

High risk sexual behavior among young persons with physical disability from selected schools in Accra metropolitan district and Akuapim north district: A cross sectional study

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World Journal of Advanced Research and Reviews, 2023, 20(01), 337–346

Publication history: Received on 28 August 2023; revised on 04 October 2023; accepted on 07 October 2023

Article DOI: <https://doi.org/10.30574/wjarr.2023.20.1.2053>

Abstract

High risk sexual behaviour is a major contributor to sexually transmitted infections and unintended pregnancy, which are not uncommon among young persons with physical disability.

The objective was to determine the prevalence, types and factors associated with high risk sexual behaviour among young persons living with physical disability.

Methods: Participants were selected through stratified proportionate sampling from four centres. Data collection was from 26th November 2020 to 19th February 2021. Simple proportions was used in analysing socio-demographic data and high risk sexual behaviour was categorised into low level (at most one high risk sexual behaviour) and high level. (At least two high risk sexual behaviours) and analysed using multiple logistic regression. Kruskal Wallis test was carried out to examine the differences in high risk sexual behaviour between the subgroups of young person with physical disability. A p-value of less than 0.05 at a confidence interval 95% was considered statistically significant.

Results: Four hundred and thirteen participants were interviewed out of which one hundred and seventeen (28%) had visual disability, 27(7%) had limb disability and 269 (65%) had hearing/speech disability. The mean age of the participants was 17.6 ± 2.4 years. Out of the 172 participants who had ever had sexual intercourse, 13 (7.6%) did not engage in any type of HRSB and (92.4%) indulged in at least one type of high risk sexual behaviour. There was no difference in the proportion of high risk sexual behaviour between the different subgroups of YPWP. Male gender (aOR, 5.5; 95% CI, and 2.0-3.3) lack of higher level maternal education, maternal unemployment and lack of religiosity were significantly associated with high level high risk sexual behaviour.

Keywords: High risk; Young persons; Physical disability; Sexual behaviour

1. Introduction

Physical disability is defined as, a physiological condition or disorder, cosmetic disfigurement, or anatomic loss affecting one or more body system substantially to limit major life activity (1). A young person is aged 10-24years old (2). The number of YPWP is globally significant.

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In 2012, the United Nations Economic and Social Affairs (UNDESA), reported that, there are 180-220million young people living with a form of disability and 80% of this number are in the developing world (3). In Ghana, one out of every 5 persons (19.9%) with disability is a young person (10-24) years old (4).

Regardless of disability, young people transition through a vulnerable period of adolescence into adulthood. For the YPWP, vulnerability during adolescence is usually more intense than normal. Risk taking behaviours including high risk sexual behaviour (HRSB) may be formed during this transitional period of physical, psychological and social maturation. The formation of sexual behaviour (safe sexual practise or high risk sexual behaviour) is influenced by the interaction of several factors such as age, sociocultural atmosphere, religious background and media exposure (5). HRSB is usually defined as any behaviour that increases the chance of acquiring unintended pregnancy (UIP) or sexually transmitted infection (STI).

In Ghana, pregnancy among YPWP arouses curiosity about their sexual behaviour and mixed feelings about the pregnancy within the context of disability. YPWP still remain sexual beings even if the disability makes sexual intercourse impossible. Whilst some disabled persons experience sexual abuse and rape (6), others are excited at and grateful for the opportunity to exercise their sexual right, engage in consensual sex and fulfil a dream of having biological children. However if UIP occurs, it may worsen the plight of the YPWP.

UIP is frequently seen in the developed world (47%), than in West Africa (30%) (7). In Ghana, the prevalence of UIP is relatively high among young women aged 15-19 years old (69%) and 20-24 years old (42.4%) compared with the national prevalence of 29% (8). The national prevalence of UIP among the YPWP in Ghana is not known, however there is evidence of pregnancy among persons with disability (9). UIP may result in unsafe abortions which are more common in the developing world (10).

In Ghana, it is not uncommon to find UIP and STI among YPWP within communities and healthcare settings. There is growing evidence that, YPWP are as sexually active as their non-disabled colleagues (11–13) and also engage in risky sexual behaviour (12) with the possible consequences of STI and UIP. A study conducted in Southwest Nigeria in four handicap schools reported that 29.9% had multiple sexual partners and 12.8% did not take any action to prevent pregnancy (14).

HRSB is a major contributor to STI and UIP. An important approach to reducing the burden and effect of STI and UIP among YPWP is to find out about their HRSB in order to formulate policies and develop strategies aimed at reducing STI and UIP. Therefore the aim of the study was to determine the characteristics of high risk sexual behaviour among YPWP in selected schools within Accra Metropolitan District and Akuapim North District

2. Methods

This study was a cross sectional study conducted at four selected special schools in Accra and Akropong, namely the centre for the Society for the Disadvantaged, Accra Rehabilitation Centre, the Akropong School for the Blind and the Akropong School for the Deaf. The study population was persons aged 10-24 years with a physical disability at the Accra Rehabilitation centre, Centre for the Society for the disadvantaged, Akropong School for the blind and the demonstration school for the Deaf at Mampong. The physical disabilities that were present in these schools/centres were hearing, visual, speech, and limb deformities. Using the Cochran formula for cross sectional study and a proxy prevalence of high risk sexual behaviour as 58.8% which is the proportion of young persons with physical disability who had at least 2 lifetime sexual partners from a study conducted among young persons aged 10-24 years with physical disability in Ethiopia (13) a minimum sample size of 413 participants was recruited. A multistage sampling was done starting from proportionate sampling where a proportion of the calculated minimum sample size (n) was allocated to each school depending on the total number of persons aged 10-24 years in that school. Then out of the number of participants allocated to a given school, a proportion was allocated to each class in that school depending on the total number of persons aged 10-24 years in each class. Next out of the number of participants allocated to a given class, a proportion was allocated to males and females in that class. A separate class list for males and females aged 10-24 years old was prepared for all classes in a given school. Each class list for males was entered into Microsoft Excel which generated and assigned random numbers to each name on the class list. The required (allocated) random sample of males for that class was selected. If for any reason the person selected was not available for the study, the next person on the computer generated random list was selected. This was done until the number required from each class was obtained. Each female class list was also entered into Microsoft Excel and the process was repeated to select the required (allocated) random sample of females using each prepared female class list.

Participants were eligible for inclusion if they aged 10 and 24 years with any one or more of the following conditions; limb amputations, paralysis of one or both limbs, spinal deformities, severe limb deformity, visually impaired in one or both eyes, hearing impairment in one or both ears, speech impairment. Participants were excluded if they had neurodevelopmental disability and were unable to understand written or spoken words and signs and/or unable to use speech, writing or signs to express themselves.

A questionnaire adapted from the 2019 Youth Risk Behaviour Surveillance System (YRBSS) developed by the Centre for Disease Control and Prevention(CDC) was used to obtain data on sexual behaviour from respondents (15). To measure high risk sexual behaviour the following dependent variables were measured; early sexual intercourse (sex before age 16 years), multiple sexual partners (at least two sexual partners), having sexual intercourse under the influence of alcohol and other substances, non-use of condoms during sexual intercourse, non-use of family planning during sexual intercourse, sexual intercourse with someone 10 years or older. Independent variables measured included; gender, peer pressure, religiosity and parental co-residence. The questionnaire was pretested at the Echo Hills Village School of disability at Madina a suburb of Accra, on the various types of disability. Certified translators were used to administer the questionnaire as and when it was required eg sign language for the deaf.

Informed consent was taken for participants' age 16 years and above as appropriate and accent taken from parents and teachers for all others based on their age or for those whose disability type could not directly consent by signing or thumb printing.

Results was analysed using simple proportions for socio-demographic data and high risk sexual behaviour was categorised into low level (at most one high risk sexual behaviour) and high level. (At least two high risk sexual behaviours) and analysed using multiple logistic regression. Kruskal Wallis test was carried out to examine the differences in high risk sexual behaviour between the subgroups of young person with physical disability. A p-value of less than 0.05 at a confidence interval 95% was considered statistically significant.

Ethical approval was granted by Korle Bu Teaching Hospital Institutional Review Board with reference number KBTH-IRB /00049/2020.

3. Results

Majority (53.2%) of participants were female, aged 15-19 years (75.5%), Christian (89.6%) and unemployed (89.3%). Majority (57.9 %) had their mothers with only primary education. About Forty-nine percent (48.8%) of participant's fathers were educated beyond primary level. Majority (72.2%) of participant's mothers were unemployed compared to their fathers (35.1%). Most (87.4%) participants lived parents and most (96.4%) also stayed in the boarding house during school sessions.

Majority had hearing and speech disability (65.2%) followed by visual disability (28.3% and limb disability (6.6%). The details of the sociodemographic characteristics are as shown in Table 1 below.

Table 1 Sociodemographic characteristics of study participants

Characteristics	Frequency (N = 413)	Percentage (%)
Gender		
Male	193	46.7
Female	220	53.2
Age		
10-14 years	47	11.4
15-19 years	312	75.5
20-24 years	54	13.1
Religiosity		
Never	110	26.6

At least once every day	178	43.1
At least once a week	81	19.6
At least once a while	44	10.7
Religious Affiliation		
No Religion	2	0.5
Christianity	370	89.6
Muslim	41	9.9
Employment Status		
Unemployed	369	89.3
Employed	44	10.7
Mother's Educational Level		
No Formal Education	55	13.3
Primary	239	57.9
Middle/JHS/JSS	52	12.6
Secondary	58	14.0
Tertiary	9	2.2
Mother's Employment Status		
Unemployed	298	72.2
Employed	115	27.8
Father's Educational Level		
No Formal Education	77	18.6
Primary	135	32.6
Middle/JHS/JSS	80	19.3
Secondary	73	17.6
Tertiary	49	11.9
Father's Employment Status		
Unemployed	145	35.1
Employed	268	64.9
Residential Status		
Live Alone	6	1.4
Live in an Orphanage	4	1.0
Live with single/both parents	361	87.4
Live with relatives	42	10.2
Type of Disability		
Hearing and Speech	269	65.1
Limb	27	6.6
Visual	117	28.3
Day/Boarding Student		

Day	15	3.6
Boarding	398	96.4
Peer Pressure		
No	254	61.5
Yes	159	38.5

Overall a total of 172 (41.6%) participants were sexually active out of which 159 (92.4%) participants had engaged in HRSB at different stages of their life. The most common high risk sexual behaviours were early sexual intercourse (83.1%) and non-use of family planning methods other than condom at last sexual intercourse (81.4 %). Types of HRSB were not mutually exclusive. Details of HRSB are as shown in table 2 below.

Table 2 Types of High Sexual Risk Behaviors (N =159)

High Sexual Risk Behaviors	Frequency	Percentage (%)
Early Sexual Intercourse	143	83.1
Nonuse of condom by participant or partner at first sexual intercourse	66	38.4
Nonuse of condom by participant or partner at last sexual intercourse	59	34.3
Non-use of family planning methods other than condom at last sexual intercourse (pills, implant, IUD, injection)	140	81.4
Multiple sexual partners in the past 3 months	19	11.0
Multiple sexual partners in the past 12 months	27	15.7
Multiple sexual partners in your lifetime	58	33.7
Intergenerational Sex	40	23.3
Use of alcohol or drugs by participants during last sexual intercourse	20	11.6

3.1. Level of HRSB among young persons with physically disability

Nine types of high risk sexual behaviour was looked for in the study. Most (89.3%) of the participants engaged in HRSB 2 or more high risk sexual behavior type. Details as shown in table 3 below

Table 3 High Risk Sexual behaviours engaged in sexually active young people with disability. (N=159)

Number of HRSB	Number of YPWP	Percentage
1	17	10.7
2	49	30.8
3	29	18.2
4	17	10.7
5	13	8.2
6	17	10.7
7	4	2.5
8	10	6.3
9	3	1.9

Classifying HRSB into low level high risk behaviour as engagement in only one type of HRSB and high level high risk behaviour been more than 1, table 4 shows low level HRSB to be 10.7 % whilst high level HRSB was 89.3%.

Table 4 Frequency distribution table of category of HRSB engaged in sexually active young people with disability

Category of HRSB	Frequency	Percentage (%)
Low level (1 HRSB)	17	10.7
High level (at least 2 HRSB)	142	89.3

3.2. High-risk sexual behaviour versus Type of disability

Table 5 shows the differences in high-risk sexual behaviour among persons with different disabilities using Kruskal Wallis test. The Kruskal-Wallis test showed that there was no statistically significant difference in high sexual risk behaviour among the different types of physical disabilities, $X^2(2) = 4.581, p = 0.1012$ with median high sexual risk behaviour of 3 for persons with limbs disability, 4 for persons with visual disability and 3 for persons with hearing and speech disability.

Table 5 Kruskal-Wallis equality-of-populations rank test

Type of disability	Observations	Rank Sum	Chi-square Test	P-value
Limb	20	2153.00	4.581	0.1012
Visual	39	3710.00		
Hearing and speech	100	9015.00		

Multiple logistic regression Analysis of socio-demographic characteristics associated with high level HRSB among sexually participants showed

Table 6 Multiple Logistic Regression Analysis of socio-demographic characteristics associated with high level HRSB among sexually participants

Characteristics	High risk sex behaviour	AOR	95%CI	p-value
	High levelN (%)			
Gender				
Male	80(92.0)	1		
Female	62(73.0)	0.2	0.1, 0.6	0.005*
Employment Status				
Unemployed	119(87.5)	1		
Employed	23(63.9)	0.9	0.3, 3.0	0.930
Mother's Educational Level				
No Formal Education	42(93.3)	1		
Primary	57(87.7)	0.3	0.1, 1.0	0.145
Middle/JHS/JSS	27(84.4)	0.4	0.1, 2.0	0.278
Secondary	13(68.4)	0.2	0.0, 0.9	0.046*
Tertiary	3(27.3)	0.1	0.0, 0.2	0.001*
Mother's Employment Status				
Unemployed	62(91.2)	1		
Employed	80(76.9)	0.2	0.0, 0.5	0.003*

Relationship Status				
Not Dating	89(87.2)	1		
Dating	53(75.7)	0.7	0.2, 2.2	0.505
Religiosity				
Never pray	29(90.6)	1		
Pray at least once every day	88(84.6)	0.7	0.2, 3.0	0.676
Pray at least once a week	19(82.6)	0.9	0.1, 6.3	0.876
At least once a while	6(46.2)	0.1	0.0, 0.5	0.008*

p* < 0.05

4. Discussion

The prevalence of HRSB among sexually active YPWPD was 92.4% in this study. It is clear that adolescents who are expected not to be sexually active are not only sexually active but engage in HRSB. The most common type of HRSB was early sexual intercourse which is consistent with the finding of a 89.4% early sexual debut (prior to age 16 years) among the general adolescent population within a Ghanaian community (16) and the finding of 78.4% early sexual debut (prior to age 19 years) in Ethiopia (13). Since sexual drive is an emotional event which is not inhibited by physical disability, thus the sexual behaviours will be similar within age groups under most circumstances explaining the consistency in the findings across the different studies.

Even though early sexual debut is a known risk factor for multiple sexual life time partners (17), the findings of 33.7% of life time multiple sexual partners results did not seem to reflect the initially high levels (83.1%) of early sexual intercourse, however this is similar to the results from Oladunni of Nigeria reporting 30% of adolescents with limb disabilities having multiple sexual partners at a time (14). . This finding suggests the emergence of some protective factor following first sexual debut among YPWPD. Enrolment of young people with disability in the special schools does not follow the same trend as that of their non-disabled counterparts. In Ghana most young persons with disability spend a greater part of their lives in school (18). Almost all the participants were boarders, possibly limiting opportunities for multiple sexual partnerships.

However in contrast to this study, about three out of every 5 (58.8%) of young persons living with disability in Ethiopia (13), had had at least two lifetime sexual partners. In the Ethiopian study, high sexual activity and multiple sexual partnerships were attributed to a significant number of lepers who possibly engaged sex workers. Regardless of whether multiple sexual partners are measured over a lifetime or at any given point in time, it puts young persons at risk of STI's.

The non-use of condom at first and last sex was high at 38.4% and 34.3% respectively against the background of multiple partners and the risk of STIs. These figures are however much smaller than finding in Nigeria, of 80% non-use of condom at sexual debut among adolescent with disability. (19). It also smaller than 65% non-use of any form of contraception at sexual debut found among young people (10-24years) with disability, in Ethiopia.(13).The authors of the Ethiopian work attributed their finding to unplanned first sexual encounter which occurred in half of those who were sexually active.

The substantial usage of condoms in this study is likely attributable to two reasons. Firstly it is possible the students had high levels of knowledge of and access to condoms. The assumption of universal awareness of condoms is supported by Obasi et al. In their study (5) they found that condom awareness was close to 100% among a Ghanaian in-school group of adolescents with disability. Secondly the increased usage of condoms may be likely due to their knowledge on safe sex practices. Part of their curriculum deals with safe sex. Safe sex is also taught during boys and girls club meetings. Factors affecting use condom at first and last sex include; time sexual debut occurred, whether before enrolment in school, the age at which it occurred or whether safe sex had been covered in the curriculum. These factors were not considered in the current study, however the lower figure (34.3%) of non-use of condom at last sex which is consistent with 39% found in Nigeria among school going persons with visual, hearing/speech and physical disability aged 16-19 years (20), is probably reflective of these factors at play.

The results of this study further reveals that the use of family planning methods other than condom at last sexual intercourse was 18%. This may partly be due to low awareness of family planning methods other than condoms as supported from the findings of a study of Ghanaian adolescents with disabilities (18).

The multiple regression analysis showed that male gender, lack of mother's formal education, mother's unemployment status and lack of religiosity were significantly associated with high level HRSB among young people with disability.

The relationship between gender and risky sexual behaviour is controversial (21). From this study, males are not only more sexually active than females, they also engage in more high risk behaviour compared to girls. Specifically, females had reduced odds of having early sexual intercourse compared to males. Females also had reduced odds of having multiple sexual partners during their life compared to males. This is in contrast to literature (22) which reports that, girls become attracted to the opposite sex (subsequent to the experience of menarche) leading to early sexual intercourse. In the general population sexual debut occurs as result of older males getting attracted to young girls. The same older males are unlikely to get attracted to young girls with disability and this translates to delayed sexual intercourse and a decrease in the number of sexual partners for girls with disability. That of disabled males may not vary much from their able male friends. So whilst one (early sexual debut and multiple sexual partners for males with disability) remains same or decrease slightly, the other (early sexual debut and multiple sexual partners for disabled females) decreases significantly.

Furthermore, generally boys claim more sexual partners than girls due to report bias (5). The reporting bias may be worse among boys with disability. They may want the interviewers to believe that despite their disability they are still sexually accepted.

Consistent with other studies, the higher the educational level of the mother, the less likely that, the young person with disability will engage in high risk sexual behaviour. This finding may be a reflection of the fact that mothers are a major source of information on matters of sexual and reproductive health (18) and the higher their educational level, the more they are likely to give accurate information to their children.

Persons who are committed to the teachings and doctrines of their religious faith are likely to develop sexual behaviours consistent with their religion (23). Whilst there may be people who are fully committed to the teachings and doctrines of their religious faith, there may be others who show no commitment. Between these extremes are persons with varying degrees of commitment to the teachings and doctrines of their religious faith. Praying at least once a while demonstrates some degree of commitment to one's religious faith. Generally the more religious an adolescent is, the less likely he/she is to engage in early sexual intercourse (24) and unprotected sexual intercourse (25). It is therefore not surprising that praying at least once a while offered some protection against high level HRSB.

High parental income reduces the risk of early sexual debut (26). Generally a mother's income is expected to supplement family income. This is especially important when paternal income is low. Employment of mothers may provide financial security for their children. The children are less likely to engage in risky behaviour including sexual risk for the purposes of financial reward. Furthermore, regardless of a mother's income levels and the nature of her work, employment on one hand provides mothers with confidence and authority for parenting and on the other hand improves the likelihood of children listening to their mothers. Even if family incomes are not substantial, it still allows a child's welfare to be catered for to an extent and provides a mother with some moral authority to guide their children. This does offer a plausible explanation to significant association between mothers' employment status and HRSB.

The study did not find any significant association between the type of disability and HRSB. This finding suggests that all the various subgroups of YPWPD may be at similar risk of consequences of HRSB. There has been suggestions by some authors(5) that analysing data on sexual behaviour along the lines of disability subgroups, may result in further stereotyping particular disability subgroups, however, it is our opinion that such subgroup comparisons are important to find out if specific subgroups have specific challenges that requires targeted solutions.

5. Conclusion

Young persons with physical disabilities from selected schools in Ghana are not only sexually experienced, but also engage in high risk sexual behaviour. Ninety two per cent of those who had ever had sexual intercourse had indulged in at least one high risk sexual behaviour. This heightens their risk for sexually transmitted infections and unintended pregnancy. Based on the categorisation of HRSB into low and high levels, young persons with physical disability generally engaged in high level HRSB (median of 3 HRSB). The likelihood of high level HRSB, is influenced by gender,

mother's level of education, mother's employment status and religiosity. There was no significant association between specific type of disability and HRSB.

Compliance with ethical standards

Acknowledgments

We acknowledge the heads of the following institutions for the various roles they played.

We say a big thank you to the heads of the following institutions for the various roles they played: the District Director Ghana Education Service Akuapim North District (Mama Amanor Korkor), Mampong School for the Deaf (Mr Setumte Ametewee) , Akuapim School for the Blind (Atsu Joseph Homadzi), Centre for Socially Disadvantage (Anthony Mensah) and Accra Rehabilitation Centre (Nina Efedo Okoroafor).

Finally to Mr. Simon Kwame Adedeme, Mr. Erasmus Ayikwei, Miss. Elic Kudz and Divine Edem Korddza Mr. Kwesi Adjepong and Dr. Fella Adoboe the authors are grateful for assisting in data collection, entry and clean up.

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent and accent were obtained from all individual participants included in the study.

Author's contribution

Authors contributed equally to the work.

Financial Disclosure

Study funded solely by investigators.

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on request

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