

Effects of family environment on timing of adolescents' first sexual intercourse in Burkina Faso

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Introduction

The indicators of sexual and reproductive health of Burkinabes adolescents reveal a high prevalence of premarital sexuality. Yet, at the adolescence, the body is not ready for sexual activities because it is the biological, psychological and social maturation phase. Also, the period separating sexual initiation from entry in union is an exposure moment to sexually transmitted diseases, HIV/Aids, unintended pregnancies, precociously births and abortions. However, few researches were interested in the determinants of adolescents' sexual initiation in Burkina Faso. Nevertheless, studies carried out in other countries raised that the age to which an adolescent experiences his first sexual relation results from factors so much individual, family than community. In Burkinabes societies where practices of education and socialization are still impressed of traditional values, the individuals' behaviors and choices are subject to a strong family influence. It is rightly that Akoto and its colleagues (2000) recommended an exploration of the influence of family structures on the adolescents' sexual and procreative behaviors.

American, European and Asian studies showed the existence of a significant association between the adolescents' family environment and their first sexual intercourse. For Africa, these ties remain little known for four principal reasons. Firstly, studies related directly or indirectly to this issue are very few. Secondly, among studies carried out on the continent, the majority is limited to the family structures ignoring their action mechanisms on the first sexual intercourse. In third place, despite the importance of non family structures impacts on adolescents' behaviors, those are not almost controlled in preceding researches, making difficult the evaluation of the net effect of family environment. The last reason is linked to the nature of adolescent family. The family environment in sub-Saharan Africa makes conspicuous by a widened human configuration, the marital history of the household heads, the solidarity practice and the parents survival. While in Western countries, it is limited to nuclear family of which the principal source of disintegration is marital instability. It appears then that family environment covers broader realities in Africa. A strictly speaking implementation of the existing theoretical approaches, developed in Western context, would reduce the width of its influence on adolescent behavior.

The current research is a contribution to identification of family determinants of adolescent's first sexual intercourse. It differentiates to former works by a broader measure of family environment concept. As it takes into account of none family structures of adolescents' sexual socialization and by the interest related to action mechanisms of the family environment on the first sexual intercourse.

Theoretical framework

The theoretical approach derives from socialization, parental control, and family instability approaches (Haurin and Mott, 1990; Albrecht and Teachman, 2003). The principal assumption stipulates that in spite of the socio-economic and cultural changes in progress in Sub-Saharan African countries, family environment remains a significant determinant of adolescent sexual behavior. The specific assumptions put forward the protective roles of parents' survival, of two-parents' households, monogamous households, households with three generations, of reduced children and adolescents number in the household, of high adults number in the household. These factors contribute to the carry forward of first sexual intercourse.

In Africa, the family influence on adolescents' sexual behavior would not be expressed directly through discussion on sexuality since the majority of parents seldom discuss with their children on the subject. The basic of sexual socialization would hold to the transmission of global

principles on functions of reproductive organs, the sexuality values and norms. Thus, by the means of their relation with adolescents and the control of their activities, parents and other household members sit up on the respect of these principles by adolescents.

Data

The National survey on adolescents (NSA) of Burkina Faso 2004 provides the data bases for the study. It is a representative survey at the national level, on sexual and reproductive health of adolescents 12-19 aged, conducted by the National Institute of Statistics and Demography. The NSA partly profits of the methodology and the cumulated experiences in practice of the Demographic and health surveys (DHS) in Africa which contributed to improve the quantity and quality of information on sexuality. The approval of parents and adolescents to the investigation represents a pledge of confidence established between investigators and surveyed and devotes the credibility of the data. The analysis sample includes 5 458 adolescents (45.9% girls and 54.1% boys).

Variables

The aim of the study is to identify the explanatory factors of first sexual intercourse. This variable takes value 1 if adolescent has had a first sexual relation and 0, if not. In the analyses, this variable will be coupled with the age at first sexual relation in order to take account of exposure time to the risks. The family environment is seized through seven variables: the “family type”, the “union type of household head”, the “biological parents survival”, the “intergenerational cohabitation”, the “children number (0-11 years)”, the “adolescents number (12-19 years)”, and the “adults number (20 years and more)”. The family processes which constitute the action mechanisms of family environment are measured by the variables: “relation frequency with parents”, “discussion on sexuality with family members”, “knowledge of adolescent places exit at night by parents”, “knowledge of adolescent friends by parents” and “knowledge of adolescent free time activities by parents”. The non family agents of sexual socialization will be taken into account as control variables. It is the variables “access to a formal sexual education”, “membership of social groups (association, grouping or club of young people)”, “friends networks”, “discussion on sexuality with a non member of family”, and “participation in religious activities”.

Methods

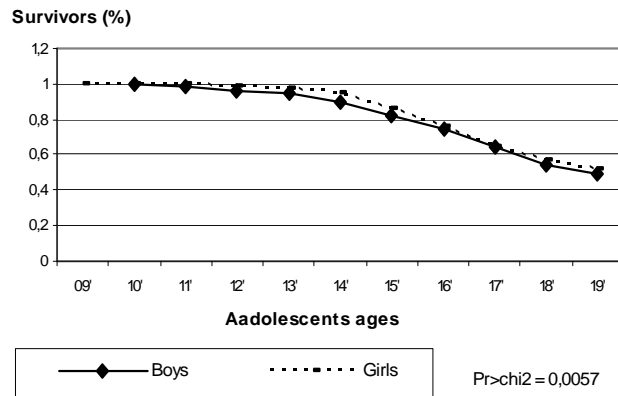
The analyses will be descriptive and explanatory. The descriptive aspect holds to the presentation of evolution tendencies of first sexual intercourse according to the adolescent sex. It uses hazards and survival curves obtained by discrete time survival method. The explanatory analysis will require the use of discrete-hazard Logit regression method. Because of independence absence between observations, consecutive to the transformation of episode file in person-year file, we resort to the *Cluster* option of Stata software to improve the robustness of standards errors.

Findings

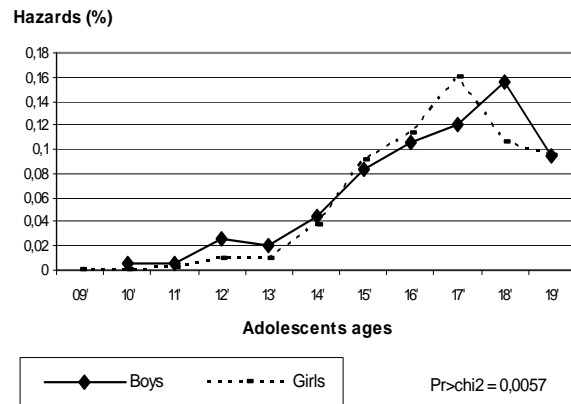
Graphs 1 and 2 present, respectively, the survival and hazards curves of first sexual intercourse for boys and girls. The significativity of differences is evaluated by the Logrank test.

The survival curves decrease between 11 and 19 years. At 19 years, 50% of adolescents did not try out sexuality yet. This result indicates that other half of adolescents will enter in sexuality after 19 years, in adulthood. Compared to boys, girls delay more their entry in sexuality, practically at all ages. Unlike of survival curves, the hazards curves of entry in sexuality grow with the age before decreasing. From 9 to 14 years, girls have hazards lower than those of boys but after 14 years, the tendency is reversed and maintained to the peak, at 17 years. The differences in behavior at the entry in sexuality between boys and girls reflect those of their sexual socialization and control processes within the family and society. Also, the 14 years age marks a great impulse for adolescents' sexual activities.

Graph 1 : Survival fonctions of adolescents first sexual intercourse



Graph 2 : Hazard fonctions of adolescents first sexual intercourse



In table 1 are transferred the results of the discrete-hazard Logit regression on the premarital first sexual intercourse of boys and girls. Because of dependence between the entry in sexuality and the stage of maturation of body, all the models are controlled by the adolescent age at the survey. Also, in order to take account of none observed heterogeneity, the models are controlled by adolescents characteristics (sex, ethnic membership, residence place, genital mutilation), and household characteristics (wealth index); but coefficients of these variables will not be presented.

Operational variables of family processes and non family agents of socialization could have a reverse causation with the entry in sexuality and create a skew of endogeneity. But, NSA data offer few possibilities to correct these skews. Thus, the coefficients of the potentially endogenous variables will be considered with prudence.

Regressions results show that the seven variables of family environment have non significant effects on boys' first sexual intercourse (columns 2). For girls (column 3), "family type" and "parents survival" are significantly associated with the timing of first sexual intercourse. Coefficients indicate a later entry in sexuality for girls living in brother or sister households compared to girls residing in father and mother households. For the "parents' survival", girls whose two parents died are more likely to enter precociously in sexuality than those which have parents alive.

Family processes appeared to be the influence's major factors of first sexual intercourse (columns 2 and 3). Results obtained are in the awaited direction: best adolescents followed and a more frequent relation with parents reduce the probabilities of an early entry in sexuality. The "frequency of parent-children relation" exclusively explains girls' first sexual intercourse. As the family processes, the non family agents affect significantly the first sexual intercourse (columns 2 and 3).

Discussion

Results of descriptive analysis showed that half of adolescents experienced sexuality before age 19. This sexual initiation intervenes out of union and at ages of biological and social immaturity which lead to its inscription as health risks. However, the influence of family environment on first sexual intercourse works differently according to adolescent sex. The results differentiated by sex could represent special modes of sexual socialization of the two adolescents' categories. The importance of girls' virginity before union and the management of the out union pregnancy consequences would be the reasons of a greater attention given to the girls' sexuality.

On the seven variables of interest, the "family type" and the "parents' survival" have significant effects on the girls' first sexual intercourse, whereas none of these variables affects the boys' sexual behavior. These results prove that boys' first sexual intercourse would be explained by

Table 1 : Logit regression models of adolescents' first sexual intercourse in Burkina Faso

Variables	Coefficients	
	Boys	Girls
Adolescent age	0,48	3,15***
Adolescent age squared	-0,01	-0,09***
Family type		
Father and mother (reference)	0,00	0,00
Mother alone	0,22	0,01
Father alone	0,08	-0,27
Brother or sister	0,38	-0,69*
Grand-parent	0,23	-0,29
Relatives	0,48	-0,24
Non relatives	0,41	-0,58
Union type		
Single/widowed/divorced/separate	0,03	-0,14
Monogamous (reference)	0,00	0,00
Polygamous	-0,02	-0,09
Children number (0-11 ans)	-0,00	-0,02
Adolescents number (12-19 ans)	0,01	-0,00
Adults number (20 ans et plus)	-0,02	-0,00
Intergenerational cohabitation		
Parents and children (reference)	0,00	0,00
Parents, children and grands-parents	0,07	0,17
Survival of adolescents parents		
Both parents alive (reference)	0,00	0,00
Mother alive	-0,16	0,24
Father alive	0,04	0,09
Both parents deceased	-0,02	0,60**
Frequency relation with parents		
No relation	-0,20	0,69**
Irregular with 2 parents	-0,19	0,71***
Daily with 1 or 2 parents (reference)	0,00	0,00
Discussion on sexuality with family members		
Didn't discuss (reference)	0,00	0,00
Discussed	0,12	-0,11
Knowledge of adolescent places exit at night by parents		
Never goes out	-2,24***	-1,48***
Don't know (reference)	0,00	0,00
Sometimes know	-0,30***	-1,18
Always know	-0,67***	-0,52***
Knowledge of adolescent friends by parents		
Doesn't have friends	-0,93**	-0,50
Don't know (reference)	0,00	0,00
Sometimes know	0,04	-0,00
Always know	-0,02	-0,14
Knowledge of adolescent free time activities by parents		
Don't know (reference)	0,00	0,00
Sometimes know	-0,16	0,04
Always know	-0,16	-0,23
Membership of social groups		
No member (référence)	0,00	0,00
member	0,11	0,18
Friends networks		
No friends (reference)	0,00	0,00
Friends of one sex or 1 friend by sex	0,37*	0,47***
Two or 3 friends for both sex	0,46***	0,41**
More than 3 friends for both sex	0,48***	0,63***
Formal sexual education		
No education	0,08	0,02
Education without sexual education (reference)	0,00	0,00
Primary with sexual education	-0,12	-0,04
More than primary with sexual education	-0,30*	-0,17
Participation in religious activities		
No religion (reference)	0,00	0,00
No participant	-0,37*	-0,43*
Less regular participant	-0,36**	-0,61***
More regular participant	-0,36**	-0,40*
Discussion on sexuality with non family members		
Didn't discuss (référence)	0,00	0,00
Discussed	0,52***	0,38***
Parameters		
Constant	-9,00	-32,15
Log Likelihood	-2940,57	-1805,89
Observations number	2948	2497

Significant at : * p<0,10 ; ** p<0,05 ; *** p<0,01

factors out of family environment. It could be also that the weak extent of results obtained follows from a less suitable measure of family environment. Current variables do not namely take account the presence in the household of aunts, uncles and cousins who, according to the literature, are the principal persons in charge for adolescents sexual socialization.

Regressions results do not show any significant difference in behavior between adolescents' single-parent families and adolescents' two-parents families. Of course, the majority of theoretical approaches consider that the single-parent families are more at risks for adolescents' sexual behavior. But this assumption deserves to be replaced in the cultural, social and economic context of its development, which is that of the Western world and the nuclear families. In Africa, the single-parent families do not induce necessarily behavioral risks since the adolescents' socialization is not an exclusive business of biological parents.

Beyond the family environment, the relation types between adolescents and their parents as well as the nature and the degree of control which parents operate on adolescents and their activities are more determining in the sexual behaviors. Thus, in Burkina Faso, the adolescents' sexual behavior depends more of the family processes than of the family environment. The results confirm also the marginal role of the parents-adolescents discussions on sexuality.

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