**A cross-country comparison of reasons for condom use during menses:**

**Associations with age and gender inequality**

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**Abstract**

**Objectives**: Despite evidence that menstrual bleeding is a risk factor for sexually transmissible infections, few studies have assessed the prevalence of, and reasons for, condom use during menses. The objectives of the present study were to examine: 1) the prevalence of condom use during menses; 2) if condom use during menses varies depending on age and gender inequality of country of residence; and 3) whether age and gender inequality of country of residence interact with reasons for using, and not using, condoms during menses.

**Methods**: A sample of 25,955 individuals from 146 countries, all reporting penile-vaginal intercourse in the past 3 months, was used. Condom use during menses over the previous three months, whether this varied by age and level of gender inequality in countries, and reasons for using and not using condoms during menses were assessed via a web-based questionnaire.

**Results**: Age and gender inequality of country of residence were significant predictors of condom use during menses, with those in the younger, high gender equality group significantly the most likely, and those in the older, low gender equality group, the least likely to use condoms during bleeding. The three most reported reasons were: “for contraception,” “I use condoms even when I don’t have my period,” and “protecting your partner from your blood.” Reported reasons for using and not using condoms during menses showed significant associations with age and with level of gender inequality.

**Conclusion**: Findings highlight that globally, STI/HIV education programs need to promote consistent condom use across the menstrual cycle.

**Keywords:** STIs, condoms, menstruation

**INTRODUCTION**

Despite taboos and negative perceptions toward sex during menstruation across many societies (Chothe et al., 2014; Johnston-Robledo & Chrisler, 2013; Stubbs, 2008), some people report having sex during menstruation (Davis et al., 2002; Hensel et al., 2004; Hensel, Fortenberry, & Orr, 2007; Kalichman et al., 2006; Tanfer & Aral, 1996; Westercamp et al., 2010). Though posing a decreased risk for conception, sex during menses may increase the risk for transmission of some sexually transmitted infections (STIs) including HIV (Lurie, 2010; Tanfer & Aral, 1996; Kalichman et al., 2006). People may, however, hold misconceptions that condom use for penile-vaginal intercourse (PVI) during menstruation is unnecessary (Shahini et al., 2013; Verma, Singh, & Singh, 2017).

Very little research has been conducted on male condom use for PVI during periods of menstrual bleeding. In a prospective study of 1,391women attending family planning clinics in Thailand, having sex during menstruation was a significant predictor of male condom use (Rugpao, 2008). Kalichman and Simbayi (2005) studied 415 men and 127 women attending STI clinics in South Africa. Individuals who had engaged in sexual intercourse involving genital bleeding in the previous three months (more than 30% of the sample) were significantly more likely to have experienced condom breakage during PVI than those who did not engage in PVI during bleeding.

Male condom use is often discussed as male-controlled. Some researchers have argued that the role women play in determining whether male condoms are used for PVI has been underestimated (Sanders et al., 2003). Independent condom use decision making among female-bodied participants in PVI has been shown to be associated with using condoms for STI prevention more so than for contraception (Crosby et al., 2019). It is possible that the ability to influence decisions about condom use, including making that decision independently, is related to overall cultural gender equality and that in countries with greater gender equality, women are more able to negotiate condom use. Further, negative attitudes about women, their bodies, menstruation, and particularly sex during menstruation are likely to vary cross-culturally and relate to the overall status of women in different countries. Menstrual taboos, including regarding sex during menstruation, still exist in some cultures (Kumar & Srivastava, 2011). In a study of young adults in South Africa, both women and men viewed menstruation as associated with illness, weakness, and contamination (O’Sullivan, Cooper-Serber, Kubeka, & Harrison, 2007).Therefore, an examination of cross-cultural data on condom use during menses, organized by gender inequality, is important.

We also know little about the reasons individuals do or do not use condoms during menses. Many women consider sex at this time to be messy, unhygienic, and disgusting (Allen & Goldberg, 2009; Rickert et al., 1989); thus, condoms may be used to reduce their own and their partner’s contact with menstrual blood (Fahs, 2011). In a content analysis of online forums, Cohn and Richters (2013) found that young people frequently raised questions and concerns about menstrual bleeding and how best to “manage” it. These concerns may be particularly acute among younger women or women in relationships with less equal power distributions. Reasons for condom use during menstruation may also be focused on preventing STI infection and pregnancy (Allen & Goldberg, 2009).

In sum, very little research on condom use during menstruation has been conducted. Broad-based research on the prevalence of, and reasons for, condom use during menstruation, across a wide age range and from a range of countries, is needed to support public health efforts. Thus, the purpose of this study was to examine: 1) the prevalence of condom use during menses; 2) if condom use during menses varies depending on age and gender inequality of country of residence; and 3) whether age and gender inequality of country of residence interact with reasons for using, and not using, condoms during menses.

We first tested the hypothesis that condom use during menses would be more common among younger people and among those in countries with relatively greater levels of gender inequality. Secondly, we assessed the independent and interactive effects of younger age and gender inequality on nine reasons provided for using condoms, as well as ten reasons for *not* using condoms, while having PVI during menses.

**METHODS**

**Overall approach**

(*Blinded for review*) and personnel at Clue, a menstrual health app developed by the [Berlin](https://en.wikipedia.org/wiki/Berlin)-based technology company BioWink GmbH, collaborated on the survey questions to be included. The survey needed to be restricted to items that could be delivered effectively on mobile devices (the most common means of accessing the web) and answered within a few minutes.

Programming of the survey, data collection and data management were done by Clue. Survey participation was anonymous. No personal or location identifiers of respondents were collected or stored at any time. Clue complied and continues to comply with all applicable data security and privacy regulations at the time of the survey and subsequently [<https://helloclue.com/privacy>]. Recruitment was via advertisement in Clue’s newsletter, invitations to Clue’s more than 10 million users worldwide, and through social media platforms (Clue’s Facebook and Twitter pages). These advertisements contained a brief description of the survey and a url link that led to a separate secure survey platform. Data were collected over 14 days from 29 November through 13 December 2017. The study team was provided with an anonymous dataset. The protocol was reviewed by the [Blinded for peer review] Institutional Review Board for the Protection of Human Subjects and classified as exempt.

**Study Sample**

Eligibility criteria for these analyses were: age 14 years or older, having had at least one period in the past 3 months and not being currently pregnant, completing the entire questionnaire, and answering a final question about whether or not they had responded seriously to the questions. 113,823 respondents met our age criterion of 14 years or older. Of these, 105,828 (93.0%) reported 1 or more periods in the past three months and not being currently pregnant. Of these, 94,980 (89.7%) met the final criteria of completing and having responded seriously to the questions, thus yielding the analytical sample in the present analyses. Eligible respondents resided in 188 countries, of which 40 had at least 200 eligible participants. Slightly more than half of the eligible respondents were from 5 countries: the USA (27.7%), UK (9.8%), Brazil (7.2%), Mexico (5.8%), and Canada (5.1%).

For the current study, we used an analytic sub-sample limited to 25,955 respondents indicating PVI in the past 3 months during their menstrual period. Each respondent was using the CLUE App and was required to confirm that they were a menstruating person. Of the sub-sample, 98.4% identified as women, 1.1% “genderqueer/nonbinary,” 0.6% “man,” 0.1% “not listed,” 0.2% “prefer not to say,” and 0.2% missing data. A separate question asked “Are you transgender?”, with 98.5% responding “no, 0.5% “yes,” and 1.0% missing data. Eighty-two percent reported as “straight/heterosexual,” 15.0% “bisexual/pansexual,” 0.2% “lesbian/gay/homosexual,” 1.3% “queer,” 0.2% “asexual,” 0.7% “none of the above,” 0.6% “prefer not to say,” and 0.2% missing data.

Age categories for the sub-sample were 14-17 years (7.1%), 18-20 years (23.0%), 21-24 years (24.8%), 25-34 years (35.2%), 35-44 years (8.6%), 45-54 years (1.2%), and 55+ years (<.01%).

**Measures**

The web-based questionnaire was made available in 10 languages (English, German, Spanish, French, Italian, Danish, Portuguese, Japanese, Simplified Chinese, and Russian). Two recall periods were used to enhance validity: the past 3 months and the most recent PVI. Three-month recall data were subjected to inspection for out-of-range values. For frequencies of sex and condom use pertaining to times when menstruation was not occurring, values were limited to 100; those above this were coded as missing. For frequencies pertaining to when menstruation was occurring, the limit was set at 30, with outliers coded as missing. Out-of-range data can occur for several reasons, including accidental mistyping an answer, not paying attention to the recall period being assessed, deliberate exaggeration, or accurate reflection of an extreme number. It is impossible to know if the number was meant as an accurate reflection of experience or not. Additionally, outliers greatly impact the validity of statistical analyses. Therefore, in order to minimize impacts on the validity of our findings, we recoded outliers as missing data rather than assigning an arbitrary number to the outliers at the upper end of the distribution. The use of the rule of thumb of outliers being defined as three standard deviations from the mean was not used because, as is typically the case, frequencies of intercourse and condom use were right (positively) skewed. The selected cut-offs retained 99.3% of the cases. For items in which respondents were asked to “check all that apply” and they checked “none of the above,” their data from the entire item was recoded as missing.

We used the Gender Inequality Index (GII), a composite measure (United Nations Development Programme, 2018) based on several country-level indices, such as maternal mortality ratio, adolescent birth rate, and the proportion of persons 25 years of age or older with at least some secondary education. The GII data available as of September 1, 2016 were downloaded from the UNDP website (United Nations Development Programme, 2018) and added to the survey database for all countries for which it was available.

A 3-month recall period was used to assess whether respondents used, or did not use, condoms for PVI during menses. For those using condoms during menses, a list of ten possible reasons was provided, with a “check all that apply” instruction. The list of reasons for not using condom during menses included ten items, generated by the research team and by Clue. These reason items are listed verbatim in the tables.

**Analysis**

 As neither age category or GII were normally distributed, nonparametric analytic procedures were used. Those aged 14-20 years were classified as younger (30.1% coded “1”) and those 21 years or older were classified as older (69.9%, coded “0” as the referent group). The mean ranking on the GII was .204 (sd = .12; range .04 to .77). A median split was performed by coding all of those with an index score of .202 or less (42.0%) as residing in nations with relatively lower levels of gender inequality (coded “0”), with the remaining 58% coded as coming from countries of greater gender inequality (coded “1’).

 There was a significant interaction of age (younger/older) and GII (lower gender inequality/higher gender inequality) with respect to condom use. Therefore, four groups were created for comparison: younger and lower GII, younger and higher GII, older and lower GII, and older and higher GII. The proportion of each group who used condoms (external or internal) was compared using Chi-Square. When overall Chi-Square analysis was significant, post-hoc 2 x 2 comparisons were made. Because frequency of condomless PVI was not normally distributed, a Kruskal-Wallis test was used for comparison across groups, but means and standard errors are presented for ease of interpretation of group differences. Condom use consistency was calculated as number of times external condoms were used for PVI during menses divided by number of times PVI occurred during menses multiplied by 100.

 Next, descriptive analyses were conducted relative to the reasons provided for using condoms during menses. Subsequently, each reason was regressed on two variables: younger versus older age and relatively lower versus higher levels of gender inequality. This was done with a series of logistic regression models, with each including these variables as predictors and each including an interaction term of the two predictor variables. Because of the high chance of Type I error occurring in such a large sample, significance was defined by *p*-values of .005 and by 99% confidence intervals are reported. Most analyses were done using SPSS version 25.0 which reports p-values only to three digits. Post-hoc 2 x 2 Chi-Square analyses were performed using GraphPad QuickCalc <https://www.graphpad.com/quickcalcs/contingency2/> which reports four digit p-values.

**RESULTS**

**Prevalence of condom use during menses**

Of 25,955 respondents indicating PVI during their periods in the past 3 months, 49.0% (12,688) reported using a “male” (external) condom at least once and 2.1% (541) reported using a “female” (internal) condom at least once, with 402 reporting using each type at least once. The percentage reporting condom-protected (external or internal) intercourse during menses was significantly different across each age (younger/older) by GII (low/high) group (χ2 = 420.70, df 3, p <.001). Specifically, those in the younger, low GII group were significantly more likely to report using a condom at least once during PVI during menses (60.9%), than those in the young, high GII group (56.2%). Those in the latter group were more likely to report this than those in the older, low GII group (49.1%), who were in turn more likely to report it than those in the older, high GII group (43.2%) (all groups different from one another at p < .0001). As so few used “female” internal condoms and most of the internal condom users also used male condoms, we focused on male external condom use in examining frequency of condom use for PVI during menses.

The highest frequency of male condom use was found in the young, low GII group (M = 1.8, SE = .05) with 54.3% of events being condom protected (condom use consistency), followed by the young, high GII group (M = 1.5, SE = .04) with 48.7% condom use consistency; followed by older, low GII (M = 1.3, SE = .03) with 43.6% condom use consistency, followed by older, high GII (M = 1.1, SE = .02) with 37.6% condom use consistency (all groups different from one another at p <.001). Our hypothesis that condom use during menses would be more common among younger people was confirmed, but the relationship with gender inequality was in the opposite direction, with *less* gender inequality being associated with more condom use. However, the intersections of these two dimensions was important, with the group of younger people from countries with lower gender inequality and the group of older people with the most gender inequality being most different.

**Reasons for Using Condoms**

Table 1 displays the proportion of respondents indicating each of the ten reasons for using condoms for PVI during menses for the overall group and for the four age by GII groups. Six of these ten items were endorsed by at least 40% of the respondents. The three most commonly reported reasons were: “for contraception,” “I use condoms even when I don’t have my period,” and “protecting your partner from your blood.”

Table 2 displays the findings from the series of logistic regression models used to calculate the adjusted odds ratios, their 99% confidence intervals, and respective *p*-values. As shown, with the exception of contraception and religious reasons, all of the adjusted odds ratios pertaining to younger age were significant at p ≤ .001. For all of these except “I use condoms even when I don’t have my period” younger women were more likely to select the reason. Those who were younger were *less* likely to indicate “I use condoms even when I don’t have my period” as a reason for using condoms during menses.

With the exception of religious reasons, all of the reasons for using condoms during menses were associated with the GII (see Table 2) with a p ≤ .005. Respondents in countries with greater inequality were significantly more likely to indicate seven of the reasons, with the remaining two being less likely (“for contraception” and “I use condoms even when I don’t have my period”). Two of the interaction terms were significant. The association between gender inequality and to protect against semen exposure was significantly stronger for those who were younger. Specifically, the group most likely to endorse this reason was the younger high GII group at 59.2%, followed by the younger low GII group at 49.7%, then the older high GII group at 41.4% and lastly, the older low GII group at 37.4% – each group was significantly different from one another. The association between gender inequality and the reason “I use condoms even when I don’t have my period” was significantly stronger for those who were older. Specifically, the group most likely to endorse this reason was the older low GII group at 60.6%, which was significantly higher than all other groups (ranging from 54.3% to 56.9% and not being significantly different).

**Reasons for Not Using Condoms**

Table 3 displays the proportion of respondents indicating each of the ten reasons for not using condoms while having PVI during menses. Using another form of contraception was endorsed most frequently, followed by having greater sexual pleasure while not using condoms, and wanting a more natural feeling.

Table 4 presents the adjusted odds ratios, 99% confidence intervals, and respective *p*-values from the analyses of reasons for not using condoms during menses. Three reasons were found to have significant interaction effects at p ≤ .001. A significant interaction effect was found for “I use another form of contraception (birth control) instead of condoms”,with the younger low GII group being most likely to report this (66.8%), and the other groups being more similar to each other (47.7% - 50.3%). A significant interaction effect was found for “I never use condoms”, with the older low GII group being least likely to select this reason (31.1%) and the other groups being similar to one another (37.3% – 39.6%). A significant interaction effect was found for “I am less worried about getting pregnant during my period”; the group least likely to endorse this reason was the younger low GII group at 20.6%, with all other groups being higher and similar (30.2% - 31.6%).

Younger age was associated as a main effect (with p ≤ .001)in two instances that did not involve interaction effects. The odds of younger women reporting not being worried about catching an STI was 22% less than the odds for older women. Younger women were also 1.3 times more likely than older women to report that their partner did not want to use condoms.

Four reasons for not using condoms during menses were found to have significant main effects of GII (with p ≤ .001) that did not involve significant interaction effects. Those from countries with higher GII (more gender inequality) were approximately 1.3 times as likely to report they did not want to use condoms and that their partner did not want to use condoms than those from lower GII countries. Those in the higher GII group also were 1.4 times as likely to report being allergic or sensitive to latex. On the other hand, those from higher GII countries were 23% less likely to report the reason to feel closer to their partner.

Lastly, (data not shown in tables) we compared the mean number of reasons for using condoms during menses between younger (mean = 3.80, sd = 1.75) and older (mean = 3.28, sd = 1.69) respondents, as well as between those from countries with relatively greater gender inequality (higher GII, mean = 3.36, sd = 1.69) versus more equality (lower GII, mean = 3.54, sd = 1.76). Each of these comparisons were significant at *p* < .001. Also, we compared the mean number of reasons for *not* using condoms during menses between younger (mean = 3.26, sd = 2.01) and older (mean=3.08, sd = 2.02) respondents, as well as between those from countries with relatively greater gender inequality (mean = 3.1, sd = 2.01) versus more equality (mean = 3.11, sd = 2.03). The first comparison was significant at *p* < 0.001, and the second was not significant (*p* = 0.44).

**Confirmatory Analyses**

To confirm the regression-based findings reported in Tables 2 and 4, using the GII and age variables in a continuous form, a series of Mann-Whitney U tests was conducted to determine associations with age and GII and each of the reasons for using and not using condoms. Four group comparisons (younger low GII, younger high GII, older low GII, and older high GII) were also made using Kruskal-Wallis tests. With few exceptions, each association was consistent with the direction and significance findings from the logistic regression models, thereby supporting the use of the dichotomous versions of age and GII used in the analyses.

**DISCUSSION**

The study objectives were three-fold: to determine the prevalence of condom use during menses; to examine whether condom use during menses varies depending on age and the GII of country of residence; and to test whether age and GII of country of residence interact with reasons for using, and not using, condoms. Our first hypothesis was only partially supported; younger respondents reported greater condom use during menses than older individuals, but the relationship with gender inequality was in the opposite direction, with less gender inequality being associated with more condom use. Individuals under 20 years old who used condoms for PVI during menses were more likely than those aged 21 and older to use condoms to protect their partner from menstrual blood, to protect themselves from semen, to protect against STIs, because their partner wanted to use condoms, because they wanted to use condoms, to feel cleaner during sex, and to make sex last longer. Independently, persons living in countries with relatively greater levels of gender inequality were more likely to indicate each of these reasons, and also more likely to indicate that they used condoms for PVI during menses “for contraception.” Interaction effects were found for only two of the nine reasons. Younger respondents living in countries with higher gender inequality were more likely to indicate avoiding exposure to semen. Also, the effect of greater gender inequality decreasing the odds of indicating condoms are always used during menses was stronger for those who were older. Overall, persons under 21 years of age and (independently) those living in countries with relatively greater levels of gender inequality endorsed a broad range of reasons for using condoms during menses, related to their partner, themselves, and both, such as to protect against STIs, and – for some – for contraception.

 That nearly one-half of the sample used condoms at least once for PVI during menstrual bleeding suggests that some people understand the risk of STI transmission during menses, the fact that conception can still occur, and a need to avoid vaginal exposure to semen. However, some reasons for using condoms when sex occurs during menses, such as “to protect your partner from your blood” may be based on assumptions about a partner’s attitudes about sex during menstruation. Many women still consider sex during menstruation to be “disgusting,” unhygienic, and messy (Allen & Goldberg, 2009) and worry about their partner’s discomfort about menstrual sex (Fahs, 2011). Reasons related to partner perceptions were indicated more frequently by younger respondents and by those residing in countries with relatively greater gender inequality. Previous studies have reported that women may consider sex during menstrual bleeding as acceptable if their partner approves (Fahs, 2011).

That this protective (and perhaps pleasure-hygiene oriented) reasoning was more common among younger respondents suggests that the younger generation and those living in countries with greater gender inequalities may have more negative views about sex during menstruation or they may be receiving positive education messages about consistent condom use (irrespective of menses) to protect against STIs, conception, and exposures to semen/blood. Younger people may be more prepared and/or willing to discuss condom use during menses. These findings are important, given that young people are at highest risk for STIs (UNAIDS, 2014a; 2014b). For those living in countries with higher gender inequality, perhaps there are more negative views about menstruation and the need to protect from menstrual blood.

 An important observation from this study is that younger women and those from countries with higher gender inequality provided more reasons for using condoms for PVI during menses. In contrast, reasons for *not* using condoms during menses showed a less consistent pattern of relationships with age and GII. Younger participants more frequently reported using another form of contraception, never using condoms, being less worried about becoming pregnant during their period, and their partner not wanting to use condoms as reasons for not using condoms during menses. Of course, all of these could be related to their more frequent reporting of using another contraceptive. Older participants were more likely to report they were not worried about catching an STI. This could be related to older persons being more likely to be in committed relationships, although we did not have the data to test that hypothesis. Participants from countries with higher gender inequality were more likely to report they did not want to use condoms, their partner did not want to use condoms, and that they were allergic or sensitive to latex. Participants from lower gender inequality countries were more likely to report wanting to feel closer to their partner as a reason for not using condoms during menses.

**Strengths and Limitations**

Strengths of the study include the large and diverse sample, particularly in terms of country of residence and age. Although this was a convenience sample, it was nonetheless the first study to involve a global sample of people providing reasons for using or not using condoms during menses.

One limitation is that respondents were primarily limited to the population of Clue app users, a population that has Internet access (perhaps indicating greater economic status and higher levels of education) and an interest in women’s health. Another limitation is that the GII is only a proxy measure of the highly complex construct of gender equality and thus precision on this variable as it relates to sexual interaction may be lacking. Findings are also limited by the validity of respondents’ self-reported data, in particular their perceptions of reasons for condom use attributed to male partners. While some of the differences in condom use during menses and reasons for using or not using condoms during menses between participants from countries with greater vs. lesser gender inequality were statistically significant, this may in part have been because of the large sample size; the public health significance of these differences may be relatively small. Because only limited sociodemographic information was obtained, we were unable to examine potential confounders such as number of sex partners and other risk behaviors in the analyses. Another limitation is that we do not have data about reasons for using or not using condoms during intercourse that occurs when not menstruating. Such data would provide a context for better understanding the extent to which some of the reasons that are not directly related to blood (such as concerns about catching STIs) reflect overall attitudes toward condom use rather than condom use specifically during menses. Finally, it is possible that people are less likely to engage in sexual activity during menses in countries with more gender inequality than in countries that are more gender-equal. We could not address this question with our data, but future studies should examine this possibility.

**Conclusion**

Respondents reported a range of reasons for using and not using condoms during menses. Most of the reasons for condom use during menstruation were more frequently endorsed by persons 20 years of age or younger compared to older participants. These same reasons for condom use were more frequently endorsed by participants from countries with more gender inequality as compared to those from countries with less gender inequality. With respect to reasons for not using condoms during menses, those related to age tended to be different than those related to the gender inequality index. Both age and gender inequality appear to play an important role in condom use decision making during menses. More research is needed to ascertain which components of this cultural construct may be most salient for condom use behavior. More thorough understanding of the relationship of gender inequality to condom use may help to inform the development of more effective condom education programs. Dominant discourses around sexuality among young people often focus on heterosexual intercourse as “danger” and the pleasure aspect of sexuality, particularly for women, is often absent from these discourses (Goicolea, Torres, Edin, & Öhman, 2012).It is thus imperative that condom promotion interventions address the role of pleasure and sexual arousal in condom use, a neglected topic until recently (Ford et al., 2019; Graham, 2012).Although the findings relative to younger participants are encouraging, they also underline the need to continue promoting education programs, on a global scale, for both men and women to use condoms. To our knowledge, condom promotion interventions have not focused on the need to use condoms during menses. Interventions that provide information about the value of condom use during menses may be highly beneficial.

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Table 1. Percentage of Respondents Endorsing Each Reason For Using Condoms During Menses by Age and GII.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Younger | Older |
| Reason | Overall %(n = 12899) | Low GII(n = 2078) | High GII(n = 2439) | Low GII(n = 3630) | High GII(n = 4574) |
| “For contraception” | 72.4 | 72.5 | 71.2 | 74.4 | 71.2 |
| “I use condoms even when I don’t have my period” | 57.4 | 54.3 | 56.6 | 60.6 | 56.9 |
| “To protect your partner from your blood” | 50.6 | 60.2 | 59.9 | 43.3 | 47.2 |
| “To protect you from your partner’s semen” | 45.1 | 49.7 | 59.2 | 37.4 | 41.4 |
| “To protect against STIs (sexually transmitted infections)” | 42.0 | 44.3 | 48.2 | 37.6 | 40.8 |
| “I wanted to use condoms” | 41.4 | 44.5 | 50.8 | 34.9 | 40.2 |
| “To feel “cleaner” during sex” | 28.8 | 31.1 | 33.8 | 25.3 | 28.0 |
| “My partner wanted to use condoms” | 24.9 | 28.0 | 31.7 | 20.2 | 23.6 |
| “To make sex last longer” | 7.9 | 8.5 | 10.3 | 6.0 | 7.8 |
| “Religious beliefs” | 0.5 | 0.4 | 0.9 | 0.2 | 0.4 |

Table 2. Adjusted Odds Ratios (AOR) and 99% Confidence Intervals for the Influence of Younger Age and Gender Inequality on Reasons for Condom Use During Menses

Used Condoms: AOR 99% CI P

“For contraception”

 Younger age .91 .77-1.06 .110

 Gender inequality .85 .75-.97 .001

 Younger age x GII 1.10 .89-.64 .236

“I use condoms even when I don’t have my period”1

 Younger age .78 .67-.89 <.001

 Gender inequality .86 .76-.96 .001

 Younger age x GII 1.28 1.05-1.55 .001

“To protect your partner from your blood”

 Younger age 1.98 1.73-2.29 <.001

 Gender inequality 1.17 1.04-1.31 .001

 Younger age x GII .84 .70-1.02 .025

“To protect you from your partner’s “semen”1

 Younger age 1.66 1.43-1.91 <.001

 Gender inequality 1.18 1.05-1.33 <.001

 Younger age x GII 1.24 1.02-1.51 .004

“To protect against STIs (sexually transmitted infections)”

 Younger age 1.31 1.14-1.52 <.001

 Gender inequality 1.14 1.02-1.29 .003

 Younger age x GII 1.02 .84-1.24 .749

“I wanted to use condoms”

 Younger age 1.49 1.29-1.73 <.001

 Gender inequality 1.25 1.11-1.41 <.001

 Younger age x GII 1.03 .85-1.25 .694

“To feel “cleaner” during sex”

 Younger age 1.34 1.14-1.56 <.001

 Gender inequality 1.15 1.01-1.31 .005

 Younger age x GII .98 .80-1.21 .837

 “My partner wanted to use condoms”

 Younger age 1.54 1.30-1.81 <.001

 Gender inequality 1.22 1.06-1.40 <.001

 Younger age x GII .97 .78-1.21 .760

“To make sex last longer”

 Younger age 1.45 1.11-1.90 .001

 Gender inequality 1.32 1.04-1.65 .002

 Younger age x GII .94 .66-1.33 .634

“Religious reasons”

 Younger age 2.63 .68-10.23 .067

 Gender inequality 2.52 .75-8.43 .049

 Younger age x GII .87 .18-4.21 .818

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1 The significant age by GII interaction effect is described in the text.

Table 3. Percentage of Respondents Endorsing Each Reason For Not Using Condoms During Menses by Age and GII.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Younger | Older |
| Reason | Overall % (n = 12,606) | Low GII(n = 1285) | High GII(n = 1814) | Low GII(n = 3590) | High GII(n = 5763) |
| “I use another form of contraception (birth control) instead of condoms” | 50.6 | 66.8 | 47.7 | 50.3 | 48.6 |
| “I have greater sexual pleasure without condoms” | 42.1 | 44.9 | 47.7 | 41.3 | 40.3 |
| “I wanted a more natural feeling during sex” | 37.6 | 41.1 | 41.0 | 38.0 | 35.5 |
| “I never use condoms” | 35.4 | 39.2 | 37.3 | 31.1 | 39.6 |
| “I’m not worried about catching an STI” | 31.3 | 28.5 | 25.1 | 33.8 | 32.5 |
| “I am less worried about getting pregnant during my period”  | 29.9 | 20.6 | 31.6 | 30.2 | 30.7 |
| “I did not want to use condoms” | 29.0 | 26.1 | 32.9 | 25.8 | 30.6 |
| “I wanted to feel closer to my partner” | 25.6 | 29.6 | 25.5 | 28.1 | 23.1 |
| “My partner did not want to use condoms” | 22.2 | 23.3 | 27.0 | 18.8 | 22.4 |
| “I’m allergic or sensitive to latex” | 9.0 | 7.2 | 8.5 | 7.7 | 10.4 |

Table 4. Adjusted Odds Ratios (AOR) and 99% Confidence Intervals for the Influence of Younger Age and Gender Inequality on Reasons for Not Using Condoms During Menses

Used Condoms: AOR 99% CI P

“I use another form of contraception (birth control) instead of condoms”1

 Younger age 1.99 1.67-2.37 <.001

 Higher GII .94 .84-1.04 .111

 Age x GII .48 .38-.61 <.001

“I have greater sexual pleasure without condoms”

 Younger age 1.16 .98-1.37 .026

 Higher GII .96 .86-1.07 .309

 Age x GII 1.17 .94-1.46 .067

“I wanted a more natural feeling during sex”

 Younger age 1.14 .96-1.38 .049

 Higher GII .90 .80-1.01 .015

 Age x GII 1.11 .89-1.38 .236

“I never use condoms” 1

 Younger age 1.43 1.20-1.70 <.001

 Higher GII 1.28 1.14-1.44 <.001

 Age x GII .72 .57-.90 <.001

“I’m not worried about catching an STI”

 Younger age .78 .65-94 .001

 Higher GII .94 .84-1.06 .208

 Age x GII .89 .70-1.13 .213

 “I am less worried about getting pregnant during my period”1

 Younger age .60 .49-.78 <.001

 Higher GII 1.02 .91-1.15 .604

 Age x GII 1.74 1.35-2.23 <.001

“I did not want to use condoms”

 Younger age 1.02 .84-1.23 .804

 Higher GII 1.27 1.12-1.43 <.001

 Age x GII 1.09 .86-1.23 .345

 “I wanted to feel closer to my partner”

 Younger age 1.09 .91-1.31 .239

 Higher GII .77 .68-87 <.001

 Age x GII 1.05 .82-1.34 .634

“My partner did not want to use condoms”

 Younger age 1.31 1.07-1.61 .001

 Higher GII 1.25 1.09-1.43 <.001

 Age x GII .98 .75-1.26 .796

“I’m allergic or sensitive to latex”

 Younger age .94 .68-1.29 .600

 Higher GII 1.40 1.15-1.70 <.001

 Age x GII .85 .57-1.27 .301

1 The significant age by GII interaction effects are described in the text.