

Associated Factors with Early Sexual Intercourse among In-School Adolescents in Brazzaville

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Abstract

Background: Early sexual intercourse (ESI) is a global public health problem. In Congo, associated factors with ESI have been under-studied. **Objective:** To analyse factors associated with early sexual intercourse among in-school adolescents in Brazzaville. **Method:** A cross-sectional analytic study with three-stage random sampling was carried out from March 2 to June 2, 2022 in Brazzaville secondary and high schools. Adolescents in the selected schools were interviewed about their sexual and social behaviour, and their family and school environment. Multivariate analysis using logistic regression was used to identify factors associated with ESI. The significance level of the p-value was set at 5% and the confidence interval at 95%. **Results:** Of a total of 1100 adolescents surveyed, 800 (72.7%) had ESI, 98% of them were female. The main reason for early initiation of sexual intercourse was curiosity (81.8%). Non-use of condoms and multiple sexual partnerships were noted respectively in 98.7% and 68.7% of adolescents who had experienced ESI. Female gender ($p < 0.001$), low ($p < 0.001$) and medium ($p = 0.003$) socio-economic level, absence of sex education classes at school ($p = 0.01$), regular use of social networks ($p < 0.001$) and regular viewing of pornographic films ($p = 0.03$) enhanced ESI. The presence of both parents in the household was protective ($p < 0.001$). **Conclusion:** The prevalence of ESI is high, and the factors identified in this study may help to reduce it.

Keywords

Associated Factors, Early Sex, Adolescents, Brazzaville

1. Introduction

Adolescence, the transitional period between childhood and adulthood, takes

place between the ages of 10 years and 19 years according to the WHO [1]. It is marked by profound physical, cognitive, psychological, social and sexual transformations that generate and crystallize risky sexual behaviours, including early sexual intercourse (ESI) [2]. The definition of ESI is not consensual: the age that defines early sexual intercourse varies from country to country and depends on the socio-cultural context, but above all on the age of sexual majority set by each country's penal code [3] [4]. The WHO defines ESI as sexual experience before the age of 15 years [5], and the same definition is used in Brazil by Roman Lay, and in France [6] [7]. Sexual majority begins at 16 years in Pakistan, and at 18 years in Ethiopia and in DRC [7].

Early sexuality is a major public health problem worldwide, due to its frequency and complications [8]. In France, the prevalence of ESI is estimated at 7.2% in boys and 5.9% in girls, while in Madagascar it is 8.4% and 17.2% respectively, and 16.7% and 20.4% in Ivory Coast [9]. ESI is associated with an increased risk of sexually transmitted infections (STIs) and HIV/AIDS infection, delayed school attendance and dropout, parenthood and early marriage. For girls, the above-mentioned complications are compounded with early and unwanted pregnancies, leading to an increase in maternal and infant morbidity and mortality [10].

In Europe, there is a link between social status, religious practice, level of education and ESI [11]. In Africa specifically, in Ethiopia, Madagascar and Cameroon, the factors associated with ESI have been identified as low parental education, the influence of friends, lack of sex education, viewing of pornographic films and alcohol consumption [9].

In Congo, the law does not specify the age of sexual majority, but sets civil majority at 18 years [12]. Adolescents represent 56% of the Congolese population [13], and like in other countries, ESI is an alarming problem; in 2014, the proportion of young people having intercourse before the age of 15 years was 13.7% among girls and 16.8% among boys, and that of early pregnancies at the age of 17 years was 25.9% in 2011 [14] [15]. In 2020, adolescents accounted for 16% of patients treated for STIs and HIV infection [15]. However, no studies have been devoted to investigating the factors associated with ESI.

In view of these data, it was important to carry out this study in order to contribute to improving the sexual and reproductive health of adolescents in Congo.

The main objective was to identify associated factors with ESI among in school adolescents in Brazzaville.

Secondary objectives were to:

- Describe the socio-demographic characteristics of adolescents attending school in Brazzaville;
- Determine the prevalence of ESI among adolescents attending school in Brazzaville;
- Identify sources of information or education on sexuality among adolescents attending school in Brazzaville.

2. Methods

2.1. Type, Period and Setting of Study

This was a cross-sectional analytical study conducted from March 2 to June 2, 2022, a period of three months, in 27 public and private schools in the city of Brazzaville, capital of the Republic of Congo.

2.2. Study Population

The target population was adolescents in the city of Brazzaville, and the study population was adolescents enrolled in Brazzaville secondary and high schools during the 2021-2022 academic year.

2.3. Inclusion Criteria

We included in the study, adolescents enrolled in the selected schools, whose parents and/or themselves had consented to participate in the study.

2.4. Non-Inclusion Criteria

Adolescents with a personal psychiatric history and those unable to answer the questions were not included in the study.

2.5. Samples

The minimum sample size calculated using the SCHWARTZ formula was 1067 students.

Sampling was carried out by means of a three-stage random sample. First, from a list of schools and after stratification according to the 9 districts of the city of Brazzaville and the 2 sectors of activity (public and private), we drew a random sample from a public secondary school, a public high school and a mixed private school (a school comprising a secondary school and a high school). Classes were then drawn at random from the selected schools, followed by students in the selected classes.

The number of students selected per district and per sector (public and private) was proportional to their size.

2.6. Data Collection

Data were collected using an anonymous questionnaire, the clarity of which had been tested in a pre-survey.

An initial interview with parents/guardians and adolescents was conducted at school before the start of the survey. An information sheet on the research topic and parental consent were presented to each parent/guardian and adolescent. After reading the information sheet, parents and adolescents decided whether to give their consent.

Selected students were interviewed individually face-to-face in a closed classroom available at the time of the survey.

2.7. Variables Studied

The dependent variable was early sexual intercourse, defined as sexual intercourse before the age of 18 years.

The independent or explanatory variables were socio-demographic and cultural, related to family and school environment, sexual behaviour and social behaviour.

2.8. Statistical Analysis

Data processing and analysis were carried out using Excel and R studio software.

Quantitative variables were expressed as mean with standard deviation or median with interquartile range (IQR), while qualitative variables were expressed as the number and frequency of each class.

For inferential statistics, we used the Student and Anova tests to compare quantitative variables whose distribution followed the normal distribution, and the non-parametric Wilcoxon and Kruskal Wallis tests in the opposite case. For qualitative variables, the Chi-square test was used for comparison, or Fisher's exact test when the number of subjects was less than 5.

Multivariate analysis was based on the logistic regression model, and explanatory variables whose p-value was < 20% in univariate analysis were included in the model. The p-value significance level was set at 5% and the confidence interval (CI) at 95%.

2.9. Ethical Considerations

We have obtained research authorization for this study from the Departmental Directorate of Pre-school, Primary and Secondary Education and Literacy, and the ethical consent of the Health Sciences Research Ethics Committee of the Ministry of Scientific Research.

3. Results

3.1. Study Population Description

A total of 1100 students were selected for the present study, of whom 800 (64%) were in the public sector and 341 (36%) in the private sector. The students surveyed comprised 759 (69%) girls and 341 (31%) boys. The average age was 15.5 ± 1.65 years (extremes: 12 and 19 years). Details of the characteristics of the students included in the study are given in **Table 1**.

The main sources of sexual information and education were social networks (60%), the media (56.4) (**Figure 1**).

3.2. Sexual Behaviour

3.2.1. Prevalence of Early Sexual Intercourse

Of those surveyed, 833 (75.7%) had sexual intercourse, including 800 (72.7%) who had had early sexual intercourse. Adolescents who had had early sexual intercourse included 744 (98%) girls and 56 (16.4%) boys. The average age at first intercourse

was 13 ± 1 years for girls and 14 ± 1 years for boys.

Table 1. Characteristics of students surveyed.

Variables	Effective (n)	Percentage (%)
Socio-economic level		
High	180	16.3
Middle	585	53.2
Low	335	30.5
Marital status of parents		
Married parents or living together	398	36.2
Divorced parents or living separately	605	55.0
Widowers or widows	97	8.8
Vital status of parents		
Both parents alive	914	83.1
Both parent's death	91	8.3
Deceased father	49	4.4
Deceased mother	46	4.2
Level of education		
Secondary school	614	55.8
High school	486	44.2
Smoking		
No	413	37.5
Yes	687	62.5
Alcohol Consumption		
No	268	24.4
Yes	832	75.6

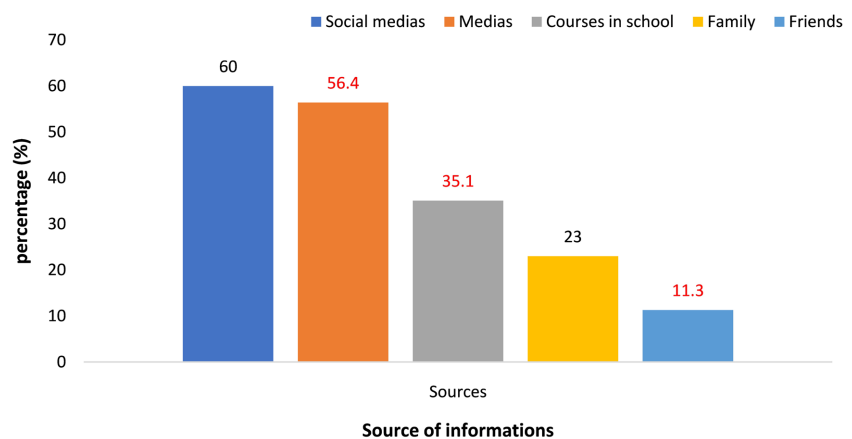


Figure 1. Sources of informations and education on sexuality, N = 1100.

3.2.2. Reasons for Early Sexual Debut

The first sexual intercourse was with consent for 790 (98.8%) adolescents and without consent for 10 girls. The reason for first sexual intercourse with consent was curiosity for all boys ($n = 56$), as well as for 598 (78.8%) girls. For the rest of the girls, it was a proof of love ($n = 135$; 18.2%) and a transactional relationship ($n = 1$).

Seven hundred and thirty-nine (67.2%) adolescents reported having been encouraged by friends to engage in sexual intercourse.

3.2.3. Other Risky Sexual Behaviours

Five hundred and forty-nine (68.7%) adolescents with ESI had several sexual partners, and 251 (31.3%) had one sexual partner.

With regard to condom use, 790 (98.7%) adolescents said they did not use condoms or used them irregularly, while 10 used them regularly.

3.3. Factors Associated with Early Sexual Intercourse

The factors associated with early sexual intercourse are shown in **Table 2**.

Table 2. Factors associated with early sexual intercourse among students surveyed, multivariate analysis.

Variables	OR	CI 95%	p-value
Girls	152	[123 - 188]	<0.001
Lack of sex education courses	4.18	[3.12 - 5.60]	0.01
Married Parents/living in marital relationship	0.34	[0.28 - 0.41]	<0.001
Socio-economic level of parents			
Low	19	[15 - 25]	<0.001
Middle	10	[8 - 13]	0.003
Use of social medias	14	[13 - 15]	<0.001
Regular viewing of pornographic films	3.63	[3.04 - 4.34]	0.03

OR: odds ratio; CI: confidence intervals.

4. Discussion

The present study, based on declarative data, has certain limitations. The first relates to the risk of memory bias, as adolescents whose first sexual intercourse took place long before the study may forget its existence. In our opinion, forgetting is unlikely in the case of first intercourse, given its importance for the adolescent. The second is the risk of social desirability bias, as adolescents may deliberately under-report or over-report sexual encounters in order to watch over his appearance. Nevertheless, participants were assured of the strict anonymity of all procedures and responses. And we agree with Morris *et al.* that anonymity and the use of a questionnaire minimize this risk [16].

In our study, 72.7% of those surveyed had reported having had early sexual intercourse. Gambadauro *et al.* in a cohort study conducted in 10 European

countries reported a prevalence of 19.2%, while Asante *et al.* in Ghana, Mmbaga *et al.* in Tanzania and Turi *et al.* in Ethiopia noted a prevalence of 55%, 48.7% and 38.4% respectively [17]-[20]. The variability in the prevalence of ESI between these studies can be explained by methodological differences (cross-sectional study in some cases and cohort study in others), and above all by the age defining the early sexual intercourse; before 15 years for Asante *et al.*, 17 years for Gamba-dauro *et al.* and 18 years in this work. And according to Madise, the probability of becoming sexually active in adolescents increases with age [21]. However, these methodological differences should not obscure the magnitude of the problem noted in this study, which can also be explained by the socio-cultural particularities of the country.

Among these sexually precocious adolescents, there was a propensity for other risky sexual behaviours such as multiple sexual partnerships and non-use of condoms; this link has also been documented by Rwenge [9].

Our findings corroborate those of Kassa *et al.* and Jeremié *et al.* in Ethiopia and Serbia respectively [22] [23]. On the other hand, other African authors have found contrary results, and attribute this to a socio-cultural environment that is restrictive for girls but rather permissive for boys in terms of sexual mores. Multi-partnerships and sexual performance are considered fundamental norms of masculinity [18] [24]. However, in many African countries, including Congo, urbanization and “modernization” have led to a relaxation of sexual mores and a weakening of family control and traditional norms that restrict girls, leaving them increasingly exposed to ESI [25].

Sources of information and education on sexuality were primarily social networks and traditional media, with only 23% of teenagers discussing sexuality with parents and 35.1% having lessons on sexuality at school. Sexuality remains a taboo subject in African societies, especially within families [25] [26]. The lack of communication on sexuality within the family circle and at school can lead adolescents to obtain information from sources that sometimes provide erroneous and vicious information, such as social networks and certain media; the absence of sex education classes at school and the use of social networks increased the risk of ESI by 4 and 14 times respectively in our study.

Other risk factors for ESI in the present study were regular viewing of pornographic films and low and middle socioeconomic status. Other authors have also observed a link between regular viewing of pornographic films and ESI [22] [26] [27]. Regular exposure to this type of film has an incentive effect, especially on adolescents already confronted with sexual urges.

In this study, we found that adolescents whose parents lived together were protected from ESI. These results are identical to those reported by European and African authors [28]-[31]. The presence of both parents in the household provides a healthy model with which children can identify. It also makes it easier to monitor children’s behaviour and activities, and parental supervision is correlated with a reduction in risky behaviour [31].

5. Conclusions

The present study found a high prevalence of early sexual intercourse and other risky sexual behaviours among adolescents in Brazzaville. Female gender, low and medium socio-economic level, use of social networks and regular viewing of pornographic films were the factors enhancing such behaviour. Having both parents in the marital home was protective.

The factors identified in this work may help in the choice of interventions needed to reduce the prevalence of ESI.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- [1] World Health Organization (2023) Sante des adolescents (2023): Vue d'ensemble. <https://www.who.int/fr/health-topics/adolescent-health/>
- [2] Sultan, C. (1999) Puberté normale: Données récentes. *Réal Pédiatriques*, **44**, 6-10.
- [3] Bullough, V.L. (2014) Age of Consent: A Historical Overview. In: Bullough, V.L., Ed., *Adolescence, Sexuality, and the Criminal Law*, Routledge, 33-50.
- [4] Moore, A. and Reynolds, P. (2018) *Childhood and Sexuality Contemporary Issues and Debates*. Palgrave Macmillan, 305.
- [5] World Health Organization (2004) Programmes nationaux de lutte contre le SIDA: Guide des indicateurs de suivi et d'évaluation des programmes nationaux de prévention du VIH/SIDA pour les jeunes. Organisation mondiale de la Santé. <https://apps.who.int/iris/handle/10665/43124>
- [6] Roman Lay, A.A., Fujimori, E., Simões Duarte, L. and Vilela Borges, A.L. (2021) Prevalence and Correlates of Early Sexual Initiation among Brazilian Adolescents. *PLOS ONE*, **16**, e0260815. <https://doi.org/10.1371/journal.pone.0260815>
- [7] Petroni, S., Das, M. and Sawyer, S.M. (2019) Protection versus Rights: Age of Marriage versus Age of Sexual Consent. *The Lancet Child & Adolescent Health*, **3**, 274-280. [https://doi.org/10.1016/s2352-4642\(18\)30336-5](https://doi.org/10.1016/s2352-4642(18)30336-5)
- [8] 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**, Article ID: 29575. <https://doi.org/10.3402/gha.v9.29575>
- [9] Rwenge, J.M. (2013) Comportements sexuels parmi les adolescents et jeunes en Afrique subsaharienne Francophone et facteurs associés. *African Journal of Reproductive Health*, **17**, 49-66.
- [10] Isaksen, K.J., Musonda, P. and Sandøy, I.F. (2020) Parent-child Communication about Sexual Issues in Zambia: A Cross Sectional Study of Adolescent Girls and Their Parents. *BMC Public Health*, **20**, Article No. 1120. <https://doi.org/10.1186/s12889-020-09218-y>
- [11] Fond des Nations Unies pour la Population (UNFPA) (2014) Le pouvoir de 1, 8 milliard d'adolescents et de jeunes et la transformation de l'avenir. <https://www.unfpa.org/sites/>
- [12] République du Congo (1984) Loi No. 073/84 du 17/10/1984 portant Code de la famille, Article 318. Assemblée Nationale.

- [13] La Banque Mondiale: République du Congo—Vue d'ensemble. <https://www.banquemondiale.org/fr/country/congo/overview>
- [14] Congo Multiple Indicator Cluster Survey 2014-2015. <https://mics.unicef.org/surveys>
- [15] Ministère de la santé et de la population, République du Congo (2022) Rapport de la revue de la stratégie intégrée de la sante de la reproduction maternelle, néonatale, infantile, des adolescents et la nutrition du Congo 2018-2022.
- [16] Morris, L., Warren, C.W. and Aral, S.O. (1993) Measuring Adolescent Sexual Behaviors and Related Health Outcomes. *Public Health Reports*, **108**, 31-36.
- [17] Gambadauro, P., Carli, V., Hadlaczky, G., Sarchiapone, M., Apter, A., Balazs, J., et al. (2018) Correlates of Sexual Initiation among European Adolescents. *PLOS ONE*, **13**, e0191451. <https://doi.org/10.1371/journal.pone.0191451>
- [18] Asante, K., Nketiah-Amponsah, E., Andoh-Arthur, J., Boafu, I.M. and Ampaw, S. (2018) Correlates of Early Sexual Debut among Sexually Active Youth in Ghana. *International Quarterly of Community Health Education*, **39**, 9-17. <https://doi.org/10.1177/0272684x18811016>
- [19] Mmbaga, E.J., Leonard, F. and Leyna, G.H. (2012) Incidence and Predictors of Adolescent's Early Sexual Debut after Three Decades of HIV Interventions in Tanzania: A Time to Debut Analysis. *PLOS ONE*, **7**, e41700. <https://doi.org/10.1371/journal.pone.0041700>
- [20] Turi, E., Merga, B.T., Fekadu, G. and Abajobir, A.A. (2020) Why Too Soon? Early Initiation of Sexual Intercourse among Adolescent Females in Ethiopia: Evidence from 2016 Ethiopian Demographic and Health Survey. *International Journal of Women's Health*, **12**, 269-275. <https://doi.org/10.2147/ijwh.s244621>
- [21] Madise, N., Zulu, E. and Ciera, J. (2007) Is Poverty a Driver for Risky Sexual Behaviour? Evidence from National Surveys of Adolescents in Four African Countries. *African Journal of Reproductive Health*, **11**, 83-98. <https://doi.org/10.2307/25549733>
- [22] Mullu Kassa, G. (2015) Early Sexual Initiation and Associated Factors among Debre Markos University Students, North West Ethiopia. *Science Journal of Clinical Medicine*, **4**, 80-85. <https://doi.org/10.11648/j.sjcm.20150405.11>
- [23] Jeremić, V., Matejić, B., Soldatović, I. and Radenović, S. (2014) Early Sexual Initiation and Risk Factors in Serbian Adolescents: Data from the National Health Survey. *The European Journal of Contraception & Reproductive Health Care*, **19**, 211-219. <https://doi.org/10.3109/13625187.2014.897320>
- [24] Peltzer, K. (2010) Early Sexual Debut and Associated Factors among In-School Adolescents in Eight African Countries. *Acta Paediatrica*, **99**, 1242-1247. <https://doi.org/10.1111/j.1651-2227.2010.01874.x>
- [25] Choudhry, V., Petterson, K.O., Emmelin, M., Muchunguzi, C. and Agardh, A. (2022) 'Relationships on Campus Are Situationships': A Grounded Theory Study of Sexual Relationships at a Ugandan University. *PLOS ONE*, **17**, e0271495. <https://doi.org/10.1371/journal.pone.0271495>
- [26] Okigbo, C.C., Kabiru, C.W., Mumah, J.N., Mojola, S.A. and Beguy, D. (2015) Influence of Parental Factors on Adolescents' Transition to First Sexual Intercourse in Nairobi, Kenya: A Longitudinal Study. *Reproductive Health*, **12**, Article No. 73. <https://doi.org/10.1186/s12978-015-0069-9>
- [27] Mazengia, F. and Worku, A. (2010) Age at Sexual Initiation and Factors Associated with It among Youths in North East Ethiopia. *Ethiopian Journal of Health Development*, **23**, 154-162. <https://doi.org/10.4314/ejhd.v23i2.53234>

- [28] Godeau, E., Navarro, F. and Arnaud, C. (2013) La santé des collégiens en France/2010. Données françaises de l'enquête internationale Health Behaviour in School-Aged Children (HBSC). *Archives de Pédiatrie*, **20**, 567-568.
- [29] Ngom, P., Magadi, M. and Owuor, T. (2003) Parental Presence and Adolescent Reproductive Health among the Nairobi Urban Poor. *Journal of Adolescent Health*, **33**, 369-377. [https://doi.org/10.1016/s1054-139x\(03\)00213-1](https://doi.org/10.1016/s1054-139x(03)00213-1)
- [30] Yode, M. and LeGrand, T. (2014) Association between Family Environment and Sexual Behaviour of Adolescents in Burkina Faso. *Advances in Reproductive Sciences*, **2**, 33-45. <https://doi.org/10.4236/arsci.2014.22005>
- [31] Biddlecom, A., Awusabo-Asare, K. and Bankole, A. (2009) Role of Parents in Adolescent Sexual Activity and Contraceptive Use in Four African Countries. *International Perspectives on Sexual and Reproductive Health*, **35**, 72-81. <https://doi.org/10.1363/3507209>