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Determinants of peer education on sexual and reproductive health and rights among in-school adolescents in Ebonyi State, Nigeria

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Abstract:

BACKGROUND: Peer education has contributed to increased knowledge and preventive behaviors of adolescents toward reproductive health matters with the unique feature of maintaining peer-to-peer learning ability and sustaining intervention gains. This study examined the factors that predict the agency of in-school adolescents as peer educators on the sexual and reproductive health and rights (SRHR) of adolescents.

MATERIALS AND METHODS: A cross-sectional study was conducted on 257 adolescent boys and girls, purposively selected from six public secondary schools that had received a package of interventions that aimed to improve peer-to-peer education on SRHR in Ebonyi State, Nigeria. Data were collected using a pretested structured interviewer-administered questionnaire. Univariate and multivariate analyses were performed. The level of statistical significance was determined at a *P* value < 0.05 and a 95% confidence limit.

RESULTS: Almost all the students (98.05%) believed that adolescents need information on SRHR, which should be provided in the schools; however, 66.93% had ever shared information with their peers on the SRHR. The predictors of the practice of peer education on SRHR include being in senior secondary (adjusted odds ratios (AOR) =2.889, *P* = 0.026), participation in SRHR campaigns (AOR = 6.139, *P* = 0.005), receiving information, education and communication materials (AOR = 0.266, *P* = 0.042), and discussing SRH matter with adult family members (AOR = 2.567, *P* = 0.026).

CONCLUSION: The practice of peer education among adolescents was determined by their level in school, availability of support structures such as parent–child communication, and program-related factors. Therefore, public health initiatives should prioritize these factors to strengthen adolescents' agency as peer educators on the SRHR of young people.

Keywords:

Adolescent, agency, Nigeria, peer education, sexual and reproductive health and rights

Introduction

Childhood and adolescence are critical for public health because the biological and social changes that occur during these periods lay the foundation for health and well-being in adulthood. There is documented evidence that the experiences of adolescence have an enormous impact on health[1,2] and that behaviors and attitudes that are acquired in adolescence may continue to manifest into adulthood and in the later years of life.[3] The period of adolescence presents an opportunity to avert sexual and reproductive health (SRH) problems later in life by focusing on addressing risk processes that begin in the early phase of life.[1] Therefore, public health initiatives

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should prioritize promoting healthy lifestyle behaviors in adolescents.

The World Health Organization (WHO) recommends that a critical step in the reduction of global health inequities is the institution of health and education interventions that positively shape early childhood experiences.[4] It is noteworthy that schools are an important setting for health promotion given that they offer a comprehensive, sustained, and efficient means of reaching adolescents and young people.[5] Moreover, most children obtain some years of schooling, during which they can be exposed to health promotion interventions that aim to reduce inequities in access to SRH information and services.[5]

Young people have an important role to play in educating their peers on sexual and reproductive health and rights (SRHRs). When adolescents are engaged as agents of change in school-based interventions, they can promote healthy behaviors among their peers.[6,7] Although there have been reports of variable outcomes of peer education on the SRH attitudes and behaviors of secondary or high school students,[8,9] the predominant evidence is that it produces positive outcomes.[10-13]

Peer-based training has contributed to increased knowledge and preventive behaviors of adolescents toward sexually transmitted infections, including HIV, and their knowledge and attitudes toward SRH matters.[10-12] Comparative assessments of the effects of peer education on knowledge of healthy sexual behaviors and reproductive health have shown significant improvements following interventions.[10]

A unique feature of peer-to-peer learning that contributes to its appeal in health promotion is the ability to maintain the implementation of peer learning activities (and sustain the gains of interventions) beyond the lifetime of a project.[13,14] Evaluation of an intervention that engaged school pupils in rural Uganda as change agents for malaria showed that the peer-to-peer learning approach ensured sustained improvements in health awareness and behaviors among school-aged children one year after implementation.[7] This could be explained by the ripple effect that the peer learning approach produces when trainee students become agents of change themselves. Evidence shows that participation in peer education programs improves the knowledge and skills of trainee students, as well as their readiness to support fellow students.[15]

Although evidence abounds in favor of peer-to-peer learning as an effective school-based approach for improving adolescents' knowledge, attitudes, and behaviors toward SRH matters, our review of the literature identified gaps in the knowledge base of the optimal conditions for peer education to be implemented or to succeed.[8,16] The factors that influence the successful implementation of school-based peer education interventions have been summarized in three categories, namely, i) the characteristics of peer educators, including their personal characteristics; ii) the characteristics of the institution or educational program, including comprehensive participation of students, and iii) structural characteristics of the educational program, including supportive structure like educational policies and cultural attitudes.[16] However, the magnitude of the influence of these factors is unknown.

We undertook a cross-sectional study to investigate the magnitude of influence of these factors on the practice of peer education on SRH matters among adolescents in secondary schools. This paper contributes to filling the gap in knowledge by answering the question, "What factors predict adolescents' agency as peer educators for sexual and reproductive health?" The answers to this question will be necessary for the design of more robust peer learning interventions that exhaustively harness significant drivers while de-emphasizing nonsignificant influences. This is particularly so because there is yet no consensus on the efficacy of peer education on SRH outcomes.

Material and Methods

Study design and setting

This was a cross-sectional quantitative survey of adolescent boys and girls in selected secondary schools in Ebonyi State conducted from September to December 2021, using the strengthening the reporting of observational studies in epidemiology (STROBE) checklist.

Ebonyi State has a 5,533 km^2 estimated land area, and most of its populace resides in rural areas.[17] More than 355 thousand of its population are aged 15–24 years.[18] It has been reported that the state has a high maternal mortality rate (602 per 100,000 population), and 39.7% of these mortalities occur among adolescent girls aged 15–19 years.[19] The state has about 233 public secondary schools (comprising senior and junior secondary) and 182 private secondary schools.[17]

Three urban and three rural local government areas (LGAs) were purposively selected for this study; these LGAs have been prioritized by the State government for SRH interventions due to the high rate of teenage pregnancy.[17]

Six communities and secondary schools in these LGAs had previously received a package of community and

school-based SRH interventions aimed at improving access to SRH information and health services for adolescents.

The SRH intervention: The school-based intervention aimed at improving adolescent's access to SRH information and services comprised (i) three-day training of 22 school teachers (including principals, health education and biology teachers, and guidance counsellors) to raise a critical mass of competent and skilled trainers to train other teachers and students; (ii) two-day training of 22 peer mentors (senior secondary students) on different SRH issues to enhance the knowledge and capacity in providing SRH information and services to their peers; (iii) establishment and inauguration of school-based youth health clubs (to collaborate with the mentors) in awareness creation and sensitization on SRHR issues; and (iv) distribution of SRH customized information, education, and communication (IEC) materials – notepads, fliers shirts, caps, wrist bands, pens to aid the implementation of peer-to-peer education, motivate and draw interest, and reinforce knowledge on SRHR of adolescents. The contents of the manual and IEC materials were adapted from the national guidelines and modified to suit the context. The topics covered in the manual include (i) adolescence and adolescent health; (ii) sexuality and sexual behaviors; (iii) sexually transmitted infections (STIs); (iv) principles and practice of counselling on selected SRH issues, including prevention of teenage pregnancy and STIs, gender-based violence, and (v) types, how, and where to access adolescent-friendly services. The intervention was facilitated by seven trainers (five researchers and two boundary partners) and delivered via multiple formats – lecturers, PowerPoint presentations, flip charts, demonstration, roleplay, and discussion. A detailed description of the intervention package can be found in earlier published articles.[20,21]

Study participants and sampling

The study population consisted of adolescent boys and girls aged 13–18 in junior and senior classes of the selected secondary schools. Students who were below the age of 13 and above 18 years were not included in the study.

A minimum sample size of 240 was estimated, assuming a confidence interval of 95%, a power of 80%, and a *P* of 0.55.[21] The sample size was increased to 260 to account for incomplete responses or incorrectly filled questionnaires. In each study LGA, a public secondary school was purposively selected from a sample of secondary schools that had received school-based interventions for promoting the SRHR of adolescents. The purposive selection was done to ensure geographic variation and gender representation (of boys and girls). In each school, about 42–43 students were randomly selected.

Data collection tool and technique

The survey questionnaire was developed specifically for this study with the inclusion of questions from the WHO's illustrative questionnaire for surveys with young people.[22] The data collection instrument was structured and pretested among in-school adolescents in a different locality from the study sites. About 42 male and female research assistants were trained for four days on data collection techniques and ethics in research. Trained research assistants collected data using the pretested structured questionnaire.

The questionnaire was used to collect information on (i) the sociodemographic characteristics of respondents, (ii) their views about adolescents' rights to SRH information, (iii) their participation in the school-based SRHR interventions, (iv) the practice of peer education on SRHR, and (v) communication of SRHR matters with family members in the past one year.

Paper and electronic copies of the questionnaire were administered to the students in their schools. The electronic copies of the questionnaire were coded on Kobo collect software and uploaded to Android tablets for the data collection. To ensure data accuracy, completed paper questionnaires were carefully matched with corresponding electronic forms before the data was uploaded to the server.

Data were analyzed using the StataSE 15. Following data cleaning, 257 questionnaires were judged to have complete responses and without errors, giving a response rate of 98.8%. Descriptive and multivariate logistic regression was performed and reported in the study. The descriptive statistics utilized mean and standard deviation for continuous variables, frequency, and percentage for categorical variables.

The logistic regression allowed us to take our analysis further by isolating predictors of peer education on SRHR by constructing four models. Model 1 analyzed sociodemographic predictors of peer education, including gender, location, level of education, work for pay, and wealth index. Model 2 focused on beliefs about adolescents' rights to SRH information. Model 3 tested the program, and structural factors, including participation in SRHR school events, access to IEC materials on SRHR, and communication of SRHR matters with family members. Model 4 included all the independent variables in Models 1–3.

Adjusted odds ratios (AOR) were reported, and statistical significance was set at P value < 0.05.

Ethical consideration

Ethical consideration was obtained from the Ethics Committee of Ebonyi State Ministry of Health (Ref: ERC/SHOH/AI/050/18) and the Health Research Ethics Committee of the University of Nigeria Teaching Hospital (Ref: UNTH/CSA/329/OL.5). Participants were informed of the purpose of the research, their rights as participants, and measures that will be taken to protect them and their data. Written consent was obtained from participants. Group consent was obtained from the school authorities, and assent was obtained from the adolescents before data collection. Participation was voluntary and confidentiality was ensured by the noninclusion of direct identifiers.

Results

The results are presented in Tables 1–4. A total of 257 adolescents in secondary schools participated in the survey.

A descriptive analysis of the demographic characteristics of the participants showed that their mean age was 15.55 (±1.5), majority of them were female (71.98%), and 63.81% were in the senior classes. As shown in Table 1, the respondents were evenly distributed across the geographic locations, with 50.58% from urban areas and 49.42% from rural areas. Forty-seven (18.43%) of the students also worked for pay.

The respondents' beliefs about the rights of adolescents to information on SRH are summarized in Table 2. Almost all the students who participated in the survey believe that adolescents need information on SRHR (98.05%) and that this information should be provided in the school (98.83%). Regarding participation in activities that were introduced to promote SRHR education in the school, 71.98% of the respondents attended the school campaign, 28.02% received the IEC materials that were distributed during the school campaigns, and 81.71% reported that they regularly attended school health club activities.

Findings on adolescents' agency as peer educators of SRHR show that 66.93% of secondary school students had ever shared information with their peers on the SRHR of adolescents.

With respect to the parent–child communication of SRHR matters, 48.25% of the students reported that they had discussed SRHR matters with an adult family member in the one year preceding the survey.

Table 3 shows that the practice of peer education on SRHR among adolescents in the survey is significantly associated with the level of education in school ($P = 0.046$), participation in SRHR campaigns ($P < 0.001$), receiving IEC materials on SRHR ($P < 0.001$), and discussing SRHR matters with adult family members ($P = 0.003$).

Table 4 shows that in the comprehensive model (Model 4), senior secondary (AOR 2.889; $P = 0.026$), participation in SRHR campaigns (AOR 6.139, $P = 0.005$), receiving IEC materials (AOR 0.266; $P = 0.042$), and discussing SRH matters with adult family members (AOR 2.567; $P = 0.026$) all predicted the practice of peer education on SRHR.

Table 1: Demographic characteristics of the students

Variables	Frequency (%)
Age	
Mean (SD)=15.55 (±1.5)	
Early adolescence (13–14)	32 (12.45)
Middle adolescence (15–16)	193 (75.1)
Late adolescence (17–18)	32 (12.45)
Gender	
Female	185 (71.98)
Male	72 (28.02)
Level of education	
Junior secondary	93 (36.19)
Senior secondary	164 (63.81)
Location	
Urban	130 (50.58)
Rural	127 (49.42)
Employment status	
Works for pay	47 (18.43)
Does not work for pay	208 (81.57)
Wealth index category	
Richer	129 (50.19)
Poorer	128 (49.81)

Table 2: Beliefs about adolescents' rights to SRH information, participation in SRHR education, and communication among the students

Variables		Frequency (%)
Beliefs about adolescents' rights to SRH information	Adolescents need information on SRHR	252 (98.05)
	Information on SRHR should be provided to adolescents in schools	254 (98.83)
Participation in SRHR events	Attended the school campaign on SRHR of adolescents	185 (71.98)
	Received IEC materials on SRHR of adolescents	72 (28.02)
	Attends the school health club activities	210 (81.71)
Parent-child communication of SRHR matters	Discussed SRHR matters with an adult family member in the past year	124 (48.25)
Practice of peer education on SRHR	Ever shared or taught SRHR to peers in schools	172 (66.93)

Discussion

This study examined the factors that influence and predict the agency of in-school adolescents as peer

Table 3: Relationship between independent variables and practice of peer education on SRHR among adolescents

Independent variables	Peer education on SRHR, *n* (%)	χ^2 (*P*)
Gender		
Female	125 (67.57)	0.123 (0.726)
Male	47 (65.28)	
Level of education		
Junior secondary	55 (59.14)	3.992 (0.046)*
Senior secondary	117 (71.34)	
Location		
Urban	90 (69.23)	0.6313 (0.427)
Rural	82 (64.57)	
Age group (years)		
13–14 (early)	19 (59.38)	1.034 (0.596)
15–16 (middle)	132 (68.39)	
17–18 (late)	21 (65.63)	
Work for pay		
Yes	32 (68.09)	0.052 (0.819)
No	138 (66.35)	
Wealth category		
Richer	87 (67.44)	0.031 (0.860)
Poorer	85 (66.41)	
Believes that adolescents need information on SRHR		
Yes	170 (67.46)	1.670 (0.196)
No	2 (40)	
Believes SRHR information should be provided in school		
Yes	171 (67.32)	1.547 (0.214)
No	1 (33.33)	
Participated/attended school campaign on SRHR		
Yes	135 (80.36)	39.536 (<0.001)**
No	37 (41.57)	
Received IEC materials on SRHR		
Yes	117 (78)	19.960 (<0.001)**
No	55 (51.40)	
Discussed SRHR matters with an adult family member in the past year		
Yes	94 (75.81)	8.537 (0.003)**
No	78 (58.65)	

Table 4: Predictors of peer education on sexual and reproductive health and rights among secondary school adolescents

Explanatory variables	AOR (*P*)			
	Model 1	Model 2	Model 3	Model 4
Gender (Female)	1.160			0.859
	(0.650)			(0.761)
Level of education (Senior secondary)	1.730			2.889
	(0.078)			(0.026)*
Location (Urban)	1.177			0.947
	(0.599)			(0.910)
Age group (13–14 years)	0.945			0.521
	(0.856)			(0.184)
Work for pay (Yes)	1.310			1.011
	(0.487)			(0.985)
Wealth index (Poorer)	0.983			0.868
	(0.952)			(0.722)
Believes that adolescents need information on SRHR		2.073		1.131
		(0.608)		(0.143)
Believes information on SRHR should be provided in school		1.999		0.829
		(0.711)		(0.933)
Participated/attended school campaign on SRHR			4.534	6.139
			(0.012)*	(0.005)**
Received IEC materials on SRHR			0.424	0.266
			(0.153)	(0.042)*
Discussed SRHR matters with an adult family member in the past year			2.297	2.567
			(0.033)*	(0.026)*
Constant	1.269	0.500	1.967	0.584
	(0.737)	(0.571)	(0.051)	(0.771)

**P<0.01, *P<0.05

educators on SRHR of young people. Most of the adolescents in our study believed that young people should be provided with information on their SRHRs and that this information should be provided in secondary schools. However, not all the students who participated in SRHR campaign activities and attended the health club events in the school were involved in educating their peers on their SRHRs. Literature has shown that the successful implementation of school-based peer education is multifaceted and is influenced by personal, program, and structural characteristics.[16] This study identified one personal factor (senior secondary school), two program-related factors (school-based SRHR campaign and distribution of IEC materials), and one structural factor (parent–child communication of SRH) as predictors of the practice of peer education among adolescents.

Like our findings, other studies have shown that older adolescents, particularly those in senior secondary school grades, are more likely to engage in peer education on SRH matters compared to younger adolescents.[23] This can be attributed to factors such as increased maturity, higher levels of knowledge and understanding, and greater confidence in discussing sensitive topics. Adolescents are highly influenced by their peers and social networks. Studies have indicated that having peers who are involved in peer education programs or who discuss SRH matters openly can increase the likelihood of adolescents engaging in peer education themselves.[23] Peer support and a sense of belonging within a network of peer educators can motivate adolescents to take on the role. Moreover, adolescents who perceive personal benefits from engaging in peer education, such as improved communication skills, leadership development, and enhanced knowledge, are more likely to participate.

The finding that participation in school-based SRH campaigns and access to IEC materials predict the practice of peer education among adolescents aligns with findings from other studies conducted in low- and middle-income countries (LMICs). Numerous studies in LMICs have demonstrated the effectiveness of school-based SRH programs in promoting peer education.[11,24] Adolescents who actively participate in SRH campaigns or interventions within the school setting are more likely to engage in peer education. These programs provide opportunities for adolescents to acquire knowledge, develop communication skills, and build confidence in discussing SRH matters with their peers.

Access to IEC materials, such as brochures, pamphlets, or digital resources, has been consistently associated with increased engagement in peer education.[25] Adolescents who have access to these materials can utilize them to enhance their knowledge and effectively disseminate SRH information to their peers. Accessible and age-appropriate IEC materials are crucial in empowering adolescents as peer educators. Adolescents with greater access to SRH information, whether through comprehensive sexuality education programs, school-based initiatives, or community resources, are more likely to engage in peer education. Adequate knowledge and understanding of SRH issues equip adolescents with the confidence and ability to educate their peers effectively.

The finding that parent–child communication of SRH matters predicts the practice of peer education among adolescents in secondary schools also conforms with similar studies.[26] Research conducted in various LMICs has consistently shown that open and supportive parent–child communication about SRH topics is associated with positive sexual health outcomes.[27,28] Adolescents who have open and frequent discussions with their parents about SRH matters are more likely to engage in peer education. Such communication channels provide adolescents with accurate information, promote understanding, and encourage them to share knowledge with their peers. Parents play a significant role in shaping adolescents' attitudes and beliefs regarding SRH. Parental influence can provide a foundation for positive engagement in SRH education and advocacy.[28]

Positive parent–child relationships characterized by trust, support, and comfort are conducive to discussions about sensitive topics like SRH. When adolescents feel comfortable talking to their parents about SRH matters, they are more likely to have the confidence and skills to engage in peer education.[28,29] Trust and comfort in parent–child communication create a safe space for adolescents to seek guidance and share information. The role of parent–child communication may vary across different cultural contexts within LMICs. Cultural norms and values surrounding SRH discussions, gender roles, and generational gaps can influence the nature and frequency of parent–child communication.

Limitation and recommendation

Although this study provides useful information on factors that influence and predict the agency of in-school adolescents as peer educators on SRHR of young people, the study is limited by the study design (quantitative cross-sectional) which cannot confirm causality, and the restricted population (in-school adolescents). Therefore, the findings may not be universally applicable to all adolescents. It is recommended that future studies should explore the use of qualitative design in addition to the quantitative method; and study all categories of adolescents – in and out of school adolescents, to enable broader views and more robust study.

Conclusion

This study identified that being in senior secondary school, participating in a school-based SRHR campaign, distribution of IEC materials, and parent–child communication of SRH predict the practice of peer education among adolescents. Considering the importance of addressing adolescents' SRHR needs, our findings suggest that the predicting factors should be prioritized to strengthen the agency of adolescents as peer educators of the SRHR of young people.

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Conflicts of interest

There are no conflicts of interest.

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