

Original Article

Parental Monitoring and Substance Use among Youths: A Survey of High School Adolescents in Lagos State, Nigeria

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ABSTRACT

Background: Risk behaviours including marijuana use, alcohol consumption and cigarette smoking have a significant impact on the present and future health of adolescents. There are limited studies in sub-Saharan Africa to show evidence, if it exists, of the relationship between parental monitoring practices and the prevalence of substance use among adolescents. The aim of this study is to assess the relationship between parental monitoring practices and alcohol consumption, cigarette smoking and marijuana use among in-school adolescents in Mushin Local Government Area of Lagos State, South-Western Nigeria. **Methods:** This was a cross-sectional survey of 437 in-school adolescents randomly selected from two schools in Mushin Local Government Area of Lagos State, Nigeria. Information on socio-demographic characteristics, the three domains of parental monitoring practices (Parental monitoring; negotiated unsupervised time and parental trust) and substance use were elicited using a modified version of parental monitoring practice scale and the Youth Risk Behaviour Surveillance System (YRBSS) questionnaire. Independent T tests and logistic regression models were used to assess relationship between parental monitoring practices and substance use. **Results:** The overall prevalence of use of any of the substance was 21.7%. Negotiated unsupervised time was significantly associated with use of alcohol ($P < 0.05$), marijuana ($P < 0.05$) and cigarette smoking ($P < 0.05$). After controlling for age and gender, one unit increase in parental monitoring reduced the odds of engaging in any substance use by 10% (AOR = 0.90, 95% CI = 0.81-0.99) while a similar increase in negotiated unsupervised time significantly increases the odds of any substance use by 7% (AOR = 1.07, 95% CI = 1.01-1.14). **Conclusion:** Of the three domains assessed, negotiated unsupervised time was consistently associated with substance use among these youth. Efforts to educate parents on the need to restrict unsupervised time of their wards may be warranted.

KEYWORDS: Adolescents, alcohol, cigarette, Lagos, marijuana, Nigeria, parental monitoring, risk behaviour, substance use, youths

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INTRODUCTION

Adolescence represents a critical period of life when individuals make vital decisions and lifestyle adaptations which impact significantly on future health outcomes.^[1] In addition, it is characterized by risk taking and experimentation behaviours which largely explain the tendencies for engaging in the use of psychoactive substances.^[2] Nationally representative data on substance abuse among youths is lacking in Nigeria. However, the

Global Youth Tobacco Survey for Nigeria conducted in five States in 2008 indicated that the percentage of students aged 13-15 years who had ever smoked cigarettes ranged from 4.7% in Ibadan to 16.1% in Kano while current smokers ranged from 2.6% in Lagos to

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6.2% in Kano.^[3] Similarly, Nigeria has no nationally representative data on the use of alcohol and marijuana among youths. However, some other studies have shown the prevalence of current use of alcohol and marijuana among adolescents in Nigeria to be 3.5-12.5% and 0.6-1.7% respectively.^[4-7]

Parental monitoring describes the extent to which parents monitor and supervise the activities of their wards.^[8] Previous studies have reported that adolescents with closer parental monitoring may be less likely to engage in risk behaviours including substance abuse.^[8-11] While the subject of parental monitoring has received a great deal of attention and study in the more developed economies, the same cannot be said for developing economies in Africa.^[12,13]

There are indications that family values and practices in our environment are changing with greater tendencies for adoption of nuclear family settings with both parents working or involved in trade and reduced attention for growing children. This is in sharp contrast to the traditional African societies settings where extended family members are closely knit and involved in child rearing.^[14,15] The role of parental monitoring within the context of this changing family values and practices coupled with increasing levels of risk behaviours among adolescents similar to the more developed nation's calls for more critical study. In addition, most interventions for substance abuse have focused on the use of peer support and education. It is therefore pertinent to examine the role of familial context especially parental monitoring and its relationship with substance abuse among adolescents given that they have been shown to influence both the context and quality of peer-to-peer relations.^[10,16]

This study was conducted to assess the relationship between parental monitoring, negotiated unsupervised time and parental trust on the pattern of alcohol, cigarette smoking and marijuana use among in-school adolescents in Mushin Local Government Area of Lagos state, South-Western Nigeria.

MATERIALS AND METHODS

Nigeria is one of the most populous countries in Africa with an estimated population of 170 million people. Lagos state is the commercial nerve centre and one of the most densely populated states in the country. Mushin is one of the twenty local governments in Lagos state, Nigeria. Mushin has 64 public and private secondary schools.

This cross-sectional descriptive study was carried out among high school students enrolled in public and

private schools in Mushin. Selected schools had to be co-educational secondary schools and registered with the Lagos State Ministry of Education. Only students aged between 10 and 19 years (adolescents) and in the senior classes i.e. senior secondary (SS) classes: SS1, SS2 and SS3 were included in the study. The minimum sample size was determined using the standard formula for descriptive studies using standard normal deviate of 1.96, a *P* of 0.5 for maximum variability, margin of error of 0.05. The minimum sample size calculated was 384. Giving allowances for a 20% non-response rate, this was increased to 460.

A multistage sampling technique was used to select the participants. A list of registered schools was obtained from the Lagos State Ministry of Education and the two schools were selected from this list. There are three senior secondary (SS) arms in each high school- SS1, SS2 and SS3. One class in each arm of each selected school was selected and all eligible and consenting students in each selected class were used for the survey. In total, six classes were used for the survey and 463 students in the two schools participated in the survey. Approval for this study was obtained from the Health Research and Ethics Committee of the Lagos University Teaching Hospital.

Data collection was carried out using a modified version of two standardized instruments; the parental monitoring practice scale and the Youth Risk Behaviour Surveillance System (YRBSS) questionnaire.

Measures

In this study, a parent was referred to as either a biological parent or guardian. Parental monitoring practices were assessed using a modified version of the Silverberg's Parental and Small's Monitoring Scale (PMPS).^[17] The modified PMPS is a six-item scale that assesses adolescents' perceptions of parents' tracking and supervision of their whereabouts in three main domains: Parental monitoring (PM), Negotiated unsupervised time (NUT) and Parental trust (PT). Using this scale, we asked the students how often they informed their parents about their whereabouts and with whom they are spending time when they are not at home or at school. Items were scored from 1 (*never*) to 5 (*always*).^[9,11,17]

Substance use was measured using a modified version of the Youth Risk Behaviour Surveillance System (YRBSS) questionnaire. The YRBSS is a tool developed by the Centre for Disease Control and assesses risky youth behaviour based on six thematic areas. We developed a modified version of this tool using questions on two of the six areas i.e. Cigarette smoking, alcohol consumption and marijuana use.^[18] The YBRSS uses

standard questions to assess cigarette smoking, alcohol consumption and marijuana use among youth.

Cigarette smoking

Cigarette smoking was assessed using the standard question “Have you ever tried cigarette smoking, even one or two puffs?” Participants were considered to be ever-smokers if they answered “Yes” to this question, while all other responses were classified as being never-smokers.

Alcohol use

Alcohol use was assessed by asking the standard question “During your life, on how many days have you had at least one drink of alcohol?” Respondents who had consumed a drink of alcohol on at least one day were classified as ever-drinkers while all other responses were classified as never-drinkers.

Marijuana use

Marijuana use was assessed by asking the standard question “During your life, how many times have you used marijuana?” Respondents who had used marijuana on at least one day were classified as ever-users while all other responses were classified as never users.

Any substance use

An overall substance-use measure was also created to identify those who had ever used at least one of the three substances. Those who had used at least one of the designated substances were classified as ever-users while those who had not used any of substances were classified as never-users.

The questionnaire also assessed information on the socio-demographic characteristics of the respondents. The questionnaire was pre-tested and had a Cronbach's alpha coefficient of 0.84. Questionnaires were administered in class during normal school hours after an informed parental and individual consent. Participation was voluntary and participants were assured of the confidential nature of the study. It took approximately 15 minutes to fill each questionnaire. All completed questionnaires were collected and appropriately coded immediately after.

Data analyses

Data was cleaned and analysed using Epi-Info Version 3.2. (CDC, Atlanta, GA).^[19] Mean scores were calculated for each of the three parental monitoring practice domains (i.e., parental monitoring (PM), Negotiated unsupervised time (NUT) and Parental trust (PT)) There were two questions on parental monitoring. Each question was assessed on a five-point scale ranging from 1 to 5.^[17] Maximum scores obtainable for PM was 10 points. Similarly, negotiated unsupervised time

was scored using four questions on a similar scale. Maximum score for NUT was 20 points. Parental trust was assessed using two questions on a similar scale giving a maximum score of 10 points.

To assess the relationships between substance use, PM, NUT and PT, T-tests were conducted to compare the means (SD) of PM, NUT, and PT in each of the four categories of substance use. *P* values of <0.05 were considered statistically significant. In addition, after controlling for age and sex, we computed adjusted OR and 95% CI to determine the relationship between each of the four categories and PM, NUT and PT.

RESULTS

Table 1 shows the general characteristics of the students who participated in the study. Over two-fifth of the respondents were older adolescents (aged 16 years and above) while about half were aged between 14 and 15 years. The mean age of respondents was 15.3 ± 1.6 years. Out of the 437 participating students, 233 (53.3%) were females. Over 70% of both parents of the adolescents studied had completed a minimum of secondary school education and over three-quarter lived with both parents. About 82% of both parents of the respondents were currently married in a monogamous setting.

As shown in Table 2, a greater proportion of the respondents had higher levels of parental monitoring by their parents. About 7 in 10 of them reported that their parents were often or always aware of their movements at night while half of them reported disclosing plans made with peers at least most of the time. A major proportion of the adolescents reported low levels of negotiated unsupervised time. About 20% reported ever being permitted to have friends of the opposite sex in their bedroom while another third reported being left to hang out with friends unsupervised by their parents. About two-thirds of the adolescents reported that their parents trusted them to make good decisions and for a similar proportion of them, this trust was premised on past good decisions.

The mean parental monitoring score was 7.27 ± 2.41 with higher levels of monitoring among females (7.32 ± 2.52) compared to males (7.22 ± 2.31), *P* > 0.05. Levels of negotiated unsupervised time was higher among male adolescents (9.82 ± 3.94) compared to the females (8.81 ± 4.02) and this was statistically significant (mean difference = -1.01, *t* = -2.65, *P* < 0.01). There was no statistically significant difference in the parental trust scores in girls compared with boys. (mean difference = 0.023, *t* = 0.105, *P* > 0.05). (Table not shown).

Table 1: Sociodemographic characteristics of respondents (n=437)

	Frequency (%)	95% CI of percentage
Age (years)		
10-11	3 (0.7)	0.2-2.2
12-13	42 (9.7)	7.1-12.9
14-15	214 (49.0)	44.2-53.8
16-17	132 (30.2)	26.0-34.8
18-19	46 (10.5)	7.9-13.9
Mean±SD		15.30±1.60
Gender		
Male	204 (46.7)	41.9-51.5
Female	233 (53.3)	48.5-58.1
Ethnicity		
Yoruba	296 (67.7)	63.1-72.1
Igbo	102 (23.3)	19.5-27.7
Hausa	10 (2.3)	1.2-4.3
Others*	29 (6.6)	4.6-9.5
Religion		
Christianity	285 (65.2)	60.5-69.6
Islam	147 (33.6)	29.3-38.3
Traditional	5 (1.2)	0.4-2.8
Class/level		
SS1	126 (28.8)	24.7-33.4
SS2	223 (51.1)	46.2-55.8
SS3	88 (20.1)	16.5-24.3
Father's education		
No formal	9 (2.1)	1.0-4.0
Completed primary	29 (6.6)	4.6-9.5
Completed secondary	165 (37.8)	33.2-42.5
Tertiary	163 (37.3)	32.8-42.0
I don't know	71 (16.2)	13.0-20.1
Mother's education		
No formal	7 (1.6)	0.7-3.4
Completed primary	34 (7.8)	5.5-10.8
Completed secondary	157 (35.9)	31.5-40.7
Tertiary	157 (35.9)	31.5-40.7
I don't know	82 (18.8)	15.3-22.8
Who do you live with?		
Both parents	337 (77.1)	72.8-80.9
Mother only	52 (11.9)	9.1-15.4
Father only	19 (4.4)	2.7-6.8
Others#	29 (6.6)	4.6-9.5
Family type		
Monogamous	359 (82.1)	78.2-85.6
Polygamous	78 (17.9)	14.4-21.8
Parent's marital status		
Currently married	356 (81.4)	77.4-84.9
Divorced	12 (2.8)	1.5-4.9
Separated	31 (7.1)	5.0-10.0
Widowed	38 (8.7)	6.3-11.8

*Others like Calabar, Ibibio, Efik, Edo etc.; #Others included grandparents, uncle, aunty, brothers, guardians. SD=Standard deviation; CI=Confidence interval; SS=Senior secondary

Table 3 shows the pattern of cigarette smoking, alcohol and marijuana use among the respondents. Around 1 in 5 (21.7%, n = 95) of the adolescents sampled had used

any of the three substances under study. Only 19 (4.3%) of the students reported having ever-smoked cigarettes while 21.3% (n= 93) of them had consumed alcohol.

Table 2: Parental monitoring practices reported by respondents

	Frequency (%)					Total
	Never	Not really	Sometimes	Often	Always	
Parental monitoring						
When I go out at night, my parent(s) know where I am	55 (12.6)	23 (5.3)	47 (10.8)	78 (17.9)	232 (53.3)	437 (100)
I talk to my parents about the plans I have with my friends	79 (18.2)	52 (12.0)	82 (18.4)	77 (17.7)	144 (33.2)	434 (99.5)
Negotiated unsupervised time						
I am allowed to stay out past curfew as long as I call home first	137 (31.5)	40 (9.2)	78 (17.9)	69 (15.9)	111 (25.5)	437 (100)
I am allowed to have friends over when my parents are not home as long as I tell my parents beforehand	197 (45.3)	46 (10.6)	66 (15.2)	71 (16.3)	55 (12.6)	435 (99.5)
I am allowed to have opposite sex friends in bedroom	296 (68.0)	33 (7.6)	34 (7.8)	25 (5.7)	47 (10.8)	435 (99.5)
There is a place in my house where I am allowed to hang out with my friends where my parents won't bother us	233 (53.7)	46 (10.6)	57 (13.1)	35 (8.1)	63 (14.5)	434 (99.3)

	Frequency (%)					Total (%)
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Parental trust						
My parent(s) trust me to make good decisions	28 (6.4)	27 (6.2)	38 (8.7)	109 (25.1)	232 (53.3)	437 (100)
My parent(s) trust me to make good decisions because I have made good decisions in the past	33 (7.6)	28 (6.4)	43 (9.9)	122 (28.0)	209 (48.0)	437 (100)

Table 3: Pattern of cigarette smoking, alcohol and marijuana use among the respondents

Variable (n=437)	Frequency	Percentage (95% CI)
Use of any substance		
Yes	95	21.8 (18.1-26.1)
No	342	78.2 (74.0-81.9)
Cigarette smoking status		
Yes	19	4.3 (2.7-6.8)
No	418	95.7 (93.2-97.3)
Alcohol use		
Yes	93	21.3 (17.6-25.5)
No	344	78.7 (74.5-82.4)
Marijuana use		
Yes	86	19.7 (16.1-23.8)
No	351	80.3 (76.2-83.9)

CI=Confidence interval

Up to 19.7% (n= 86) of the adolescents had ever used marijuana.

Table 4 shows the bivariate relationship between parental monitoring and substance use among the adolescents studied. There was no statistically significant difference in parental monitoring and parental trust scores and ever-use of any of the substance. However, adolescents with a greater degree of negotiated unsupervised time were more likely to have ever smoked cigarettes (mean difference = 3.06, t = 3.21, CI = 1.15 – 4.80), ever used alcohol (mean difference = 0.97, t = 2.09, CI = 0.057 – 1.90) and ever used marijuana (mean difference = 0.99, t = 2.07, CI = 0.05 – 1.94).

In the multiple logistic regression models shown in Table 5, one unit increase in parental monitoring reduces the odds of engaging in any substance use by 10% (AOR = 0.90, 95% CI = 0.81-0.99, P <0.05) while a similar increase in negotiated unsupervised time significantly increases the odds of any substance use by 7% (AOR = 1.07, 95% CI = 1.01-1.14, P < 0.05). For cigarette smoking, a one unit increase in NUT resulted in 17% reduction in the likelihood of having ever smoked cigarettes. For alcohol use, a one unit increase in PM reduced the likelihood of alcohol use by 10% (AOR = 0.90, 95% CI = 0.81-0.99) while a one unit decrease in NUT increased the likelihood of having ever used alcohol by 7% (AOR = 1.07, 95%

Table 4: Relationship between parental monitoring practices and substance use among respondents

Variable (n=437)	Parental monitoring	T-score	95% CI	Negotiated unsupervised time	T-score	95% CI	Parental trust	T-score	95% CI
Use of any substance									
Yes	6.97±2.53	-1.37	-0.93-0.17	10.16±4.25	2.23	0.12-1.94	8.23±2.12	0.47	-0.39-0.64
No	7.35±2.37			9.14±3.91			8.11±2.29		
Cigarette smoking status									
Yes	7.53±2.44	0.46	-0.85-1.36	12.21±4.47	3.21	1.15-4.80	8.32±2.08	0.33	-0.86-1.21
No	7.27±2.40			9.24±3.93			8.14±2.24		
Alcohol use									
Yes	6.94±2.54	-1.50	-0.97-0.13	10.12±4.23	2.09	0.057-1.90	8.19±2.13	0.28	-0.44-0.60
No	7.36±2.37			9.15±3.92			8.12±2.29		
Marijuana use									
Yes	6.94±2.49	-1.40	-0.97-0.16	10.15±4.15	2.07	0.05-1.94	8.16±2.19	0.128	-0.50-0.57
No	7.35±2.38			9.16±3.94			8.13±2.27		

CI=Confidence interval

Table 5: Logistic regression showing relationship of substance use with parental monitoring

Variable	B	OR	95% CI	P
Any substance use				
Age	0.03	1.03	0.87-1.20	0.706
Sex (male with respect to female)	0.42	1.53	0.40-1.07	0.089
Parental monitoring score	-0.11	0.90	0.81-0.99	0.046
Negotiated unsupervised time score	0.07	1.07	1.01-1.14	0.022
Parental trust score	0.06	1.06	0.95-1.19	0.282
Cigarette smoking				
Age	-0.118	0.90	0.66-1.23	0.498
Sex (male with respect to female)	0.37	1.45	0.53-3.96	0.474
Parental monitoring score	-0.04	0.97	0.77-1.21	0.762
Negotiated unsupervised time score	0.17	1.19	1.06-1.33	0.003
Parental trust score	0.03	1.03	0.82-1.30	0.778
Alcohol use				
Age	0.03	1.03	0.88-1.19	0.739
Sex (male with respect to female)	0.44	1.55	0.95-2.54	0.080
Parental monitoring score	-0.11	0.90	0.81-0.99	0.041
Negotiated unsupervised time score	0.07	1.07	1.01-1.13	0.030
Parental trust score	0.05	1.05	0.94-1.18	0.359
Marijuana use				
Age	0.02	1.02	0.87-1.19	0.802
Sex (male with respect to female)	0.33	1.40	0.84-2.31	0.193
Parental monitoring score	-0.10	0.90	0.81-1.00	0.057
Negotiated unsupervised time score	0.07	1.07	1.01-1.14	0.028
Parental trust score	0.04	1.04	0.93-1.17	0.475

OR=Odds ratio; CI=Confidence interval

CI = 1.01-1.13). Similarly, a unit increase in NUT also increased the likelihood of marijuana use by 7% (AOR = 1.07, 95% CI = 1.01-1.14).

DISCUSSION

This is one of the first few studies that looked at the relationship between substance abuse and parental monitoring, negotiated unsupervised time and parental trust among this sample of adolescents. Of these three domains, we observed that adolescents who reported having higher levels of negotiated unsupervised time were more likely to have ever used any of the three substances. A possible explanation may be that unsupervised adolescents may have more opportunities to experiment with substance use when they are not under the watchful eyes of their parents/guardians. This is consistent with previous research showing that unsupervised adolescents are more likely to be involved in risky health behaviours.^[11,20,21] These findings suggest that although monitoring is an important practice for parents of adolescents, managing their behaviour through negotiation of unsupervised time may lead to a lower likelihood of experimentation with substance use. Another study carried out among youths from a community in Ibadan, South-West Nigeria to document parental influence on the reproductive health behaviour of youths also showed that liberal monitoring pattern by mother (OR = 2.16, 95% C.I = 1.03-4.53) was a significant predictor of increased sexual activity.^[22] The results presented from this study adds to the growing body of evidence that poor parental monitoring practices do predispose to greater odds of engaging in risky behaviours including marijuana use, alcohol consumption and cigarette smoking among adolescents.^[8-11,13,23]

Some studies have reported that that adolescents who perceive that their parents trust them are less likely to engage in risky behaviours.^[11,20] however our study showed that there was no statistically significant relationship between adolescents' perception of parental trust and substance use among the adolescents. It is

possible that regardless of their perceived parental trust, parents may still need to protect their adolescents from environments that promote substance use.

This study also reported that 4.3% (95% CI = 2.7%, 6.8%) of the adolescents had ever smoked cigarettes which appear to be lower than the figures reported among students other studies conducted in Lagos state.^[3,24] However, a higher proportion of the adolescents reported ever using alcohol and marijuana at 21.3% (95% CI = 17.6%, 25.5%) and 19.7% (95% CI = 16.1%, 23.8%) respectively. This is higher than most other studies done among youths in higher institutions of learning which have reported pattern of abuse of alcohol and marijuana to be in the range of 3.5-12.5% and 0.6-1.7% respectively.^[4-7] The relatively lower levels of cigarette smoking might be explained by the global efforts to combat tobacco use and the fact that Nigeria is one of the 168 signatories to the World Health Organisation Framework Convention for Tobacco control (WHO FCTC); so efforts to curb tobacco use in the population have been given some prominence in this regard. Similar efforts have not been seen with alcohol and marijuana use and control of the use of these substances globally and locally have received comparatively less attention. The development of international and local strategies to curb the use of other substances may need to be considered.

There were gender differences in levels of parental monitoring and prevalence of substance abuse among the adolescents studied. The female adolescents were subjected to higher levels of parental monitoring and had less negotiated unsupervised time. This finding may stem from the norm in most African societies that girls need more parental protection than boys. Several other studies that examined gender differences in parental monitoring have found similar results.^[13,21,25,26] In addition, the male adolescents had consistent higher odds of use of the substances studied compared to the females but this finding was not statistically significant.

Limitations

This study has some limitations. Firstly, only two schools were sampled and this may limit the generalizability of our findings. Also, the cluster sampling nature of participant selection may introduce some bias if significant cluster effects exist within the students' classes. Furthermore, the cross-sectional study design limits interpretation of findings because no causal relationship can be established. In addition, the findings may not be generalizable to all other adolescents given that these are in-school adolescents whose contextual settings might be different from other adolescents groups.

CONCLUSION

Higher levels of negotiated unsupervised time was significantly related to an increased likelihood of substance use. Public health interventions directed at reducing risk health behaviours related to substance abuse should increasingly emphasize the familial factors that promote increased supervision and monitoring of adolescents by their parents or guardians.

Future studies should examine the underlying familial factors that may influence parental monitoring practices and negotiated unsupervised time of adolescents and also consider the use of a larger and more representative sample.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

- Viner R, Macfarlane A. Health promotion. *BMJ* 2005;330:527-9.
- Hammond CJ, Mayes LC, Potenza MN. Neurobiology of adolescent substance use and addictive behaviors: Treatment implications. *Adolesc Med State Art Rev* 2014;25:15-32.
- Ekanem I. Global Youth Tobacco Survey For Nigeria Report; 2008.
- Adewuya AO, Ola BA, Aloba OO, Mapayi BM, Ibigbami OI, Adewumi TA. Alcohol use disorders among Nigerian university students: Prevalence and sociodemographic correlates. *Niger J Psychiatry* 2007;5:5-9
- Abasiubong F, Udobang J, Idung A, Udoh S, Jombo H. A comparative study of pattern of substance use in two Nigerian cities located in the Southern and Northern Nigeria. *African Res Rev* 2014;8:52.
- Chikere EI, Mayowa MO. Prevalence and perceived health effect of alcohol use among male undergraduate students in Owerri, South-East Nigeria: A descriptive cross-sectional study. *BMC Public Health* 2011;11:118.
- Makanjuola AB, Abiodun OA, Sajo S. Alcohol and Psychoactive Substance Use among Medical Students of the University of Ilorin, Nigeria. *Eur Sci J* 2014;10:69-83.
- DiClemente RJ, Wingood GM, Crosby R, Sionean C, Cobb BK, Harrington K, *et al.* Parental monitoring: Association with adolescents' risk behaviors. *Pediatrics* 2001;107:1363-8.
- Mlunde LB, Poudel KC, Sunguya BF, Mbwambo JK, Yasuoka J, Otsuka K, *et al.* A call for parental monitoring to improve condom use among secondary school students in Dar es Salaam, Tanzania. *BMC Public Health* 2012;12:1061.
- Kiesner J, Poulin F, Dishion TJ. Adolescent substance use with friends: Moderating and mediating effects of parental monitoring and peer activity contexts. *Merrill Palmer Q (Wayne State Univ Press)* 2010;56:529-56.
- Borawski E, Ievers-Landis C. Parental monitoring, negotiated unsupervised time, and parental trust: The role of perceived parenting practices in adolescent health risk behaviors. *J Adolesc Health* 2003;33:60-70.
- Newman K, Harrison L, Dashiff C, Davies S. Relationships between parenting styles and risk behaviors in adolescent health:

- An integrative literature review. *Rev Lat Am Enfermagem* 2008;16:142-50.
13. Springer AE, Sharma S, de Guardado AM, Nava FV, Kelder SH. Perceived parental monitoring and health risk behavior among public secondary school students in el Salvador. *ScientificWorldJournal* 2006;6:1810-4.
 14. Fasoranti OO, Olusola GO. Strains in traditional family values in a yoruba community: A Study of families in akoko-land in Ondo State, Nigeria. *Eur Sci J* 2012;8:160-71.
 15. Christopher O, Harcourt P. Nigerian family values amidst security challenges. *J Econ Sustain Dev* 2013;4:182-7.
 16. Bahr SJ, Hoffmann JP, Yang X. Parental and peer influences on the risk of adolescent drug use. *J Prim Prev* 2005;26:529-51.
 17. Silverberg SB, Small SA. Parental monitoring, family structure and adolescent substance use. Paper presented at the meeting of the Society of Research in Child Developments. Seattle, WA; 1991.
 18. Eaton DK, Kann L, Kinchen S, Shanklin S, Ross J, Hawkins J, *et al.* Youth risk behavior surveillance – United States, 2007. *MMWR Surveill Summ* 2008;57:1-31.
 19. Epi Info [computer program]. Version 3.2. Atlanta, GA: Centre for Disease Control and Prevention; 2004. Available from: <http://www.cdc.gov/epiinfo/index.html>. [Last accessed on 2015 Aug 19].
 20. Kerr M, Stattin H, Trost K. To know you is to trust you: Parents' trust is rooted in child disclosure of information. *J Adolesc* 1999;22:737-52.
 21. Griffin KW, Botvin GJ, Scheier LM, Diaz T, Miller NL. Parenting practices as predictors of substance use, delinquency, and aggression among urban minority youth: Moderating effects of family structure and gender. *Psychol Addict Behav* 2000;14:174-84.
 22. Amoran OE, Fawole O. Parental influence on reproductive health behaviour of youths in Ibadan, Nigeria. *Afr J Med Med Sci* 2008;37:21-7.
 23. Adebayo AM, Ajuonu EJ, Betiku BO. Family functionality and parental characteristics as determinants of sexual decision-making of in-school youths in a semi-urban area of Southwest Nigeria. *Int J Adolesc Med Health* 2016;28:413-8.
 24. Odukoya OO, Odeyemi KA, Oyeyemi AS, Upadhyay RP. Determinants of smoking initiation and susceptibility to future smoking among school-going adolescents in Lagos state, Nigeria. *Asian Pac J Cancer Prev* 2013;14:1747-53.
 25. Yabiku ST, Marsiglia FF, Kulis S, Parsai MB, Becerra D, Del-Colle M, *et al.* Parental monitoring and changes in substance use among latino/a and non-latino/a preadolescents in the Southwest. *Subst Use Misuse* 2010;45:2524-50.
 26. Voisine S, Parsai M, Marsiglia FF, Kulis S, Nieri T. Effects of parental monitoring, permissiveness, and injunctive norms on substance use among Mexican and Mexican American adolescents. *Fam Soc* 2008;89:264-73.

