Sexuality & Culture (2021) 25:756–766
https://doi.org/10.1007/s12119-020-09792-8

ORIGINAL PAPER

Predictors of Condom Use Among Young Women in Multiple Sexual Partnerships in Haiti

David Jean Simon[1] · **Ann Kiragu**[1]

Accepted: 4 November 2020 / Published online: 13 November 2020

Abstract

Unprotected sexual intercourse places young women in multiple partnerships at great risk for sexually transmitted infections in Haiti. While the most effective means of preventing these infections is consistent condom use, little is known about the factors that influence its use. This study sought to analyze high-risk sexual behavior among young Haitian women with multiple sex partners and to identify and understand factors that influence condom use among these young women. Data were drawn from the 2017 Haiti Demographic and Health survey. Explanatory analysis was used to test for associations between condom use and the selected sociodemographic factors using Pearson's chi square test. Then, multiple logistic regression was fitted to the data to assess the effects of sociodemographic characteristics of young women in multiple partnerships on condom use. The study revealed significant differences between sociodemographic factors and condom use among young women in multiple partnerships. A young woman's age, age at sexual debut, level of education, marital status, and household wealth predicted condom use. The paper highlights the importance of reinforcing sexuality education among young women in Haiti.

Keywords Sexual behavior · Condom use · Multiple sex partners · Young women · Predictors · Haiti

✉ Ann Kiragu
kiraguann@yahoo.fr

David Jean Simon
djeansimon90@yahoo.fr

[1] University of Paris 1 Pantheon-Sorbonne, Paris, France

Introduction

Sexually transmitted infections (STIs) including that caused by the human immunodeficiency virus (HIV) have a significant effect on sexual and reproductive health worldwide (WHO 2018). Sexual behavior, from which these infections result, is influenced by the environment as well as by characteristics of individuals at risk (Sumartojo 2000). While these infections affect people of all ages, young women are disproportionally affected as they place themselves at risk of negative health outcomes when they engage in unprotected sex (Abdool Karim et al. 2017; CDC 2017; Dellar et al. 2015). There is, nonetheless, a consensus that consistent condom use is an effective way to prevent STIs. In Haiti, high-risk sexual behavior and its consequence among the youth is a public health concern. This concern has been marked by the increased number of reproductive health interventions aimed at ensuring young adults have access to reproductive health information and services (WRC et al. 2011). The country has a history of a high prevalence of HIV outside of sub-Saharan and leads all the other Latin America and Caribbean countries in its rates (Malow et al. 2010).

Studies reveal that young women in Haiti are predisposed to risky sexual behaviors and that multiple factors have been found to influence their engagement in these behaviors. At the individual level, these include a lack of condom use (Carver et al. 2014; Daniel and Logie 2016) in conjunction with multiple partners culminating in HIV or other STIs (Carver et al. 2014; Dévieux et al. 2016; Speizer et al. 2009). Contextually, Dévieux et al. (2015), Marshall et al. (2009), Rhodes (2002) argue that deteriorating structural factors, that is the context in which risk production occurs, have had a detrimental effect on the sociocultural environment that controls risky behaviors. Similarly, despite the country's strides in the area of education and literacy, parental involvement in sexuality education is limited within the Haitian household (Pierre-Victor et al. 2018). Yet, what young women need is understanding and support from their parents and the community at large. But, parents are hesitant to talk to their female children for fear that such conversations may incite them to engage in sexual intercourse, ultimately leading to unwanted pregnancy (Castor 2014). To meet the need of these vulnerable girls and to reduce the rates of STIs, the international community has proposed an evidence-informed approach which consists of a comprehensive sexuality education (UNESCO 2009; UNESCO et al. 2018).

Despite an increased effort by the international community to circumvent adverse outcomes of sexual behavior, young women continue to have sexual intercourse with multiple partners without protection, exposing themselves to serious reproductive health consequences (WHO 2018). These consequences include cervical cancer as a result of human papillomavirus (HPV) infection (Bray et al. 2018), pelvic inflammatory diseases (PID), infertility, ectopic pregnancy, fetal death, and congenital infections (WHO 2018). Therefore, given these consequences of risky sexual behavior on young women, and given these young women's important contributions to demographic dynamics as well as social change and development, particular attention must be paid to them. While the

most effective means of preventing these infections is consistent condom use, little is known about the factors that influence its use. The objective of this paper was to study high-risk sexual behavior among young Haitian women with multiple sex partners and to identify and understand factors that influence condom use among these age groups.

Method

Source of Data

The study used data from the Haiti Demographic and Health Surveys (HDHS) collected between 2016 and 2017. A nationally representative sample 14,350 women aged 15–49 were surveyed. Using a multistage sampling design, a random sample of enumeration areas was selected from which a random sample of households was chosen from a listing of all households in the selected enumeration areas. All eligible women in the sampled households who consented were questioned. The survey provides data about the demographic, socioeconomic, and cultural characteristics of Haitian women. For the analysis presented here, we selected the subsample of women aged 15–24 who reported multiple sex partners, that is, those who answered positively to the following question: "Apart from this person, have you had sexual intercourse with any other person in the last 12 months?" A total of 2054 young women who had sexual intercourse with a person who was neither their spouse nor lived with them was selected from the HDHS sample, and the weighted sample size resulted to 2056.

Outcome Variable

Acquiring sexually transmitted infections (STIs) depends on having unprotected sex with multiple partners. Therefore, the outcome variable was dichotomous (did versus did not use a condom) among young women who reported having had sexual intercourse with a person who was neither their spouse nor lived with them. The variable was derived from the question: "The last time you had sex with this person was a condom used?" and dichotomized according to the response (0 = 'no' and 1 = 'yes').

Predictor Variables

The independent variables used in the present study were included in previous studies on sexual behavior (Ajayi and Akpan 2018; Exavery et al. 2012; Amon Exavery et al. 2015; Lagarde et al. 2001; Ruan et al. 2019; Rwenge 2013) and were selected to study their influence on condom use among young women in Haiti. We examined ten of these variables: respondent's age which was broken down into two groups (15–19 for adolescents and 20–24 for young adults), age at first sexual debut (less than 16 years and 16 years and above), level of education (never been to school,

primary, secondary or higher), sex of household head (male, female), number of household members (less than five, five or more), religion (none, catholic, protestant, voodoo), marital status (currently married/living with a partner and single), place of residence (rural and urban), access to the internet (none, daily, less than a week, once a week), and household wealth index which was aggregated to form three groups (poor, middle and rich households).

Statistical Analysis

Data were analyzed using SAS 9.14 statistical software. First, we analyzed the data descriptively to assess the profile of the study sample. An explanatory data analysis followed whereby we tested for associations between condom use and the selected sociodemographic factors using Pearson's Chi square test. Multiple Logistic regression was finally fitted to the data to assess the effects of sociodemographic characteristics of young women in multiple partnerships on condom use. Because the study wished to make inferences about the likelihood that a given effect would hold in the population at large, all results took account of weighting and the HDHS's complex sample design.

Results

Sociodemographic Profile of Young Women in Multiple Partnerships

Two thousand and fifty-six young women in Haiti reported being in multiple sexual partnerships. The percentage distribution of these young women by sociodemographic characteristics is presented in Table 1. Among them, more than half of the sample (54.8%) lived in urban areas, forty-two percent were adolescents (15–19 years old) and fifty-eight percent were young adults (20–24 years old). While most young women lived in households with five or more members (67.9%), the majority of these households were headed by women (56.3%). Given that the sample is composed of young women, there were large differences between married and single women in multiple partnerships. Few married women reported multiple partners (8%) compared to young women who had multiple partners were single (92%). There were also large differences as far as religion was concerned with more than half of the young women reporting to be protestants (55.6%). Similarly, most young women in the sample had had their sexual debut before the age of sixteen (65.7%) and eighty percent had attained a secondary or higher level of education. More than half of these women reported being in a rich household (54.7%). However, the majority of women had no access to the internet (57.7%).

Factors Associated with Condom Use

Table 1 also describes condom use at last sex among young women with multiple partners by sociodemographic characteristics and a test of associations between

Table 1 Distribution of young Haitian women aged 15–24 years who reported multiple sexual partners, and bivariate analysis of condom use among these young women at the last sexual intercourse by background characteristics, 2017 (n = 2056)

Variables	All women aged 15–24 years		Condom use at last sex		Sign.*
			Yes	No	
	N	%	%	%	
Condom use					
Yes	1071	52.1	–	–	
No	985	47.9	–	–	
Age group (years)					
15–19	864	42.0	43.3	40.6	ns
20–24	1192	58.0	56.7	59.4	
Age at first sexual debut (years)					
Less than 16	705	65.7	29.7	39.4	***
16 years and above	1351	34.3	70.3	60.6	
Level of education					
Never been to school	36	1.8	0.4	3.2	
Primary	371	18.0	11.2	25.5	***
Secondary and higher	1649	80.2	88.4	71.3	
Marital status					
Currently married/living with a partner	156	8.0	4.9	10.5	***
Single	1900	92.0	95.1	89.5	
Place of residence					
Rural	938	45.6	39.6	52.2	***
Urban	1118	54.8	60.4	47.8	
Household wealth status					
Poor	514	25.0	17	33.7	
Middle	417	20.3	20.0	20.6	***
Rich	1125	54.7	63.0	45.7	
Religion					
None	188	9.1	9.0	9.3	
Catholic	708	34.5	34.3	34.6	*ns*
Protestants	1143	55.6	56.1	55	
Voodoo	17	0.8	0.6	1.0	
Number of household member					
Less than five	659	32.1	34.6	29.4	*
Five or more	1397	67.9	65.4	70.6	
Sex of household head					
Male	897	43.7	43.5	43.8	*ns*
Female	1159	56.3	56.5	56.2	
Internet access					
None	1176	57.2	49.9	65.2	
Daily	531	25.8	31	20.2	***
Less than a week	123	6.0	6.8	5.1	
Once a week	226	11.0	12.3	9.5	

*Based on Pearson Chi square test; *$p < .05$. **$p < .01$. ***$p < .001$.
*ns n*ot significative

Table 2 Multiple Logistic regression analysis of the association between condom use at the last sexual intercourse among young Haitian women aged 15–24 years reporting multiple partners, 2017 (n = 2056)

Sociodemographic variables	Condom use at the last sexual intercourse		
	OR	95% CI	Sign.
Age group (years)			
15–19	1.43	(1.17–1.75)	**
20–24	Ref.		
Age at first sexual debut (years)			
Less than 16	Ref.		
16 years and above	1.38	(1.12–1.70)	**
Educational attainment			
None	Ref.		
Primary	3.39	(1.16–9.90)	**
Secondary and higher	6.93	(2.41–19.91)	***
Marital status			
Currently married/living with a partner	Ref.		
Single	1.53	(1.05–2.23)	**
Household wealth status			
Poor	Ref.		
Middle	1.71	(1.30–2.25)	***
Rich	2.26	(1.79–2.86)	***

OR, Odds ratio; CI, Confidence interval; Ref., Reference category
Sign. = Level of significant; *$p < .05$. **$p < .01$. ***$p < .001$

condom use and selected socioeconomic factors. Overall, forty-eight percent of young women with multiple partners did not use a condom at last sex. Condom use varied significantly by the sociodemographic characteristics listed in Table 1. While age group, religion, sex of household head were found to be independent of condom use, thus failing to reject the null hypothesis of no association between condom use and age group, condom use was however associated with age at first sexual debut ($p < .001$), level of education ($p < .001$), marital status ($p < .001$), place of residence ($p < .001$), household wealth ($p < .001$), number of household members ($p < .05$), and access to the internet ($p < .001$).

Determinants of Condom Use

The results of multivariate logistic regression analysis are presented in Table 2. Place of residence, religion, number of household members, sex of household head, and access to the internet did not predict condom use among young Haitian women with multiple sex partners. Predictors of condom use at the last sexual intercourse were age group, age at first sexual debut, level of education, marital status, and household wealth. Condom use at the last sexual intercourse was 1.5 times higher among 15–19 years-olds compared to the 20–24 years olds (OR = 1.45, 95% IC = 1.19–1.75, $p < .05$). Respondents who had their sexual debut at 16 years or above were 1.38

times as likely to report having used a condom verse those who initiated before the age of 16 years (OR = 1.38, 95% IC = 1.12–1.70, $p < .01$). Estimated Odds ratios varied from 3.39 to 6.93 across the three measurements of education. The odds of condom use among young women with primary education were 3.39 times higher compared to those with none. Similarly, young women with secondary education or higher were nearly seven times more likely to use a condom at last sex intercourse compared to those with none (respectively, OR = 3.39, 95% IC = 1.16–9.90, $p < .01$; OR = 6.93, 95% IC = 2.41–19.91, $p < .001$). Condom use among young married women was 1.53 higher than single young women (OR = 1.53, 95% IC = 1.01–2.23, $p < .01$). The Odds of condom use was 1.7 times higher among young women in the middle class and 2.26 times higher among those in rich households compared to those in poor households (OR = 1.71, 95% IC = 1.30–2.25, $p < 0.001$; OR = 2.26, 95% IC = 1.79–2.86, $p < .001$).

Overall, all five of the ten variables were significant. The pattern was consistent that young Haitian women in early adulthood, who started their sexual life early, with no education and from a poor household were more likely than those who started their sexual relationships later, had secondary education and higher, and lived in a rich household to elicit a report that a condom was not used with the last sexual partner.

Discussion

Studies focusing on the use of condoms in adolescence or early adulthood (20–24 years old) and multiple partners in Haiti are limited. The present study attempted to fill this gap by examining sociodemographic factors that may influence the use of protection among young women engaging in high-risk sexual behavior. Our results are compelling and show several significant differences in terms of relations between sociodemographic factors and condom among these young women. Although protected sex (i.e., use of a condom) prevents sexually transmitted infections (STIs) particularly HIV successfully, a significant proportion of young women in Haiti remain at risk of contracting STIs (Malow et al. 2010). This is evident from our results which indicates that among these young women, nearly half (48%) of those who practice high-risk sexual behavior, did not use condoms at the last sexual intercourse.

In our multiple Logistic regression analysis, five of ten hypotheses were confirmed. Contrary to previous studies (Ali et al. 2019; Onoya et al. 2015; Son et al. 2016), no relationship was found between the place of residence and condom use. This finding is probably due to the sampling effect or a simultaneous effect of two or more explanatory variables on the dependent variable (Hurling 2003). Similarly, religion, number of household members, and sex of household head also contrary Rwenge (2013) findings, and access to the internet did not predict condom use.

Condom use at last sex was significantly higher among young women whose sexual debut was 16 years or above than those whose age at sexual debut was below the age of sixteen. This finding supports previous research (Magnusson et al. 2019;

Ruan et al. 2019) that have found that individuals with early sexual debut were more likely to engage in risky sexual behavior. While sexual activity is typically initiated in adolescence or early adulthood, during this period, young people take risks, experiment, and change partners than in later years (National Academies of Sciences, Engineering, and Medicine 2020). Confidence to negotiate condom use is a significant predictor of actual condom use (Exavery et al. 2012). However, Leridon (2015) argues that young women have less negotiating power related to the fact that they may be less educated and their partners much older. Therefore, sexuality education aimed to equip young people with the knowledge, skills, and values to make informed decisions about their sexuality is important (UNESCO 2009). In addition to age at first sexual debut, we found significant variation in the practice of high-risk sexual behavior between adolescents (15–19 years old) and young adults (20–24 years old). An encouraging finding is that condom use is highest among adolescents than in young adult women. This observation is consistent with other studies (Ajayi and Akpan 2018; Waithaka and Bessinger 2001). It may be explained by the fact that their partners take the initiative to use condoms because pregnancy in Haiti is considered as social deviant behavior (Jean Simon and Tokpa 2020).

Our findings show that condom use increased with educational attainment and had a strong positive effect on a young woman's likelihood to protect herself. These results are congruent with those of Lagarde et al. (2001), Exavery et al. (2012). In Haiti, education has increased drastically. The 2017 HDHS demonstrated significant progress in educational attainment for all age groups and both sexes compared to the results of the 2003 population census in Haiti. While schooling improves particular knowledge and practices of young people about sexual health, including the prevention of STIs, it also allows the child to find himself in an environment where it is easy to be in contact with the opposite sex and to undergo peer pressure in the area of sexuality (Rwenge 2013).

An additional finding and one that is consistent across studies of condom use is marital status (Exavery et al. 2012; Nasrullah et al. 2017), unmarried young women are more likely to use a condom than married women. One possible explanation for these differences is that married women are less likely to perceive themselves at risk of STIs and HIV (Nasrullah et al. 2017). Also, being in a monogamous relationship, they may seek other contraceptive methods to prevent pregnancy (Jones et al. 2012).

Household wealth had strong effects on young women's likelihood to protect themselves. However, this finding should be interpreted with caution as the variable "wealth index" as constructed in DHS surveys (Croft et al. 2018) is not consistent with Haiti's economic indicators. All the same, a recent study found that poverty contributes to early sexual debut among Haitian girls and encourages multiple partners and partnerships with older men to meet basic survival needs (Malow et al. 2010). Leridon (2015) argues that young women from poor households are less educated and, therefore, may not be aware of the dangers of unprotected sex. Earlier studies in Haiti have highlighted that poor young women live in acute food insecurity and disadvantaged neighborhoods (Institut Haïtien de Statistique et d'Informatique 2012). Hence, unprotected sex is often a result of monetarized and or transactional relationships which are part of survival strategies to gain a certain social status (Charbit and Régnard 1999). Given these

circumstances, young women from poor households find it difficult to negotiate the use condoms.

There are some limitations to this study. The validity of self-reports on sexual behavior is always a concern because respondents may be reluctant to report accurately about engaging in highly sensitive behaviors (Beguy et al. 2009). Mostly this occurs in situations whereby teenage respondents are required to respond to an adult interviewer. In our study, certain young women may have over-reported condom use and under-reported partnerships. Hence, the sample and the results may not reflect reality. Secondly, this study only focused on females. However, it is crucial to research on factors that influence condom use among males, given the male dominance in sexual matters.

Conclusion

This present study has contributed to identifying social demographic factors, in particular those that correspond to age, early sexual debut, educational attainment, marital status, and household wealth, are correlated with behaviors that increase the likelihood of STI/HIV among young women in Haiti. It has provided information on condom use among high-risk sexual behaviors among young women with multiple partners. Hence, sexuality education, particularly information on condom practices and sexual behavior is important for program planning. Besides, condom promotion programs need to continually strive to improve their effectiveness and appropriate adjustments may have to be made to increase condom use among these high-risk groups. Finally, qualitative studies are required to understand barriers that impinge on the use of condoms among young women engaging in risky sexual behaviors in Haiti.

Authors' Contributions DJS and AK conceived of the study and conducted the analysis. AK is primarily responsible for the written manuscript. All authors have approved the final manuscript.

Funding The authors did not receive support from any organization for the submitted work.

Availability of Data and Materials The data used in this study is publicly available at: https://dhsprogram.com/data/available-datasets.cfm

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no competing interests.

References

Abdool Karim, Q., Baxter, C., & Birx, D. (2017). Prevention of HIV in adolescent girls and young women: Key to an AIDS-free generation. *Journal of Acquired Immune Deficiency Syndromes, 1999*(75 Suppl 1), S17–S26. https://doi.org/10.1097/qai.0000000000001316.

Ajayi, A. I., & Akpan, W. (2018). Determinants of condom use among parous women in North Central and South Western Nigeria: A cross-sectional survey. *BMC Research Notes*. https://doi.org/10.1186/s13104-018-3573-5.

Ali, M. S., Tesfaye Tegegne, E., Kassa Tesemma, M., & Tesfaye Tegegne, K. (2019). Consistent Condom use and associated factors among HIV-positive clients on antiretroviral therapy in North West Ethiopian Health Center, 2016 GC. *AIDS Research and Treatment*. https://doi.org/10.1155/2019/7134908.

Beguy, D., Kabiru, C. W., Nderu, E. N., & Ngware, M. W. (2009). Inconsistencies in self-reporting of sexual activity among young people in Nairobi, Kenya. *The Journal of Adolescent Health, 45*(6), 595–601. https://doi.org/10.1016/j.jadohealth.2009.03.014.

Bray, F., Ferlay, J., Soerjomataram, I., Siegel, R. L., Torre, L. A., & Jemal, A. (2018). Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: A Cancer Journal for Clinicians, 68*(6), 394–424. https://doi.org/10.3322/caac.21492.

Carver, J. W., Dévieux, J. G., Gaston, S. C., Altice, F. L., & Niccolai, L. M. (2014). Sexual risk behaviors among adolescents in Port-au-Prince, Haiti. *AIDS and Behavior, 18*(8), 1595–1603. https://doi.org/10.1007/s10461-013-0689-4.

Castor, C. (2014). Parental efforts to influence sexual behavior of young haitian women: Implications for addressing the risk of HIV/AIDS and sexually transmitted infections (STIs). *The Internet Journal of World Health and Societal Politics, 9*(1), 1–7.

CDC. (2017). *Sexually transmitted disease surveillance 2017* (p. 168).

Charbit, Y., & Régnard, C. (1999). Dynamiques démographiques et dimensions géographiques des populations africaines. *Espace Populations Sociétés, 17*(1), 13–27. https://doi.org/10.3406/espos.1999.1867.

Croft, T. N., Aileen, M. J., Marshall, C. K., & Allen, (2018). *Guide to DHS statistics*. Rockville, Maryland, USA: ICF.

Daniel, C., & Logie, C. (2016). Contexts of risk: A photo-voice study of haitian youth perceptions of their HIV Risk. *Global Social Welfare, 3*(4), 255–267. https://doi.org/10.1007/s40609-016-0065-1.

Dellar, R. C., Dlamini, S., & Karim, Q. A. (2015). Adolescent girls and young women: Key populations for HIV epidemic control. *Journal of the International AIDS Society, 18*(2 Suppl 1), 19408. https://doi.org/10.7448/IAS.18.2.19408.

Dévieux, J. G., Gilles, M. J., Frankel, A., Attonito, J., Saxena, A., & Rosenberg, R. (2016). Predictors of sexual activity in Haitian-American adolescents. *Journal of Immigrant and Minority Health/Center for Minority Public Health, 18*(1), 161–172. https://doi.org/10.1007/s10903-014-0148-y.

Dévieux, J. G., Rosenberg, R., Saint-Jean, G., Bryant, V. E., & Malow, R. M. (2015). The continuing challenge of reducing HIV risk among haitian youth: The need for intervention. *Journal of the International Association of Providers of AIDS Care, 14*(3), 217–223. https://doi.org/10.1177/2325957411418119.

Exavery, A., Kanté, A. M., Jackson, E., Noronha, J., Sikustahili, G., Tani, K., et al. (2012). Role of condom negotiation on condom use among women of reproductive age in three districts in Tanzania. *BMC Public Health*. https://doi.org/10.1186/1471-2458-12-1097.

Exavery, Amon, Kanté, A. M., Tani, K., Hingora, A., & Phillips, J. F. (2015). Sociodemographic drivers of multiple sexual partnerships among women in three rural districts of Tanzania. *HIV/AIDS - Research and Palliative Care*. https://doi.org/10.2147/HIV.S76694.

Hurling, C. (2003). *Econométrie des variables qualitatives. Polycopié de Cours.*

Institut Haïtien de Statistique et d'Informatique. (2012). *Enquête sur les Conditions de Vie des Ménages Après le Séisme. Port-au-Prince.*

Jean Simon, D., & Tokpa, L. (2020). La fécondité précoce dans les camps d'hébergement de l'Aire Métropolitaine de Port-au-Prince dans un contexte post-catastrophe naturelle. *Études Caribéennes*. https://doi.org/10.4000/etudescaribeennes.18851.

Jones, J., Mosher, W., & Daniels, K. (2012). Current contraceptive use in the United States, 2006–2010, and changes in patterns of use since 1995. *National Health Statistics Reports, 60,* 1–25.

Lagarde, E., Caraël, M., Glynn, J. R., Kanhonou, L., Abega, S.-C., Kahindo, M., et al. (2001). Educational level is associated with condom use within non-spousal partnerships in four cities of sub-Saharan Africa. *AIDS, 15*(11), 1399–1408.

Leridon, H. (2015). Théories de la fécondité: Des démographes sous influence? *Population, 70*(2), 331–373.

Magnusson, B. M., Crandall, A., & Evans, K. (2019). Early sexual debut and risky sex in young adults: The role of low self-control. *BMC Public Health*. https://doi.org/10.1186/s12889-019-7734-9.

Malow, R., Rosenberg, R., Lichtenstein, B., & Dévieux, J. G. (2010). The impact of disaster on HIV in Haiti and priority areas related to the Haitian Crisis. *The Journal of the Association of Nurses in AIDS Care: JANAC, 21*(3), 283. https://doi.org/10.1016/j.jana.2010.02.002.

Marshall, B. D., Kerr, T., Shoveller, J. A., Montaner, J. S., & Wood, E. (2009). Structural factors associated with an increased risk of HIV and sexually transmitted infection transmission among street-involved youth. *BMC Public Health, 9*(1), 7. https://doi.org/10.1186/1471-2458-9-7.

Nasrullah, M., Oraka, E., Chavez, P. R., Johnson, C. H., & DiNenno, E. (2017). Factors associated with condom use among sexually active U.S. adults, National Survey of Family Growth, 2006–2010 and 2011–2013. *The Journal of Sexual Medicine, 14*(4), 541–550. https://doi.org/10.1016/j.jsxm.2017.02.015.

National Academies of Sciences, Engineering, and Medicine. (2020). The current landscape of adolescent risk behavior. In R. Graham & N. F. Kahn, (Eds.) *Promoting positive adolescent health behaviors and outcomes: Thriving in the 21st century* (p. 58). Washington, DC: National Academies Press. https://doi.org/10.17226/25552.

Onoya, D., Zuma, K., Zungu, N., Shisana, O., & Mehlomakhulu, V. (2015). Determinants of multiple sexual partnerships in South Africa. *Journal of Public Health, 37*(1), 97–106. https://doi.org/10.1093/pubmed/fdu010.

Pierre-Victor, D., Stephens, D., Gabbidon, K., Jean-Baptiste, N., Clarke, R., & Madhivanan, P. (2018). Conversations about sexual activity within Haitian families: Implications for HPV vaccine uptake. *Ethnicity & Health*. https://doi.org/10.1080/13557858.2018.1539221.

Rhodes, T. (2002). The 'risk environment': A framework for understanding and reducing drug-related harm. *International Journal of Drug Policy, 13*(2), 85–94. https://doi.org/10.1016/S0955-3959(02)00007-5.

Ruan, F., Fu, G., Yan, Y., Li, Y., Shi, Y., Luo, L., et al. (2019). Inequities in consistent condom use among sexually experienced undergraduates in mainland China: Implications for planning interventions. *BMC Public Health*. https://doi.org/10.1186/s12889-019-7435-4.

Rwenge, J.-R. M. (2013). Comportements Sexuels parmi les Adolescents et Jeunes en Afrique subsaharienne Francophone et Facteurs Associés. *African Journal of Reproductive Health, 17*(1), 49–66.

Son, D. T., Oh, J., Heo, J., Huy, N. V., Minh, H. V., Choi, S., et al. (2016). Early sexual initiation and multiple sexual partners among Vietnamese women: Analysis from the Multiple Indicator Cluster Survey, 2011. *Global Health Action, 9*(s1), 29575. https://doi.org/10.3402/gha.v9.29575.

Speizer, I. S., Beauvais, H., Gómez, A. M., Outlaw, T. F., & Roussel, B. (2009). Using multiple sampling approaches to measure sexual risk-taking among young people in Haiti: Programmatic implications. *Studies in Family Planning, 40*(4), 277–288.

Sumartojo, E. (2000). Structural factors in HIV prevention: Concepts, examples, and implications for research. *AIDS, 14,* S3.

UNESCO, UNAIDS, UNFPA, UN Women, & WHO. (2018). *International technical guidance on sexuality education: An evidence-informed approach* (p. 139).

UNESCO. (2009). *International technical guidance on sexuality education*. UNESCO.

Waithaka, M., & Bessinger, R. (2001). *Sexual behavior and condom use in the context of HIV prevention in Kenya*.

WHO. (2018). *Report on global sexually transmitted infection surveillance*.

WRC, CARE, IPPF, & Save the Children. (2011). *Priority reproductive health activities in Haiti*.