the Office of the President. The study team requested and obtained waiver of written consent to increase confidentiality because signed informed consent forms would be the only link to the participants' identity in this study. Adolescent consenting procedures were undertaken in two ways: (i) verbal informed consent was obtained for emancipated adolescent 15–17 years (either married or not living under the care of a parent/guardian); and (ii) verbal informed parental/guardian consent and adolescent assent were obtained for non-emancipated adolescents 15–17 years (minors living under the care of a parent/guardian). For adolescents aged 18–19, verbal informed consent was sought from each participant before any study specific activities were undertaken. Per ethical approval, verbal informed consent was obtained for each participant and documented via signature of the study staff member who obtained consent.

3. Results

A total of 867 adolescents participated in this study. Of these, 447 (52 per cent) were girls and 420 (48 per cent) boys. The majority (55 per cent) were in the 15–17 age group. Sixty-four per cent of both adolescent girls and boys had attained primary level education, and 33 per cent attained secondary ordinary level education. The religious affiliation of the respondents shows that the majority were Catholics (43 per cent) followed by Protestants (33 per cent). Almost half (49 per cent) of the respondents reported that they were students. In terms of occupation, commercial farmers were 19 per cent, subsistence farmers 16 per cent, and labourers including domestic workers were 4 per cent. Forty-nine per cent of the respondents were reportedly sexually active. Almost half, 48 per cent, of the respondents' age at first sexual debut was between 15 and 16 years. The median age at first sex in this study is 15 years. Among the sexually active, 11 per cent (96) were married and

TABLE 3. Socio-demographic characteristics of respondents (N = 867)

Measure	*Weighted frequency and percentage (%)*		
	All respondents (N = 867)	***Girls (N = 447)***	***Boys (N = 420)***
Age			
15–17	478 (55%)	237 (53%)	241 (57%)
18–19	389 (45%)	210 (47%)	179 (43%)
Education level			
Primary level	535 (64%)	276 (64%)	259 (64%)
Secondary ordinary level	273 (33%)	140 (33%)	133 (33%)
Secondary advanced level	16 (2%)	8 (2%)	8 (2%)
Tertiary level	8 (1%)	4 (1%)	4 (1%)
Marital status			
Married	96 (11%)	44 (10%)	52 (13%)
Not married	768 (89%)	402 (90%)	366 (87%)
Religion			
Catholic	371 (43%)	188 (42%)	182 (43%)
Protestant	288 (33%)	150 (34%)	138 (33%)
Muslim	125 (15%)	62 (14%)	63 (15%)
Pentecostal	61 (7%)	35 (8%)	26 (6%)
Seventh Day Adventists (SDA)	10 (1%)	7 (2%)	3 (1%)
Occupation			
Student	420 (49%)	217 (49%)	203 (49%)
Subsistence farmer	137 (16%)	64 (14%)	73 (17%)
Commercial farmer	164 (19%)	80 (18%)	84 (20%)
Laborer (domestic worker/maid/ house help)	31 (4%)	17 (4%)	14 (3%)
Petty trader/hawker/vendor/boda-boda	27 (3%)	16 (4%)	10 (2%)
Owns business with three or more employees	28 (3%)	15 (3%)	13 (3%)
Other	55 (6%)	35 (8%)	21 (9%)
Sexual debut (Age at first sex)			
< = 12 years	30 (7%)	13 (6%)	17 (9%)
13–14 years	84 (20%)	45 (21%)	39 (20%)
15–16 years	200 (48%)	111 (50%)	89 (45%)
17–18 years	102 (24%)	49 (22%)	53 (27%)
19 years	3 (1%)	3 (1%)	0
Already had a child	111 (13%)	58 (13%)	53 (13%)

Source: own adjustment based on CHC Evaluative survey data.

of these, 48 per cent (46) were married at the age of 19 and 36 per cent (35) at the age of 18. Among those married, 85 per cent (82) were living with their partner. A total of 13 per cent reported already having a child at the time of the survey (Table 3).

(a) Perceptions of adolescents on gender norms explored in this study

The findings in Table 4 indicate that the perceptions of adolescent girls and boys were quite similar on most of the gender norms explored in this study. For example, there appears to be general agreement with domestic chores and household decision-making, and sexual relationships/ habits constructs. Both girls (84 per cent) and boys (84 per cent) agreed that changing diapers, giving a bath, and feeding children is the mother's responsibility. They also agreed that men need sex more than women do (girls = 65 per cent and boys = 65 per cent), and that men are always ready to have sex (girls = 62 per cent and boys = 62 per cent). The sentiments of both girls and boys were also more towards disagreement with the norms under physical violence, and partly reproductive health. Both girls (31 per cent) and boys (32 per cent) were in agreement with the statement "I would be outraged if my wife asked me to use a condom". Similarly, both girls (28 per cent) and boys (29 per cent) agreed that "A man must have sex with other women, even if things with his wife are fine". Slightly more boys (25

TABLE 4. Perceptions of adolescents on GEM scale norms (N = 867)

GEM sales	*GEM scale variables*	*Agreed [N (%)]*	
		Girls (N = 447)	***Boys (N = 420)***
Domestic chores and household decision-making	1) Changing diapers, giving a bath, and feeding children is the mother's responsibility	371 (84%)	346 (84%)
	2) A man should have the final word about decisions in his home	338 (78%)	327 (79%)
	3) A woman's most important role is taking care of her home and cook for her family	375 (85%)	360 (87%)
	Mean (M) = .23 and Standard Deviation (SD) = .39		
Sexual relations/ habits	4) It is the man who decides what type of sex to have	199 (54%)	191 (56%)
	5) Men need sex more than women do	252 (65%)	230 (65%)
	6) Men are always ready to have sex	237 (62%)	221 (62%)
	7) You don't talk about sex, you just do it.	112 (32%)	100 (31%)
	Mean (M) = .77 and Standard Deviation (SD) = .63		
Reproductive health and pregnancy and disease prevention	8) It is a woman's responsibility to avoid getting pregnant	260 (64%)	250 (66%)
	9) Women who carry condoms on them are "cheap"	212 (53%)	215 (56%)
	10) I would be outraged if my wife asked me to use a condom	109 (31%)	105 (32%)
	11) A man must have sex with other women, even if things with his wife are fine	113 (28%)	112 (29%)
	Mean (M) = .96 and Standard Deviation (SD) = .57		
Physical violence	12) A woman should tolerate violence to keep the family together	242 (56%)	232 (58%)
	13) It is okay for a man to hit his wife if she won't have sex with him	78 (19%)	98 (25%)
	14) If a woman cheats on a man, it is okay for him to hit her	240 (56%)	235 (59%)
	15) If someone insults me, I will defend my reputation with force if I have to	176 (41%)	178 (45%)
	16) There are times when a woman deserves to be beaten	160 (37%)	162 (40%)
	Mean (M) = .99 and Standard Deviation (SD) = .60		

Response categories on a 3-point Likert scale: *Agree (0), Partly agree (1), Do not agree (2)*
Single frequencies presented in the table are based on respondents who agreed and partly agreed to the GEM scale statements.
Source: own adjustment based on CHC Evaluative survey data.

per cent) than girls (19 per cent) agreed with the statement that "it is okay for a man to hit his wife if she won't have sex with him". Additionally, 37 per cent of girls and 40 per cent of boys agreed that "There are times a woman deserves to be beaten" (Table 4).

(b) Associations between gender norms and sexual behaviours among adolescents

The findings in Table 5 indicate that there were no significant correlations between the gender equitable norm for sexual relationships/habits and behavioural intention and self-efficacy towards contraceptive use, condom use, and number of sexual partners. A more general observation is that the highest correlations were found between behavioural intention and self-efficacy towards contraceptive use, condom use, and the norm for reproductive health and pregnancy prevention and disease prevention. For example, there was a moderate positive correlation between the norm for reproductive health and pregnancy and disease prevention and behavioural intention to use contraception, $r = .23$ ($p < .01$; 95% CI .16, .29), as well as self-efficacy to use condoms, $r = .29$ ($p < .01$; 95% CI .23, .35). The norm for reproductive health and pregnancy and disease prevention has non-significant correlations with behavioural intention to have one sexual partner, and self-efficacy to avoid multiple concurrent sexual partnerships.

TABLE 5. Correlates of GEM scale norms and SRH behaviours (N = 867)

Sexual and Reproductive Health (SRH) behaviours				*GEM scales*	*Associations*		
		Mean and Standard deviation			*Pearson's (r)*		
Key SRH behaviour	***Behavioural variables***	***M***	***SD***		***All respondents N = 867 (95% CI)***	***Girls - N = 447 (95% CI)***	***Boys - N = 420 (95% CI)***
Contraceptive use	*Behavioural intention to use contraception*	1.14	1.21	1	.13** (.06, .19)	.14** (.05, .23)	.11* (.02, .21)
				2	−.04 (−.11, .03)	−.06 (−.15, .04)	−.02 (−.11, .08)
				3	.23** (.16, .29)	.23** (.14, .31)	.22** (.12, .31)
				4	−.07 (−.14, −.01)	−.06 (−.15, .04)	−.10 (−.19, .00)
	Self-efficacy to use contraception	1.18	.85	1	.07 (.00, .13)	.06 (−.04, .15)	.08 (−.02, .17)
				2	−.04 (−.11, −.03)	−.02 (−.11, .07)	−.06 (−.15, .04)
				3	.23** (.17, .29)	.25** (.16, .34)	.21** (.11, .30)
				4	.02 (−.05, .08)	.00 (−.09, .09)	.03 (−.06, .13)
Condom use	*Behavioural intention to use condoms at every sexual encounter*	1.63	1.10	1	.06 (.00, .13)	.06 (−.03, .16)	.06 (−.03, .16)
				2	.03 (−.04, .09)	.06 (−.03, .15)	−.01 (−.10, .09)
				3	.24** (.18, .30)	.25** (.16, .34)	.23** (.13, .32)
				4	.00 (−.06, .07)	.03 (−.07, .12)	−.03 (−.12, .07)
	Self-efficacy to use condoms	1.41	.09	1	.08* (.02, .15)	.08 (−.01, .17)	.09 (−.01, .18)
				2	.02 (−.05, .09)	.04 (−.06, .13)	.01 (−.09, .10)
				3	.29** (.23, .35)	.29** (.20, .37)	.30** (.21, .38)
				4	−.01 (−.08, .06)	.02 (−.07, .12)	−.04 (−.14, .05)
Number of sexual partners	*Behavioural intention to have one sexual partner*	2.16	.94	1	−.05 (−.11, .02)	−.02 (−.11, .07)	−.07 (−.18, .03)
				2	−.05 (−.12, .01)	−.09 (−.18, .01)	−.02 (−.12, .09)
				3	.03 (−.04, .10)	.02 (−.08, .11)	.04 (−.06, .15)
				4	.06 (.00, .13)	.06 (−.03, .15)	.06 (−.04, .17)
	Self-efficacy to avoid multiple concurrent sexual partnerships	1.46	.74	1	−.03 (−.10, .04)	−.03 (−.12, .07)	−.04 (−.13, .06)
				2	−.03 (−.09, .04)	−.02 (−.11, .07)	−.03 (−.13, .07)
				3	.05 (−.02, .12)	.04 (−.05, .13)	.06 (−.03, .16)
				4	.10* (.04, .17)	.13* (.04, .22)	.07 (−.03, .16)

**.*Correlation is significant at the 0.01 level (2-tailed).*
*.*Correlation is significant at the 0.05 level (2-tailed).*
GEM scale: 1 = Domestic chores and household decision-making sub-scale; 2 = Sexual relationships/ habits sub-scale; 3 = Reproductive health and pregnancy and disease prevention sub-scale; 4 = Physical violence sub-scale
Source: own adjustment based on CHC Evaluative survey data.

(i) Gender norms and contraception use among adolescents

We found a moderate positive correlation between behavioural intention to use contraception and the norm for reproductive health and pregnancy and disease prevention among girls, $r = .23$ ($p < 0.01$; 95% CI .14, .31) and boys, $r = .22$ ($p < .01$; 95% CI .12, .31). Behavioural intention to use contraception and domestic chores and household decision-making among girls and boys was not significant. Self-efficacy to use contraception and the norm for reproductive health and pregnancy and disease prevention had a moderate positive correlation among girls, $r = .25$ ($p < .01$; 95% CI .16, .34) and boys, $r = .21$ ($p < 0.01$;95% CI .11, .30). There was no significant correlation between self-efficacy to use contraception and sexual relationship/habits among both girls and boys (Table 5).

(ii) Gender norms and condom use among adolescents

The findings indicate a moderate positive correlation between behavioural intention to use condoms at every sexual encounter and the norm for reproductive health and pregnancy and disease prevention for both girls, $r = .25$ ($p < .01$; 95% CI .16, .34) and boys, $r = .23$ ($p < .01$; 95% CI .13, .32). There is a moderate positive correlation between self-efficacy to use condoms and the norm for reproductive health and pregnancy and disease prevention among girls, $r = .29$ ($p < .01$; 95% CI .20, .37) and boys, $r = .30$ ($p < .01$; 95% CI .21, .38). There was no significant correlation between self-efficacy to use condoms and sexual relationship/ habits among girls and boys (Table 5).

(iii) Gender norms and number of sexual partners among adolescents

The findings indicate a small positive correlation between self-efficacy to avoid multiple concurrent sexual partnerships and the norm for use of physical violence among girls, $r = .13$ ($p < .05$; 95% CI .04, .22), but no significant correlation among boys, $r = .07$ (95% CI −.03, .16). There was no significant correlation between behavioural intention to only have one sexual partner and physical violence among girls and boys (Table 5).

4. Discussion

This study assessed the gender norms associated with adolescent SRH behaviours such as behavioural intention to perform recommended behaviours including condom use and contraception use. The findings on *contraceptive use* indicate positive correlations for behavioural intention to use contraception and self-efficacy to use contraception, with an equitable gender norm for reproductive health and pregnancy and disease prevention. The perceptions of adolescents were on average similar to the gender norms, underscoring that "it is a woman's responsibility to avoid getting pregnant", and "women who carry condoms on them are cheap", with boys being more gender inequitable than girls. Behavioural intention to use contraception was found to be correlated with an equitable gender norm for domestic chores/household decision-making. On average, adolescents had similar views on the gender inequitable norms of male dominance in decision-making and the women's subordinate position of taking care of a home. Regarding *condom use,* positive correlations were found for behavioural intention to use condoms at every sexual encounter, and self-efficacy to use condoms with an equitable gender norm for reproductive health and pregnancy and disease prevention. On average, both adolescent girls and boys agreed to the gender inequitable norms such as "women who carry condoms on them are cheap". Regarding *number of sexual partners,* our study found self-efficacy to avoid multiple concurrent partnerships to be correlated with an equitable gender norm regarding use of physical violence in the partnership. However, this correlation was low. The perceptions of most of the adolescents were towards disapproval of the use of physical violence in maintaining a relationship with a sexual partner. Therefore, although the perceptions of girls and boys appeared to agree on norms for domestic chores/ household decision-making, and sexual relationships/habits, their sentiments were more towards disagreement with the statements under physical violence.

These findings are comparable to other studies conducted in sub-Saharan Africa. In South Africa, it was found that a girl's respectability is gained by her being sexually available to her partner, allowing him sexual decision-making authority, being

sexually faithful, and avoiding pregnancy – which is not necessarily synonymous with practising female contraception (Lary *et al.* 2004; Varga 2003). Our study found that most girls and boys believed that it is a woman's responsibility to avoid getting pregnant, and yet over half agreed that women who carry condoms on them are "cheap". This finding also concurs with Pulerwitz *et al.* (2010) who found that gender norms that put men in a position of sexual dominance limit women's ability to control their own reproductive and sexual health, and the belief that girls who carry or suggest using condoms are promiscuous (Pulerwitz *et al.* 2010; Varga 2003). Other studies also found widespread resistance to the use of condoms in stable and long-term relationships because of their association with lack of trust and illicit sex (Maharaj and Cleland 2005). A study in three sub-Saharan countries found that more prevalent traditional gender roles including "the male is supposed to take the initiative and responsibility for safe sex practices such as condom buying and negotiating", inhibit safe sex practices (Eggers *et al.* 2016). Our study found no significant correlation between behavioural intention to use condoms at every sexual encounter, self-efficacy to use condoms, and the norm for sexual relationships/habits among girls and boys. These findings seem to suggest that the design of adolescent health programmes needs to consider addressing and changing negative gender norms that hinder use of condoms among adolescents. Information and health communication services such as mass media and interpersonal communication should be used to address gender norms misconceptions.

Gender inequitable norms were found to be associated with multiple concurrent sexual partners, where having more male and casual partners are associated with physical violence (Dunkle *et al.* 2004; Shattuck *et al.* 2013). Shannon *et al.* (2012) found that 39 per cent of boys in Botswana and Swaziland reported having multiple concurrent sexual partners compared to 18 per cent of girls (Shannon *et al.* 2012). Although our study found no significant correlation between self-efficacy to avoid multiple concurrent sexual partnerships and norms towards physical violence, the correlation was higher among girls than boys.

The unmet need for contraception is high among adolescent girls. In Kenya, 65 per cent of parents or guardians reportedly objected to contraceptive use by unmarried adolescents, and 68 per cent of the adolescents disapproved of contraceptive use by unmarried adolescents (Kinaro 2011). Childbearing beliefs indoctrinated among community members – such as "a man should have the final word about decisions in his home" – limit girls from using contraception if perceived as being bound to the will of her husband (Paek *et al.* 2008). Yet infertility is often blamed on women, while infidelity is almost never sanctioned for men (Mbonye *et al.* 2012). Our study found no significant correlation between behavioural intention to use contraception, self-efficacy to use contraception, and the sexual relationships/habits norm. This study demonstrates the need to address adolescent SRH needs and demystify gender inequitable norms that affect contraception use and steer multiple sexual partnerships among adolescents. It is important to work with adolescents through their social networks to devise strategies for addressing negative gender norms. This may involve assessing information needs on addressing gender norms, and holding gender integration community dialogue meetings with community leaders, religious leaders, cultural leaders and elders who often steer the gender norms.

4.1 Implications for adolescent health programming

From the findings, the GEM scale seemed to work for CHC programme needs of depicting perceptions and attitudes among adolescents towards gender equitable norms. Our findings also support previous studies that demonstrate a link between HIV risks, teenage pregnancy risks and gender equitable norms (Kinaro 2011; Murigi *et al.* 2010; Pulerwitz and Barker 2008; Shattuck *et al.* 2013; Vu *et al.* 2017). Promoting gender equitable attitudes should start in childhood and continue during the formative period of adolescence and into adulthood. Strategies that involve working closely with both girls and boys; promoting informed peer and partner discussions; community-based education; gender awareness training; engaging in progressive community and religious discourses that question gender stereotypes; engaging in strategic partnerships with parents, religious, political, and community leaders; and use of social and mass media campaigns, can improve health behavioural outcomes among adolescents (Barnes *et al.* 2017; El Feki *et al.* 2017; Hardee *et al.* 2014; Vu *et al.* 2017).

The findings from our study and similar research in other countries underline the pertinent need to focus on the wider circumstances in which gender inequalities within society may structure beliefs and norms that perpetrate differential exposure/risks of HIV infection, with more enhanced efforts targeting women and reinforcing involvement of men (Kazaura *et al.* 2015).

4.2 Study limitations

This study had some limitations. Although the quantitative inequitable GEM scale measure was useful in generating insights on gender norms and sexual behaviours among adolescents, this study does not explain all the variations in gender-related attitudes. To overcome this, use of qualitative methods to triangulate findings related to the complex notion of gender norms is recommended (Shattuck *et al.* 2013). The internal structure of the reproductive health and pregnancy and disease prevention GEM sub-scale was not optimal given the omega hierarchical of 0.56, which might affect reliability of this specific sub-scale. The study did not measure actual behaviour; rather, behavioural intention and self-efficacy were used as predictors of self-reported risky sexual behaviours among adolescents. Studies show that behavioural intention is the most immediate and important predictor of a behaviour, which is in turn determined by attitudes towards the behaviour, subjective norms regarding it, and perceived control over it (Fishbein and Ajzen 2010; Sheeran and Orbell 1998; Villarruel *et al.* 2004; Webb and Sheeran 2006). Correlational studies show that intentions are reliably associated with behaviour, such as condom use (Sheeran and Orbell 1998; Webb and Sheeran 2006). Therefore, future studies need to assess the associations between self-reported sexual behaviours and gender norms, as well as the perceptions of adolescents on equitable gender norms to draw comparisons with the present study.

5. Conclusion

The study indicates that most girls and boys were in support of and approved of gender inequitable norms which often lead to gender power imbalance and affects adolescents' ability to negotiate safe sex, thereby putting them at risk of HIV and unplanned pregnancies. Changing the negative perceptions requires a multi-pronged gender responsive approach for social change. Working with both girls and boys, and engaging influential stakeholders such as peers, parents, healthcare workers, policymakers, community and religious leaders, who create the environment where attitudes and world-views are formed is pertinent. The findings in this study should be used to inform targeted solutions for designing gender responsive adolescent SRH programmes.

Acknowledgements

This work was funded by USAID/Uganda Communication for Healthy Communities [CHC) RFA-617-13000001, June 2013 – June 2020], under Family Health International (FHI 360). The authors wish to thank FHI 360 for providing the infrastructure and a conducive environment for conducting the study. The authors thank Andrew Kabala, Justus Atwijukire and CHC regional teams for supporting the data collection exercise.

Appendix

TABLE 6. Factor Loadings (x 100) for items included in the Gender Equitable Men scale for this study (N = 867)

GEM sales	*GEM scale variables*	*Factor Loadings*[a]
Domestic chores and household decision-making	1) Changing diapers, giving a bath, and feeding children is the mother's responsibility	0.74
	2) A man should have the final word about decisions in his home	0.69
	3) A woman's most important role is taking care of her home and cook for her family	0.77
Sexual relations/ habits	4) It is the man who decides what type of sex to have	0.63
	5) Men need sex more than women do	0.70
	6) Men are always ready to have sex	0.67
	7) You don't talk about sex, you just do it.	0.74
Reproductive health and pregnancy and disease prevention	8) It is a woman's responsibility to avoid getting pregnant	0.49
	9) Women who carry condoms on them are 'cheap'	0.62
	10) I would be outraged if my wife asked me to use a condom	0.65
	11) A man must have sex with other women, even if things with his wife are fine	0.62
Physical violence	12) A woman should tolerate violence to keep the family together	0.67
	13) It is okay for a man to hit his wife if she won't have sex with him	0.63
	14) If a woman cheats on a man, it is okay for him to hit her	0.68
	15) If someone insults me, I will defend my reputation with force if I have to	0.58
	16) There are times when a woman deserves to be beaten	0.70

Response categories on a 3-point Likert scale*: Agree (0), Partly agree (1), Do not agree (2).*
Factor loadings are presented for analysis after imputation for missing values.
a. 1 components extracted, using Principal Component Analysis.

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