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The Psychosocial Correlates of Sexual Debut among Adolescents at the Primary Care Unit of a Tertiary Hospital in Nigeria.

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Abstract:
Background: *Sexual maturation is one of the critical tasks of adolescent transition. Risky sexual behavior is a major challenge of adolescent transition impacting reproductive health, psychoemotional well-being and adolescent outcome. This study purposed to determine the association between sexual debut and mental health disorders and abuse among adolescents to facilitate screening and intervention in primary care.*
Methods: *hospital based cross sectional design using randomly selected 251 adolescents. Instrument used was a customized self-administered questionnaire including, PHQ2, GAD2, PHQ9(Q9), PIUQ-SF, and CRAFFT. P value was .05*
Results: *ten percent of respondents had attained sexual debut, 88% of them at above 16years, 32% ever had 2 or more partners and 24% ever requested SHRI from health care providers. A significant relationship was found between sexual debut and positive screening for anxiety, depression, suicide ideation, risky alcohol use, internet misuse, dysmorphic concern, sexual abuse and emotional abuse. There was no relationship with physical abuse.*
Conclusion*: A complex relationship exists between adolescent risky sexual behavior, mental health disorders and abuse demanding comprehensive screening, personalized risk intervention and management at primary care.*
Key words: *adolescents, sexual debut, mental health disorders, sexual abuse, emotional abuse*

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I. Introduction

Sexuality development is a multidimensional normal function involving biological, psychological, spiritual and social domains.[1,2] It commences in childhood and accelerates with puberty in the teenage years and culminates in maturity in early adulthood.[3] Adolescence is a transitional period with rapid changes in multiple domains transforming the individual from a child to an adult.[3] The task of psychosexual maturation requires the adolescent to understand and accept the changes in their bodies, recognize and manage their own sexual interest and curiosity, and that of others towards them, gain knowledge of sexual and reproductive health, develop the social skills required to negotiate their sexual choices, deal with relationship stress and adverse outcome of sexual intimacy if it occurs. All of these have to happen concurrently with other tasks of adolescence including attaining individuation, autonomy and academic goals therefore predisposing them to psychological distress.[3]

Engagement in sexual activity is considered risky in adolescents if it occurs at or prior to age 14years, or involves unhealthy or risky behavior such as non use of condom and contraception, multiple sexual partners, illicit drug use or transactional gratification.[4,5] Evidence has shown that adolescents often engage in risky sexual behavior with serious adverse consequences like sexually transmitted infections, unwanted pregnancies with consequent abortions or teenage motherhood, interruption of education and maternal poverty.[6] Others include the challenges of dealing with relationship stress, consequent distraction from their studies and interpersonal stress with parents and other care givers. There is also the association with other risk behaviors like alcohol and illicit drug use, truancy and delinquency. The co-occurrence of all these risk behaviors have been explained by the "problem behavior theory of Jessor" which posits that certain personality traits predispose the individual to engage in these risk behaviors resulting in negative outcome of the adolescent transition and poorly adjusted adults.[7] Neurobiological evidence also offers explanations for the thrill seeking, impulsivity and poor self-control found in adolescents due to the differentials in the development of the limbic system (responsible for emotions and pleasure) and the prefrontal cortex(responsible for executive function and judgment).[8] Adolescents are therefore developmentally immature to manage the complexity of sexual relationships and the demands of sexual health. Evidence also shows that this impacts their personality development with adverse effects on self-esteem, self-efficacy and individuation etc.[9]

Mental health disorders are known to have their onset in adolescence and affect as much as 14.3% of the 200 million adolescents in sub Saharan Africa with 9.3% having a specific diagnosis.[10] Anxiety, depression, suicide ideation and substance use are the most common mental health disorders of adolescence with significant morbidity burden and mortality in completed suicides.[8] When present, these conditions impair the ability of the individual to attain success at the developmental tasks of adolescence and achieve a well adjusted adulthood.[8] Mental health disorders impair rationality, self-esteem, self-efficacy and self-regulation required to make safe sexual choices and so further increase the predisposition to risky sexual behavior. Anxiety, depression, suicide and substance use are well evidenced to be related to adolescent sexual risk behavior.[11,12]

The terrain is also further compounded by the environment created by the internet where other forms of sexual engagement (sexting, pornography) occur that are devoid of the risks of STI and pregnancy.[13,14] The impact on sexual activity is said to be facilitated by the trio of factors of accessibility, affordability and anonymity.

The relationship between mental health and risky sexual engagement is therefore possibly bidirectional as there is evidence for increased risky sexual behavior among adolescents with mental health disorders and also evidence for increased mental health disorders resulting from the stress of sexual engagement.[11,12] A host of factors serve as risk and protective factors determining the engagement of adolescents in sexual risk behaviors and include personality of the individual, parent adolescent relationship, family functioning, school connectedness, alcohol and illicit drug use and drug misuse, religiosity, personal abuse especially sex abuse, peer pressure, neighborhood and culture etc.[6,15] These factors interact in complex ways to impact susceptibility of the adolescent to sexual risk behavior.[16]

Adolescent health interventions include screening for sexual and reproductive health parameters, other risk behaviors, mental health status among other risk and protective factors. It provides opportunity to detect those at risk, help the adolescent to explore, understand and resolve the mental health impact of their sexual behavior and promote better sexual and mental health and positive adolescent outcome.

Statement of the Problem: the adolescent demographic block in Nigeria is very large at 41million presenting a huge population at risk for adolescent mental and sexual and reproductive ill health.[17] However, there is a dearth of adolescent health care resources in our country. Data is needed to facilitate the development of health care resources for adolescent care. This study will provide evidence on the association between psychosocial factors and sexual engagement in our locale to guide counseling, treatment and other interventions in a multi disciplinary approach.[11,18,19]

Aim and Objectives: to determine the relationship between sexual debut and psychosocial correlates among the study population.

II. Material And Methods

Study area: Benin City is the capital of Edo State in the south- south region of Nigeria, a metropolitan town rich in culture and inhabited by civil servants, artisans, famers, business owners and the academia etc. The study was carried out in the Family Medicine Clinic of University of Benin Teaching Hospital Benin City. The hospital is a 910 bedded tertiary care hospital offering health services, undergraduate and post graduate training in a wide range of medical and paramedical specialties. The Family Medicine Clinic is the primary care center of the hospital and the gateway for all non- emergency cases coming into the hospital. It is run by the Family Medicine Specialty with a full complement of consultants, residents, nursing, pharmacy and laboratory personnel and facilities. It receives about 200 patients daily, among which is about 10-20 adolescents.

Study Design: The study was of a hospital based cross sectional descriptive design. The result presented here is part of data collected in a study on mental health disorders and correlates among adolescents in the hospital and schools.

Duration: Data was collected over 8weeks.

Selection criteria: All adolescents within age 10-19 who were not acutely ill and assented (or consent from care giver where available) to participate were recruited.

Sample Size calculation and method: Leslie Kish formula was used. Calculated sample size was 234 but 251 respondents were recruited using simple random method by balloting.

Method of Data collection:

Study instrument: The study instrument consisted of a semi customized, semi structured, self- administered instrument consisting of six sections, four of which are relevant to this paper and presented here.

Section A: A customized questionnaire covering sociodemographic variables and psychosocial factors.

Section B: screening for mental health disorders was done using three instruments: PHQ-2, a validated instrument for screening for depression among adults and adolescents.[20] It has a sensitivity of 79% and specificity of 86%. A total score of 3 or more is positive for depression.

The GAD -2: a validated instrument for screening for anxiety among adults and adolescents with a sensitivity of 86% and specificity of 83%.[21] A total score of 3 or more is positive for anxiety disorder. Suicide ideation was screened using the 9th item on suicide in the Patient Health Questionnaire (PHQ-9) which has a specificity of 88% and sensitivity of 88%.[22]

Section C: The CRAFFT Questionnaire: a validated screening instrument to assess the risk of drug and alcohol use among adolescents with a sensitivity of 76% -92%, a specificity of 76%-94%.[22] Those who had a "yes" response to any section A question but score of zero in section B were assessed as having low risk alcohol or drug use. Those who had a score of 2 or more in section B were assessed as positive for high risk alcohol or drug use. Those who scored zero in A and B had no involvement with alcohol or drug use.

Section D: The Problematic Internet Use Questionnaire short form. PIUQ-SF-6: a validated instrument for screening for problematic internet use among adolescents and adults. It has six items, scored on a 5point Likert scale giving a total of 30 points. Cut off score is 15 above which is highly suggestive of problematic internet use. This instrument has a specificity of 98% and sensitivity of 85%.[23]

Procedure for data collection: The participants were recruited at the registration unit. They had the study explained, consent obtained from their care givers or assent from the respondents if they attended the clinic alone and then the study instrument administered. Thereafter they received care from their clinicians.

Ethical consideration: Ethical approval was obtained from the Ethics and Research Committee of the University of Benin Teaching Hospital with Protocol No. ADM/E 22/A/VOL.VII/14710.

Data Management:

Data was collated and analyzed using the SPSS version 21. Categorical data were analyzed in frequencies and percentages. The relationship between categorical variables was analyzed using the chi square test. P value was set at .05.

III. Result

Distribution of sociodemographic characteristics among the respondents

A total of 251 respondents participated in the study. Age range was 10-19yrs with a mean of 14.59yrs. There were more females (54.2%). Most were in early adolescence (39.4%) and late adolescence (31.1%) and most were Christians (99.6%).

Table I: Distribution of sociodemographic characteristics among the respondents.

Sociodemographic Variable	Frequency	Percent
Age		
Range	**10-19**	-
Mean (SD)	**14.59(2.882)**	-
Median	**14.00**	-
Mode	**11.00**	-
Gender		
Female	**136**	**54.2**
Male	115	45.8
Adolescent Phase		
Early	**99**	**39.4**
Middle	74	29.5
Late	78	31.1
Religion		
Christianity	**250**	**99.6**
African Traditional Religion	1	0.4
Islam	0	0

Distribution of sexual debut variables among the respondents (Table II).

The prevalence of sexual debut among the respondents was 10%. There were more female debutants (56%). The age at sex debut ranged from 12-19 years with a mean of 17.84yrs, median of 17 years and mode of 18years. Majority of the respondents made their sexual debut in late adolescence (92%).

Table II: Distribution of Sexual debut variables among the Respondents.

Sexual Debut variables	**Frequency**	**%**
Ever had sex(total respondents)		
Yes	25	10
No	226	90
Total	**251**	**100**
Age at sex debut (debutants)		
Range	12-19	
Mean	17.84	
Mode	18	
Median	17	
Standard Deviation	3.5090	
Sex (debutants)		
Female	14	56
Male	11	44
	25	**100**
Adolescent Phase (debutants)		
Early	2	8
Middle	1	4
Late	23	88
Total	**25**	**100**

Distribution of sexual behavior variables among the debutants in the sample population (Table III).
Most debutants (48%) have had only one partner and only 12% have had more than 2 partners. Only 3 respondents (12%) admitted ever being pregnant. Six debutants (24%) ever had STI. Six debutants ever requested SRHI and 15.9% of total respondents ever received SRHI from health care providers.

Table III: Distribution of sexual behavior variables among the debutants in the sample population.

Sexual behavior parameters	**Frequency**	**%**
No. Sex partners(debutants)		
1	12	48
2	5	20
3	2	8
4	1	4
Non responders	5	20
Total	**25**	**100**
Ever pregnant(debutants)		
Yes	3	12
No	22	88
Total	**25**	**100**
Prevalence of STI (debutants)		
Yes	6	24
No	19	76
Total	**25**	**100**
Ever Seek SRH information (debutants)		
Yes	6	24
No	19	76
	25	**100**
Ever Received SRH information (total respondents)		
Yes	40	15.9
No	211	84.1
	251	**100**

Relationship between sexual debut and mental health disorders among the respondents (Table IV).
The relationship between sexual debut and mental health disorders showed that sexual debut was significantly related to positive screening for anxiety (X^2 = 11.836 at p= .003) depression (X^2=19.482, p=.000) suicide ideation (X^2=29.752, p=.000) and high risk alcohol use (X^2= 50.522, p=.000).

Table IV: Relationship between sexual debut and mental health disorders among the respondents.

Sexual Debut	Mental health disorders		Total	X^2 P value
	Anxiety			
	Pos	**Neg**		X^2=11.836
Yes	7	18	25	p= .003
No	16	210	226	fishers

	Depression		
	Pos	Neg	
Yes	12	13	25
No	30	196	226
			X^2=19.482
			P=.000
			fishers
	Suicide		
	Pos	Neg	
Yes	9	16	25
No	11	215	226
			X^2= 29.752
			p= .000
	Alcohol Use		
	High risk	Low risk	No involvement
Yes	13	3	9
No	5	15	206
			X^2 = 50.522
			p= .000
			Likelihood ratio

Relationship between psychosocial factors and sexual debut among the respondents (Table V).
Sexual debut was significantly related to sexual abuse (X^2 = 25.500 at p= .000) emotional abuse (X^2 =4.965, p=.049) internet misuse (X^2 =22.294, p=.000) dysmorphic concern (X^2 =21.986, p=.000). Physical abuse had no significant relationship with sexual abuse.

Table V: Relationship between psychosocial factors and sexual debut among the respondents.

Psychosocial factors	Sexual Debut		Total	X^2 P value
Sexual Abuse				
Yes	Yes	No		X^2=25.500
No	6	5	11	p= .000
	19	221	240	fishers
Physical Abuse	Yes	No		
Yes	3	16	19	X^2=.779
No	22	210	232	p=.377
				fishers
Emotional Abuse	Yes	No		
Yes	4	11	15	X^2= 4.965
No	21	215	236	p= .049
				fishers
Internet Misuse	Yes	No		
Yes	18	59	77	X^2= 22.294
No	7	167	174	p= .000
Dysmorphic Concern	Yes	No		X^2= 21.986
Positive	10	19	29	p= .000
Negative	15	207	222	fishers

IV. Discussion

The sociodemographic variables of the sample population were in keeping with the expectation in this environment. The prevalence of sexual debut was 10%. This is similar to other hospital based studies done in Ibadan south western Nigeria and in a community based study in Benin City but less than that in school based studies across Nigeria.[24,25,26,27] Majority of the respondents made sexual debut in late adolescence (92%) with a high mean age of 17.8 years at debut in keeping with the mean age for Nigerian adolescents of 15+/- 2.4yrs.[28] Only 3 respondents (1.2%) attained a risky debut relative to the cut off age at debut of 15years.[4] There was no significant relationship with gender unlike in the Violence Against Children study in Nigeria which showed more females debuted earlier than males.[4]

Risk parameters assessed showed about 48% ever had one partner and 12% ever had 2 partners and only 3% ever got pregnant. The low prevalence and high mean age at debut suggest that most of the adolescents in the sample population practice a healthy disposition to sexual behavior.

Healthy sexual behavior requires sexual and reproductive health information. However, only 24% of the sexual debutants in the sample population ever requested sexual and reproductive health information (SRHI) from the health care provider. Only 16% of total respondents ever received SRH counseling from their health care provider suggesting low compliance with adolescent health service requirements. This demonstrates the need for interventions to translate the national adolescent health policy into actions (FMoH, 2007). This is similar to a study in Ilorin, North central Nigeria which showed that health care providers were the least source

of SRHI for adolescents similar to most LMICs.[30] Access to SRHI and services has been evidenced to reduce pregnancy and STI rates but is known to be underserved among adolescents.[6,31]

The prevalence of positive screening for anxiety, depression, suicide and high risk alcohol use and psychosocial factors in this sample population have been discussed extensively in another paper previously published.[32] The presence of these conditions in this sample population was not confirmed with diagnostic instruments. However, they are validated by the fact that even sub threshold symptoms are important in this critically important population requiring intervention to prevent the multifaceted impact on their development and outcome.

The relationship between positive screening for anxiety disorder and sexual debut was significant in keeping with some literature.[18,33] This is contrary to a longitudinal study that showed that adolescents with anxiety disorder attained sexual debut later than their peers. This was explained by the fact that anxiety inhibited emotional attachment and therefore delayed romantic involvement.[34]

Positive screening for depression was significantly associated with sexual debut similar to findings in literature.[18,35,36,37] This has been attributed to the challenges of managing the negative emotions like regrets, guilt, loss of self-esteem and family stress associated with a behavior that is considered deviant at that stage in life.[38] Adolescent relationships are labile, and frequently involve infidelity, breakups, unmet needs for intimacy, feelings of rejection, and conflicts for which they lack conflict management and coping skills and therefore suffer attendant psychoemotional stress.[9,17] Longitudinal studies have shown depression precedes early sexual debut, unprotected sex and multiple partners suggesting that it creates a predisposition to risky behavior especially in those less than 15years and with non romantic partners.[9] Also established mental health diagnosis is associated with risky sexual behavior attributed to poor judgement, internal and external stigmatization and abuse.[12] These evidence together demonstrate a bidirectional relationship between depression (and possibly other mental health conditions) and sexual risk behavior.[19]

Suicide ideation was significantly associated with sexual debut in the sample population similar to findings in literature.[18,37,39] It is a leading cause of death among adolescents and are often precipitated by negative outcomes of sexual relationships and associated with depression. Suicide has also been found to be higher among those with multiple partners and STI.[40]

Alcohol use was significantly associated with sexual debut. High risk alcohol use as a mental health disorder and low risk use as a risk factor for sexual risk behavior is well demonstrated in literature.[9,16,35] The prevalence of illicit drug use in this study was low and invalid for chi square analyses. The relationship between sexual activity and alcohol and other substances is attributed to the disinhibition created by these substances which adolescents feel they need to engage in deviant behaviors including sex.

All the psychosocial risk factors for sexual debut explored in this study showed a significant relationship with sexual debut except for physical abuse. The relationship with sexual abuse is similar to that in other studies in Nigeria and elsewhere.[41] Sexual abuse has been evidenced to predispose adolescent victims to risky sexual behavior and has been attributed to damage in personality development resulting in alexithymia, low self-esteem, low self-efficacy in negotiating safe sex and other interpersonal dynamics in relationships, increased risk taking tendencies and revictimization.[40,42] Early sexual debut and unprotected intercourse and multiple sexual partners are associated with history of sexual abuse in adolescence.[40,42,43] Sexual abuse predisposes victims to mental health disorders and therefore compounds their impact on sexual risk behavior.[42,43]

Emotional abuse has also been evidenced to be related to sexual risk behavior and attributed to a lack of affection and emotional validation from parents.[19,44,45] The psychological effect of abuse seems to mediate the relationship between abuse and risky sexual behavior.

Dysmorphic concern was significantly related to sexual debut and is attributed to the fact that romantic involvement demands attractive appearance. The findings in literature are mixed with some showing that adolescents and young adults who are unsatisfied with their physical appearance are more likely to engage in risky sexual behavior while it may be inhibitory to engagement in sexual relation for others.[46]

Internet misuse is a risk behavior and a risk factor for internet addiction. It was significantly related to sexual debut in keeping with literature and expectation.[13,47] The influence of internet in social media which aids romantic communication, entertainment content encouraging sexual practice and disinhibition arising from anonymity of internet participation all contribute to increase in sexual activity.[47] The internet based sexual activity modes of sexting and pornography are free of risk of STIs and pregnancy and encourage internet misuse. These variants of sexual engagement are however evidenced to have mental health consequences.[13,14] Internet misuse possibly has a bidirectional relationship with adverse mental health among adolescents.[48] Sexual debut and internet misuse therefore probably impact mental health directly and also indirectly through the interaction between the two factors.

These psychosocial factors all had significant relationship with mental health disorders as found in this sample population but reported elsewhere.[32] The significant relationship between them and sexual risk behavior

shows that there is a complex interaction between mental health disorders, psychosocial correlates and sexual debut. This demonstrates that any of these factors serves as a red flag for screening for the others. Also, successful risk management of any one factor will have beneficial impact on many others establishing the need for comprehensive screening and risk factor management for adolescents.[11.19.34]

V. Conclusion

This study established that sexual debut is significantly associated with mental health disorders and multiple psychosocial risk factors among adolescents supporting the evidence for comprehensive psychosocial, sexual and reproductive health screening and multidisciplinary intervention coordinated at primary care.

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