

# Does Women's Autonomy Matter on Attitude Towards Condom Use in Reducing Risk for HIV Infection Among Married Women in Ethiopia?

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Mohammed Ahmed <sup>1</sup>  
Abdu Seid <sup>2</sup>

<sup>1</sup>Department of Public Health, College of Health Science, Woldia University, Woldia, Ethiopia; <sup>2</sup>Department of Midwifery, College of Health Science, Woldia University, Woldia, Ethiopia

**Background:** Condom utilization remains as the forefront guard to reduce the HIV/AIDS pandemic. However, evidence showed that the dynamics of gendered power, beliefs, and attitudes about condoms and sexuality retards condom use for a large proportion of Africa's people. Therefore, this study aimed to assess the association between women's autonomy in health decision making and attitude to condom use in reducing risk for HIV in Ethiopia using a nationally representative, population-based household survey data.

**Methods:** A cross-sectional study was carried out using 2016 nationally representative, population-based Ethiopia Demographic and Health Survey. SPSS version 21 was used to analyze the data. Multivariate logistic regression analysis was performed to assess the association between women's autonomy in health decision making and attitude to condom use by controlling confounders. To declare statistically significant associations, adjusted odds ratios (AOR) with 95% confidence interval (CI) were used.

**Results:** The present study enrolled 6787 weighted samples of married women. The study showed that the odds of attitude toward condom use were 1.39 times (AOR: 1.39; 95% CI: 1.04–1.85) higher among women who decide for their health care compared to its counterparts. Also, the odds of attitude toward condom use were positively associated among women who conquered higher education (AOR: 1.97; 95% CI: 1.17–3.33), who had the richest wealth index quintile (AOR: 1.45; 95% CI: 1.01–2.07), and who had ever been tested for HIV (AOR: 1.31; 95% CI: 1.09–1.57). However, the odds of attitudes toward condom use were negatively associated among Muslims (AOR: 0.58; 95% CI: 0.46–0.74) and Protestant religion (AOR: 0.69; 95% CI: 0.54–0.88) followers.

**Conclusion:** The study culminates that women's autonomy in health decision making improves attitudes toward condom use during sex for HIV prevention in Ethiopia. Besides, women's higher education gets better wealth index, and HIV testing perks up the attitudes toward condom use; but religious affiliation deters it. Therefore, efforts need to be done in promoting women's autonomy along with empowering women in education, economic as well as HIV detection. Furthermore, designing interventions that address primary prevention strategies like using condoms consistently along with addressing religious affiliation can have a significant effect on curtailing HIV/AIDS scourge.

**Keywords:** women, autonomy, attitude, condom, HIV, Ethiopia

## Background

HIV and violence against women are recorded as twin epidemics that excessively affect women.<sup>1</sup> Globally, in 2016, 51% of women were living with HIV.<sup>2</sup> Contrasted to men, women living in Sub-Saharan Africa (SSA) are more affected

Correspondence: Mohammed Ahmed  
Email mohaasar12@gmail.com

by HIV, accounting for 59% of all infections in this region.<sup>3</sup> In Ethiopia, in 2016, about 385,642 of females were infected with HIV compared to 285,263 of males.<sup>4</sup> Besides, HIV prevalence varies notably by marital status and is 0.8% higher among women who report ever having been married compared with those who have never married (0.3%).<sup>5</sup>

The differences in the circulation of risk factors among women and men are attributable to the gender inequalities in HIV/AIDS. For example, in SSA, the risk of HIV infection is mainly due to the lower socioeconomic position of women.<sup>6–8</sup> Besides economic differences, uneven power affiliations and the subordinate position of women relative to men also place women at higher risk for acquiring HIV.<sup>9,10</sup> Currently, scholars have identified factors such as androcentricity and patriarchy as traditions that expose women to violence, exploitation, and exacerbate the spread of HIV.<sup>11</sup>

Women's autonomy is defined as the ability the women to obtain information and make decisions about one's concerns and is also a basis of reproductive rights.<sup>12</sup>

The link between women's autonomy and HIV has been studied in different countries including in Northern Vietnam,<sup>13</sup> India,<sup>14,15</sup> Kenya,<sup>16</sup> Nigeria,<sup>17</sup> Malawi,<sup>18</sup> Nepal,<sup>19</sup> and South Africa.<sup>20</sup> Besides, women's autonomy has been positively associated with improved reproductive health, economic well-being, freedom from violence, and reduces women's vulnerability to HIV/AIDS.<sup>14,19,21–27</sup>

Understanding the interconnection between women's autonomy and HIV may explain why HIV prevalence is highest in particular cultures compared to others.<sup>20</sup>

To lessen the extent of HIV in SSA and other places, macro-level interventions through educational campaigns,<sup>28,29</sup> and individual micro strategies that promote condom use<sup>30,31</sup> were often applied since condom utilization remains as the forefront guard to reduce the HIV/AIDS pandemic.<sup>32</sup> However, evidence showed that the dynamics of gendered power, beliefs, and attitudes about HIV, condoms, and sexuality retards condom use for a large proportion of Africa's people.<sup>33–36</sup>

Also, women's preferences, differences in sexual relationship power, and perceived exclusivity of the relationship with their sexual partners affect condom utilization.<sup>37,38</sup> This underscores the call for a gender-specific analysis of the determinants of condom use that may be more suitable in a situation of gender power imbalance.<sup>39</sup> There is an escalating recognition that

tackling HIV must address gender inequalities.<sup>40</sup> Besides, country-specific interventions are needed in Ethiopia since gender inequality in HIV/AIDS in SSA varies by country.<sup>41</sup> Unfortunately, research assessing the association between women's health decision making autonomy and attitude to condom use in reducing risk for HIV in Ethiopia has lagged. Therefore, the current study endeavors to bridge this gap by using the recent Ethiopian demographic and health survey data set.

## Methods

### Data Source

The current study utilized the recent 2016 Ethiopia Demographic and Health Surveys (EDHS) data set. A two-stage stratified cluster sampling method was used. A detailed description of the study design and methodology of the survey were founded elsewhere.<sup>42</sup> About 15,683 women (15–49 years) were interviewed in the 2016 EDHS, making up response rates of 95%. The analytic sample in this study included 6787 women currently married or in a relationship or living together between the ages of 15 and 49 years.

### Study Variables

The main outcome variable of interest was the attitude to condom use for reducing risk for HIV/AIDS, which was measured by their response to the question of whether always using condoms during sex reduces their chance of getting AIDS. This variable had two responses either yes or no.

The main predictor variable was women's autonomy over health care decision, which is an area that has received attention by researchers due to its growing importance from both a human rights and healthcare outcomes perspectives.<sup>43</sup> This variable was obtained from the demographic and health survey variable "person who usually decides on the respondent's health care (women)". This variable had five responses: the respondent herself, the respondent, and her husband/partner, the husband/partner alone, someone else, and others. This variable was coded 1 (has autonomy over decision-making for her health), 2(a joint decision with her husband/partner), and 0 (does not have autonomy over decision-making for her health). Variables such as the age of the respondents, education status, type of residence, occupation, wealth index, access to media, and

ever been tested for HIV were selected as covariates that affect attitude to condom use.

## Statistical Analysis

SPSS version 21 was used to analyze the data. Frequencies and weighted percentages of study variables were reported. Bivariate analysis using Rao–Scott chi-square test was performed to examine the relationship between attitude to condom use and each of the independent variables and to select potential candidates for the multivariate model. A variable, which had a p-value of  $< 0.25$  in bivariate analysis were entered into a multivariate binary logistic regression analysis to assess the association between women autonomy in health decision making and attitude to condom use by controlling confounders. To declare a statistically significant association, adjusted odds ratios (AOR) with 95% confidence interval (CI) were used. As recommended for complex survey design, sampling weights were applied for this study by dividing the individual women sample weight by 1000,000.

## Ethics Approval and Consent to Participate

Since it is secondary data analysis from the 2016 EDHS database, ethical clearance for the study is not required. The researchers of this study have maintained the confidentiality of the data after received from the USAID–DHS program. Before the study commencement, the consent was obtained from the study participants.

## Results

### Descriptive Statistics of the Study Participants

About 6787 weighted samples were enrolled and analyzed. The majority age group was 20–29 years (42.4%), and the majority of the women resided in rural areas (79.9%). Most of the women did not attained education (53%), were unemployed (50.6%), and were from a middle wealth index category (19.8%). Only, 15.5%, 10.7%, 17.9%, and 7.1% of women make decisions about their health care, on large household purchases, on visits to family or relatives, and what to do with money husband earns. Furthermore, 74.4% of the women responded that always using condoms during sex reduces their chance of getting AIDS (Table 1).

**Table 1** Descriptive Statistics of the Sampled Women with the Study Variables in Ethiopia (N= 6787)

| Variables  | Category                | Overall    |
|--|-------------------------|------------|
|  |                         | n (wt.%)   |
| Age of respondents (years)                             | 15–19                   | 454(5.8)   |
|  | 20–29                   | 2892(42.4) |
|  | 30–39                   | 2330(35.4) |
|  | 40–49                   | 1111(16.4) |
| Residence  | Urban                   | 2196(20.1) |
|  | Rural                   | 4591(79.9) |
| Religion   | Orthodox                | 2803(42.0) |
|  | Catholic                | 47(0.9)    |
|  | Protestant              | 1379(24.2) |
|  | Muslim                  | 2487(31.3) |
|  | Other                   | 71(1.5)    |
| Occupation   | Unemployed              | 3427(50.6) |
|  | Agricultural            | 1282(21.3) |
|  | Non-Agricultural        | 2078(28.1) |
| Education level  | No education            | 3219(53.0) |
|  | Primary                 | 2213(33.0) |
|  | Secondary               | 826(8.4)   |
|  | Higher                  | 529(5.7)   |
| Wealth Index   | Poorest                 | 1411(15.2) |
|  | Poorer                  | 996(18.9)  |
|  | Middle                  | 952(19.8)  |
|  | Richer                  | 965(20.0)  |
|  | Richest                 | 2463(26.1) |
| Access to media  | No                      | 3403(55.4) |
|  | Yes                     | 3384(44.6) |
| Ever been tested for HIV                               | No                      | 2450(43.8) |
|  | Yes                     | 4337(56.2) |
| Decision on health care                                | Respondent alone        | 1287(15.5) |
|  | Joint decision          | 4384(67.0) |
|  | Respondent not involved | 1116(17.5) |
| Condom during sex reduces their chance of getting AIDS | No                      | 1973(25.6) |
|  | Yes                     | 4814(74.4) |

**Abbreviation:** Wt.%, weighted percentage.

### Bivariate Analysis of Associations Between the Explanatory Variables and Attitude to Condom Use

In the bivariate analysis using Rao- Scott adjusted chi-square, attitude towards condom use is associated with residence, occupation, educational level, religion, wealth index, and women's autonomy on health care decision at a p-value of  $< 0.001$ . Also, the age of the respondents was

associated with the attitude towards using a condom during sex would reduce their chances of getting AIDS at  $p$ -value  $< 0.25$  (Table 2).

## Multivariate Analysis Using Logistic Regression to Identify Predictors of Attitudes Towards Condom Use

All the variables were entered into multivariate logistic regression analysis since all the variables had a  $p$ -value of  $< 0.25$  in bivariate analysis. In the multivariate analysis, women's her own decision on health care, religion, educational level, wealth index, and HIV testing was significantly associated with the attitudes towards always using a condom during sex would reduce the risk of HIV/AIDS. In this study, the odds of attitudes towards condom use were 1.39 times (AOR: 1.39; 95% CI: 1.04–1.85) higher among women who decide for their health care compared to its counterparts. The joint decision of the women for health care increased the odds of attitudes toward condom use by 1.59 times (AOR: 1.59; 95% CI: 1.25–2.02).

Regarding religion, Muslim and Protestant religion followers had lower odds of attitudes toward condom use by 42% (AOR: 0.58; 95% CI: 0.46–0.74), and 31% (AOR: 0.69; 95% CI: 0.54–0.88), respectively. Furthermore, attitudes towards condom use were 1.97 times (AOR: 1.97; 95% CI: 1.17–3.33) higher among women attained higher education. Besides, women in the richest wealth index quintile compared to the poorest increased the odds of attitudes toward condom use by 55% (AOR: 1.45; 95% CI: 1.01–2.07). Besides, women who ever tested for HIV were increased the odds of attitudes toward condom use by 1.31 times (AOR: 1.31; 95% CI: 1.09–1.57) (Table 3).

## Discussion

To our knowledge, this is the first study to be conducted in Ethiopia to verify the relationship between women's autonomy in health decision making and attitude to condom use in reducing the risk of HIV. This study found that women's autonomy in health decision making power was positively associated with attitude to condom use. Also, joint health care decision power of the women with their husbands or partners increased their attitude to condom use. This finding is consistent with studies conducted in Philadelphia,<sup>37</sup> India,<sup>14</sup> Nigeria, and Kenya.<sup>38</sup> This may be due to women who have greater autonomy are more likely to know about HIV/AIDS, and condoms.<sup>14,16,19</sup> Also, women's autonomy and the joint decision of the women

**Table 2** Bivariate Analysis on Associations Between Outcome Variable, Attitudes Toward Condom Use, and Sociodemographic and Autonomy Indicators (n=6787)

| Variables                  | Category                | Attitude to Condom Use |            | p-value |
|----------------------------|-------------------------|------------------------|------------|---------|
|                            |                         | No                     | Yes        |         |
|                            |                         | n (wt.%)               | n (wt.%)   |         |
| Age of respondents (Years) | 15–19                   | 159(7.0)               | 295(5.3)   | 0.23    |
|                            | 20–29                   | 844(41.4)              | 2048(42.7) |         |
|                            | 30–39                   | 638(34.2)              | 1692(35.8) |         |
|                            | 40–49                   | 332(17.3)              | 779(16.1)  |         |
| Residence                  | Urban                   | 415(12.0)              | 1781(22.9) | <0.001  |
|                            | Rural                   | 1558(88.0)             | 3033(77.1) |         |
| Religion                   | Orthodox                | 542(31.7)              | 2261(45.5) | <0.001  |
|                            | Catholic                | 20(1.3)                | 27(0.8)    |         |
|                            | Protestant              | 465(30.9)              | 914(22.5)  |         |
|                            | Muslim                  | 923(35.7)              | 1564(29.9) |         |
|                            | Other                   | 23(2.0)                | 48(1.4)    |         |
| Occupation                 | Unemployed              | 1101(53.6)             | 2326(49.6) | <0.001  |
|                            | Agricultural            | 408(20.0)              | 874(21.8)  |         |
|                            | Non-Agricultural        | 464(26.4)              | 1614(28.7) |         |
| Education level            | No education            | 1151(58.9)             | 2068(50.9) | <0.001  |
|                            | Primary                 | 573(32.5)              | 1640(33.1) |         |
|                            | Secondary               | 172(6.2)               | 654(9.2)   |         |
|                            | Higher                  | 77(2.5)                | 452(6.8)   |         |
| Wealth Index               | Poorest                 | 634(19.3)              | 777(13.8)  | <0.001  |
|                            | Poorer                  | 313(20.7)              | 683(18.3)  |         |
|                            | Middle                  | 292(22.4)              | 660(18.9)  |         |
|                            | Richer                  | 268(20.1)              | 697(20.0)  |         |
|                            | Richest                 | 466(17.5)              | 1997(29.0) |         |
| Access to media            | No                      | 1228(63.2)             | 2175(52.7) | <0.001  |
|                            | Yes                     | 745(36.8)              | 2639(47.3) |         |
| Ever been tested for HIV   | No                      | 987(54.3)              | 1463(40.2) | <0.001  |
|                            | Yes                     | 986(45.7)              | 3351(59.8) |         |
| A decision on health care  | Respondent alone        | 359(14.8)              | 928(15.7)  | <0.001  |
|                            | Joint decision          | 1200(61.0)             | 3184(69.0) |         |
|                            | Respondent not involved | 414(24.2)              | 702(15.2)  |         |
|                            |                         |                        |            |         |

with her husband/partner determines the nature of their sexual relationships, including attitude to condom use.<sup>44</sup>

Women who attended higher education had higher odds of attitude to condom use compared to their counterparts. This may be due to a positive effect of higher education levels on health-related outcomes including HIV knowledge and condom use.<sup>14,44,45</sup> Moreover, education could modify

**Table 3** Multivariate Analysis Table for Identifying Predictors of Attitudes Towards Condom Use Among Married Women in Ethiopia

| Variables                 | Category                | COR (95% CI)     | AOR (95% CI)     |
|---------------------------|-------------------------|------------------|------------------|
| Age of respondents        | 15–19                   | 1                | 1                |
|                           | 20–29                   | 1.36(0.93–1.97)  | 1.27(0.84–1.94)  |
|                           | 30–39                   | 1.37(0.96–1.96)  | 1.43(0.94–2.17)  |
|                           | 40–49                   | 1.23(0.83–1.82)  | 1.28(0.81–2.02)  |
| Residence                 | Urban                   | 2.18(1.63–2.93)* | 1.45(0.95–2.22)  |
|                           | Rural                   | 1                | 1                |
| Religion                  | Orthodox                | 1                | 1                |
|                           | Catholic                | 0.42(0.15–1.19)  | 0.44(0.19–1.02)  |
|                           | Protestant              | 0.54(0.42–0.67)* | 0.58(0.46–0.74)* |
|                           | Muslim                  | 0.58(0.45–0.75)* | 0.69(0.54–0.88)* |
|                           | Other                   | 0.49(0.31–0.76)* | 0.70(0.45–1.10)  |
| Occupation                | Unemployed              | 1                | 1                |
|                           | Agricultural            | 1.17(0.95–1.45)  | 1.08(0.87–1.35)  |
|                           | Non Agricultural        | 1.17(0.94–1.47)  | 0.82(0.64–1.04)  |
| Education level           | No education            | 1                | 1                |
|                           | Primary                 | 1.17(0.97–1.42)  | 1.17(0.94–1.46)  |
|                           | Secondary               | 1.73(1.23–2.42)* | 1.25(0.87–1.77)  |
|                           | Higher                  | 3.17(2.04–4.93)* | 1.97(1.17–3.33)* |
| Wealth Index              | Poorest                 | 1                | 1                |
|                           | Poorer                  | 1.24(0.94–1.64)  | 1.22(0.92–1.63)  |
|                           | Middle                  | 1.18(0.90–1.55)  | 1.14(0.85–1.52)  |
|                           | Richer                  | 1.40(1.05–1.86)* | 1.27(0.93–1.75)  |
|                           | Richest                 | 2.33(1.74–3.12)* | 1.45(1.01–2.07)* |
| Access to media           | No                      | 1                | 1                |
|                           | Yes                     | 1.54(1.28–1.84)* | 1.09(0.89–1.32)  |
| Ever been tested to HIV   | No                      | 1                | 1                |
|                           | Yes                     | 1.76(1.47–2.12)* | 1.31(1.09–1.57)* |
| A decision on health care | Respondent alone        | 1.69(1.28–2.22)* | 1.39(1.04–1.85)* |
|                           | Joint decision          | 1.80(1.42–2.27)* | 1.59(1.25–2.02)* |
|                           | Respondent not involved | 1                | 1                |

**Note:** \*Showed significant association with AOR with a 95% confidence interval at a p-value of < 0.05

some of the power dynamics within marriages so that more educated women believe more empowered to engage their husbands in discussions about condoms and their husbands are more unlock to these discussions. As a result, we would expect that these discussions would increase the likelihood of that couple's attitudes to using condoms.<sup>16</sup>

Besides, Muslim and Protestant religious followers had less likely to have an attitude towards condom use. This may be due to religious ideology influencing condom use. The measure of religiosity (attendance at religious services, group affiliation, attitudes, perceptions of negative sanctions, and adherence to sanctions) was found to be associated with sexuality.<sup>46</sup>

Women in the highest wealth index quintile (richest) in Ethiopia were more likely to have positive attitudes toward condom use in reducing HIV risk compared to the poorest. This finding is consistent with multi-country studies, which were conducted in Nigeria, Kenya, and Nepal.<sup>38</sup> This may be explained economically better off women increase the level of HIV/AIDS-related knowledge,<sup>47</sup> higher opportunities for employment and education, which foster empowerment of women.<sup>48</sup> Besides, women who ever tested for HIV have increased the attitude to condom use. This may be due to the effect of HIV testing on increasing the knowledge of HIV/AIDS transmission and its prevention.<sup>49,50</sup>

## Strength and Limitation of the Study

Although findings in this study are useful for policy, there are some noteworthy limitations. For example, the data were collected from secondary data and our study may not be devoid of the shortcomings associated with this approach. Notwithstanding these limitations, our study is one of the few that have contributed in the context of women's autonomy on health decision making and attitude to condom use in reducing risk for HIV, as no other studies done in the country using national representative data up to date.

## Conclusions

The present study revealed that women's autonomy in health decision making improves attitudes toward condom use during sex for HIV prevention in Ethiopia. Besides, women's higher education, get better wealth index, and HIV testing perks up the attitudes toward condom use; but religious affiliation deter it. Therefore, an all-inclusive strategy is needed to be implemented by the governments, policymakers, and intervention programmers to empower women to have full control of their healthcare decisions. Moreover, women should be mobilized, encouraged to pursue higher education, enabled to access economic resources, and provided with support to undergo HIV testing. Furthermore, designing interventions that address primary prevention strategies like using a condom consistently along with addressing religious affiliation can have a significant effect on curtailing HIV/AIDS scourge.

## Data Sharing Statement

We used the USAID–DHS program 2016 Ethiopian demographic and health survey data set for this analysis. To request the same or different data for another purpose, a new research project request should be submitted to the DHS program here: <https://dhsprogram.com/data/Access-Instructions.cfm>. After receiving permission, the researcher can log in and select the specific data in the format they prefer.

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## Author Contributions

All authors made a significant contribution to the work reported in all areas; took part in drafting, revising, or

extremely reviewing the article; gave a final endorsement of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be responsible for all aspects of the work.

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We confirm that this research is our original paper. The authors report no conflicts of interest for this work.

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