

Research Article





Family functioning pattern and adolescent psychosocial health status: The study of secondary school students in Osun State, Nigeria

Abstract

Objectives: The study assessed the family functioning pattern and the psychosocial health status of in-school adolescents, with a view to determining the association between family functioning pattern and psychosocial health status of in-school-adolescents. This provided a basis for planning family oriented support services to enhance psychosocial health status of in-school adolescents.

Study design: A descriptive cross-sectional design.

Methods: Three hundred and thirty-five school-adolescents from public and private secondary schools in Ife Central LGA were selected using the proportionate systematic random sampling technique. Data was collected with the Family Assessment Device questionnaire and Youth self-reported Pediatric Symptom Checklist and analyzed using descriptive and inferential statistics.

Results: Findings showed that 53.7% of the participants had unhealthy family functioning pattern while 16.0% had impaired psychosocial status. There is a significant negative association between family functioning in problem solving dimension and psychosocial health status with a Beta coefficient (-1.120), Odd ratio=0.326 (95% CI 0.171 to 0.624).

Conclusion: Majority of in-school adolescents had unhealthy family functioning pattern and one in six adolescents had impaired psychosocial health. There was a negative but significant association between the problem-solving dimension of family functioning and psychosocial health. Community health professionals should carry out preventive interventions among parents and adolescents in the community with adequate attention to all the dimensions of family functioning.

Keywords: family, functional pattern, psychosocial health status, adolescents, school

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Introduction

Adolescence is a critical period of life when individuals undergo physical and psychological changes in preparation for healthy adulthood.1 Developing into adolescence is a complex process involving social, cognitive and psychological factors.2 The in-school adolescent is often faced with pressures that comes along with adapting to school life occurring concurrently with the physiological changes consequential to the growth and development into adolescence.3 Furthermore, the adolescent school child adjusts between the physical and physiological changes, family, social, educational and emotional demands associated with the stage of development. This could be stressful increasing the risk of developing behaviors that are harmful to their health.4 Psychosocial health problems place adolescents at increased risk of mental disorder, school failure and anti-social behavior.5 The family has been a primary source of good support network for the in-school adolescent to transit the phase with less harmful health outcome. The interaction of the adolescent among family members in a context of optimal functioning is important to the transition of the adolescent. Family dynamics, patterns of interaction and functioning pattern have been demonstrated to affect adolescent development and psychosocial health.^{6,7}

Family functioning' refers to the complex interactional pattern between family members in communicating, performing their roles and connecting emotionally as they carry out their daily routines. 8,9,10 Additionally, family functioning help families to develop dynamic

relationships that help in constant shaping of the values and behaviors of family members.^{11,12} The McMaster's family functioning model posits that the provision of suitable environmental conditions for each member of the family for psychological, social and physical development are the fundamental functions of the family system.^{13,14} The basic family tasks that must be accomplished in order to promote the development of family members according to the McMaster model includes: problem solving, communication, affective responses, affective involvement and behavior control.^{13,14} The basic family tasks highlighted in the McMaster's model of family functioning is consistent with the culture, values and family practices in Nigeria.

The recent trend in the changing nature of families with varied modern family structures and forms are changes that may impact the functional pattern of families having implications on the psychosocial health status of adolescents in such families. ^{15,16} Problematic patterns of family functioning may exacerbate and contribute to the development of negative youth behavioral patterns. ¹⁷ However, the Nigerian society legally recognizes the traditional family structure of the male husband and female wife in the presence single parent (Either father or mother) and blended families.

Studies carried out in other parts of the world had reported low socioeconomic homes (Devenish et al., 2017), negative parenting (Fosco et al., 2012) and parental conflict (Barthassat, 2014) as increased risk of adolescents to experiencing negative psychosocial health outcomes. The negative familial effects on adolescents are becoming



more evident. Studies in Nigeria had looked at the influence of family functioning and academic engagement of adolescents (Adeniji & Mabekoje, 2019) and the familial characteristics on the psychosocial development of adolescents (Longe, 2019). However, limited studies have investigated how the family system had influenced adolescent's psychosocial health status in Nigeria. Hence, this study assessed the family functional pattern and the psychosocial health status of school-adolescents in Ile-Ife, Osun state Nigeria with a view to determine the association between family functional pattern and psychosocial health of adolescents.

Methods

Design

A cross-sectional descriptive research design was adopted and samples of adolescents were selected from public and private secondary schools to participate in the study.

Setting

Study was conducted in Ife Central Local Government Area (LGA) in Osun State, Nigeria. Ife central LGA is majorly constituted of the Yoruba ethnic subgroup with most family structure of a male (husband) leadership and provision, which is also associated with the making of family rules and decisions. While the females (wives) perform roles relating to nurture and care of the offspring of the family. The family in context of the study setting is also responsible for the socialization of her members.

Study population and selection of participants

The target population for the study was school-adolescents aged 12 years and above from public and private junior and senior secondary schools in Ife central LGA. Multi-staged sampling technique was used at two levels of selecting schools and selecting sample units at the school levels. At the levels of selecting schools, four (4) public schools out of 10 were selected and five (5) out of the 16 private schools were also selected adopting the simple random sampling. Sample size was calculated with the Cochran formula (335). Proportionate sampling was adopted considering the population and gender by school to select 335 secondary school students from the nine schools.

Instrument for data collection

Family Assessment Device (FAD)¹⁸ and Pediatric Symptom Checklist (Y-PSC)¹⁹ psychosocial assessment checklist for adolescents²⁰ were used to collect data. The self-administered questionnaire for data collection was divided into sections. Section A covered the demographic characteristics and family history of respondents. Section B consist of the FAD. The FAD is a 60-item self-reported structured measure of family functional pattern. Only 48 items out of the 60 items were used in data collection. The 12 items on general functioning which is the overall measure of the six dimensions of family functioning were excluded; this was done in order to make filling the questionnaire less cumbersome for respondents based on their age. Family functioning was measured on a 4-point Likert scale (strongly agree = 1, agree = 2, disagree = 3 and strongly disagree = 4) (See Table I supplementary file).

Participants were asked to rate each of the 48 statements according to the description of their family. Six dimensions (subscales) of family functioning were measured covering: problem solving capabilities (ability to solve problems that affect the integrity and function of the family); communication (effective exchange of information within the family); family roles (efficiency of practices used by the family to

distribute and perform tasks); family affective involvement (quality of interest, attention, and investment of family members towards each other); family affective responsiveness (strategies adopted by the family members to initiate proper emotional responses, whether positive or negative feelings); behavior control (expression, maintenance and patterns of behavior standards).

The FAD was scored by adding the responses (1-4) for each scale and dividing by the number of items in each scale. The scale score ranges from 1.0 (best functioning) to 4.0 (worse functioning).²¹ The FAD was described as a good measure of family functioning with excellent internal consistency among all the subscales ($\alpha = 0.72$ -0.90).22 Section C consisted of questions that assessed respondent's psychosocial status using Self-Report Pediatric Symptom Checklist (PSC-17).^{23,24} The PSC-17 contained 17 questions with responses ranked on 3-point likert scale (never = 0, sometimes = 1, often = 2). Items on PSC-17 were arranged into 3 subscales (Internalizing behavior, externalizing behavior, and attention). According to the use of PSC17 tool, items that were left unanswered were ignored. With four or more items left unanswered, the questionnaire was considered invalid. The scores of the 17 items were summed up to get the total score. A score ≥15 indicated that respondents had a level of emotional and behavioral impairment. Based on recommendation on the use of this instrument, students with a score suggestive of psychosocial impairment were referred through their parents to mental health expert for further assessment. Both FAD and PSC-17 were pilot tested among participants with similar characteristics with study population. Cronbach's Alpha was 0.81 and 0.79 respectively.

Method of data collection

An initial visit was made to the schools involved in the study, the research purpose was explained to head teachers, class teachers and students and the need for their collaboration was discussed. On another visit, students were met in their various classes after class sessions before another class engagement and the self-administered questionnaires were distributed. Simple random technique was used to select respondents using the class register. Students who were less than age 12 years were not included. The instrument was self-administered but assistance was readily available where necessary. Students were instructed to read carefully each item on their questionnaire and rate the extent to which those statements described their family and their feelings. The adolescents were allowed to ask questions, and such questions were attended to for clarity as necessary. Questionnaires were retrieved few minutes after completion.

Ethical consideration

Ethical approval was taken from the Institute of Public Health, College of Health Sciences, Obafemi Awolowo University, Ile-Ife (IPHOAU/12/1575). Permission to collect data was obtained from the Local Government Education Inspector of Ife Central LGA. Consent of parents were taken with letters sent through the respondents, the letter described the study and requested them allow their child/ward to participate in the study. School adolescents who returned signed consent forms from their parents/guardian were included in the study after obtaining assent from them also.

Data analysis

Data entry was done with Statistical Package for Social Sciences (SPSS) software version 20.0 using both descriptive and inferential statistics. Respondent's family functioning and psychosocial status was analyzed using frequency and percentage, median, mean and standard deviation. FAD was scored by summing up the responses (1-

4) for each subscale (note all negatively worded items were reversed). The computed scores were then divided by the number of items in each scale, the cut-off (mean) for each dimension were computed. If an adolescent school child scored smaller than the cut-off point, then the family functioning was considered healthy in that dimension, and if the resulting score was larger or equal to cut-off point, then the family functioning was considered unhealthy in that dimension. Relationship between dependent and independent variables were analysed using regression analysis and Kruskal Wallis Chi-square. Level of significance was considered at p< 0.05 for 95% confidence interval.

Results

Table 1 showed respondents varied socio-demographic characteristics. Majority 74.3% clustered around ages 15 through 19; with the Mean age of 15.4 ± 1.6 . Gender distribution was of almost equal percentage but respondents were largely dominated by the Yoruba ethnic group constituting 91.6%. Majority (83.0%) were Christians.

Table 2 showed the distribution of family functioning among respondents. Majority had unhealthy family functioning pattern in Communication (57.6%, Mean 2.75±0.14), Role (50.7%, Mean 2.86±0.18), Problem solving (61.2%, Mean 3.43±0.28), Affective responsiveness (51.9%, Mean 2.66±2.50), Affective involvement (56.7%, Mean 2.98±0.33) and Behavior control (60.6, Mean 2.79±0.23). Family functioning is worst in roles, problem solving and affective involvement (2.86±0.18, 3.43±0.28 and 2.98±0.33 respectively). The overall result of respondents showed that majority (53.7%) had unhealthy family functioning pattern.

Table 3 showed the distribution of the psycho-social health status of respondents. In the internalizing subscale, more than one third of the respondents sometimes 'feel sad, unhappy' (47.2%), 'seem to be having less fun' (41.8%), and 'worry a lot' (41.5%). In the attention subscale, more than one third of the respondents sometimes 'daydream too much' (34.9%), 'have troubles concentrating' (36.1%) and 'distract easily' (35.5%). Also, more than 1 out of 10 (11.0%)

were 'fidgety and unable to sit still' often. In the externalizing subscale, more than 1/3rdsometimes 'refuse to share' (35.5%), 'do not understand other people's feelings' (39.1%), 'blame others for their troubles' (35.8%), 'do not listen to rules' (30.7%) and 'tease others' (39.7%). in addition, more than 1 out 10 (14.6%) 'do not understand other people's feelings' often do not listen to rules (10.4%) and tease others (18.5%). The overall mean score was 8.47 ± 5.64 , respondents that scored above mean were grouped as 'not impaired', respondents that scored above mean were grouped 'impaired'. In the overall, (see Figure 1 in supplemental file) about 1 out of 6 respondents (16.0%) had impaired psychosocial health.

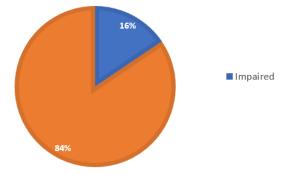


Figure I The summary of the psychological health status of respondents.

Table 4 showed association between respondents' psychosocial health status and their family functioning pattern using logistic regression analysis. Result showed a significant negative association between family functioning in problem solving dimension and respondent's psychosocial health status with a Beta coefficient (-1.120), Odd ratio=0.326 (95% CI 0.171 to 0.624). This showed that respondents with unhealthy family functioning in the dimension of problem solving do not have an impaired psycho-social status.

Table 5 showed relationship between respondent's family functioning pattern and sociodemographic characteristics. There are significant association between family functioning pattern and age (χ 2 =10.777, p=0.005); Family type (χ 2= 20.039, p=0.001) and mother alive or dead (χ 2 =5.408, p=0.020).

Table I Socio-demographic characteristics of respondents

Socio-demographic Characteristics	Characteristics	Frequency (n=335)	Percentage (%-100	
Age group	12-14 years	83	24.8	
	15-17 years	248	74	
	18-20 years	4	1.2	
Sex	Female	166	49.6	
	Male	169	50.4	
Ethnicity	Yoruba	307	91.6	
	Igbo	21	6.3	
	Hausa	7	2.1	
Religion	Christianity	278	83	
	Islam	55	16.4	
	Traditional	2	0.6	
Present class	Junior class	8	2.4	
	Senior class	327	97.6	
Position at home	First	70	20.9	
	Second	94	28.1	
	Third	66	19.7	
	Fourth	54	16.1	
	Fifth	27	8.1	
	Sixth	23	6.9	
	Seventh	I	0.3	

Table I Continued...

Socio-demographic Characteristics	Characteristics	Frequency (n=335)	Percentage (%-100)	
Family types	Monogamy	299	89.3	
	Polygamous	36	10.7	
Family marital status	Divorced	6	1.8	
	Married	289	89.3	
	Separated	П	3.3	
	Widowed	29	5.7	
Fathers' academics	No education	4	1.2	
	Primary education	3	0.9	
	Secondary education	44	13.1	
	Tertiary	284	84.8	
Mothers' academics	No education	7	2.1	
	Primary education	П	3.3	
	Secondary education	51	15.2	
	Tertiary	266	79.4	
Father alive	Yes	316	94.3	
	No	19	5.7	
Mother alive	Yes	325	97	
	No	10	3	

Table 2 Frequency distribution of participants based on the mean scores of family functioning dimensions among respondents

Dimensions		n=335 (%)	Mean ±SD	Median	Max	Min
Communication	Unhealthy	193 (57.6)	2.75±014	2.7	3.2	2.6
	Healthy	142 (42.4)	2.38±0.12	2.4	2.5	2
Roles	Unhealthy	170 (50.7)	2.86±0.18	2.8	3.5	2.7
	Healthy	165 (49.3)	2.84±0.14	2.5	2.6	2
Problem-solving	Unhealthy	205 (61.2)	3.43±0.28	3.33	4	3.17
	Healthy	130 (38.8)	2.79±0.29	3	3	1.5
Affective responsiveness	Unhealthy	174 (51.9)	2.80±0.31	2.66	3.5	2.5
	Healthy	161 (48.1)	2.15±0.20	2.16	2.33	1.33
Affective involvement	Unhealthy	190 (56.7)	2.98±0.33	2.85	4	2.57
	Healthy	145 (43.3)	2.06±0.27	2.14	2.43	1.43
Behavior control	Unhealthy	203 (60.6)	2.79±0.23	2.77	3.67	2.56
	Healthy	132 (39.4)	2.22±0.21	2.22	2.44	1.33
Overall family functioning	Unhealthy	180(53.7)	2.77±0.18	2.74	3.2	2.27
	Healthy	155(46.3)	2.57±0.21	2.55	3.28	2.11

Table 3 The distribution of the psychosocial health status of respondents

	Never	Sometime	Often
	N (%)	N (%)	N (%)
Internalizing Subscale			
Feel sad, unhappy	140(41.8)	158(47.2)	37(11.0)
Feel hopeless	222(66.3)	97(29.0)	16(4.8)
Down on yourself	238(71.0)	78(23.3)	19(5.7)
Seem to be having less fun	161(48.1)	140(41.8)	34(10.0)
Worry a lot	167(49.9)	139(41.5)	29(8.7)
Attention Subscale			
Fidgety, unable to sit still	202(60.3)	96(28.7)	37(11.0)
Daydream too much	196(58.5)	117(34.9)	22(6.6)
Have troubles concentrating	186(55.5)	121(36.1)	28(8.4)
Act as if driven by motor	237(70.7)	86(25.7)	12(3.6)
Distract easily	188(56.1)	119(35.5)	28(8.4)
Externalizing Subscale			
Refuse to share	198(59.1)	119(35.5)	18(5.4)
Do not understand other people's feelings	155(46.3)	131(39.1)	49(14.6)
Fight with other children	254(75.8)	70(20.9)	11(3.3)
Blame others for your troubles	194(57.9)	120(35.8)	21(6.3)
Do not listen to rules	197(58.8)	103(30.7)	35(10.4)
Tease others	140(41.8)	133(39.7)	62(18.5)
Take things that do not belong to you	254(75.8)	66(19.7)	15(4.5)

Table 4 Association of family functional pattern and psychosocial health status of respondents

	Psychosocial health status of adolescents								
Family functioning of Adolescent	В		NA7-1-1	-16	<u> </u>	Exp (B)	95% CI for EXP (B)		
	В	S. E	Wald	df	Sig		Lower	Upper	
Communication	0.161	0.318	0.256	I	0.613	1.174	0.63	2.189	
Role	-0.282	0.322	0.764	- 1	0.382	0.754	0.401	1.419	
Problem solving	-1.12	0.331	11.458	1	0.001	0.326	0.171	0.624	
Affective responsiveness	-0.123	0.332	0.138	1	0.71	0.884	0.462	1.694	
Affective involvement	-0.421	0.337	1.562	1	0.211	0.656	0.339	1.27	
Behavior control	0.456	0.348	1.71	I	0.191	1.577	0.797	3.122	

 Table 5 Relationship between respondents' socio-demographic variables and family functioning pattern

Socio-demographic Characteristics	N	Mean (±SD)	Mean Rank	Statistics index
Age *** 12-14 years	83	2.75(±0.23)	196.58	χ2=10.777
15-17 years	248	2.66(±0.20)	159.43	Df=2
18-20 years	4	2.49(±0.27)	106.63	p-value= 0.005
Sex:				χ2=3.136
Female	166	2.70(±0.22)	177.45	Df=I
Male	169	2.65 ((±0.21)	158.71	p-value=0.077
Religion:				2 0 000
Christianity	278	2.68(±0.22)	168.21	χ2=0.008 Df=2
Islam	55	2.68(±0.21)	166.91	p-value=0.996
Traditional	2	2.66(±0.21)	169	p-value 0.770
Present Class				χ2=0.563
Junior class	8	2.61(±0.15)	142.63	Df=I
Senior class	327	2.68(±0.22)	168.62	p-value=0.453
Position at home:				
First	70	2.65(±0.19)	159.39	
Second	94	2.68(±0.23)	170.3	
Third	66	2.66(±0.18)	163.34	χ2=7.906
Fourth	54	2.66(±0.17)	160.44	Df=6
Fifth	27	2.72(±0.27)	183.72	p-value=0.245
Sixth	23	2.80(±0.27)	204.54	
Seventh	1	2.23(±0.00)	5	
Family types***				χ2=20.039
Monogamy	299	2.52(±0.19)	99.74	Df=I
Polygamous	36	2.70(±0.21)	176.22	p-value=0.001
Family Marital status:				
Divorced	6	2.78(±0.07)	234.33	2-5/27
Married	289	2.67(±0.22)	165.8	χ2=5.607 Df=3
Separated	11	2.78(±0.20)	212.64	p-value=0.132
Widowed	29	2.64(±0.19)	155.79	p-+aiuc=0.132
Fathers' Educational Status		•		
No education	4	2.59(±0.14)	132.88	
Primary education	3	2.64(±0.11)	153.67	χ2=5.914
Secondary education	44	2.60(±0.18)	137.25	Df=3
Tertiary	284	2.69(±0.22)	173.41	p-value=0.116
Mothers' Educational Status		` '		
No education	7	2.67(±0.02)	172.64	
Primary education	, H	2.66(±0.19)	158.36	χ2=1.271
Secondary education	51	2.71(±0.22)	181.52	Df=3
Tertiary	266	2.67(±0.22)	165.68	p-value=0.736
Father alive	200	2.07 (20.22)	.05.05	~2-0.320
Yes	316	2.68(±0.22)	168.73	χ2=0.320 Df=1
No No	19	2.64(±0.19)	155.79	p-value=0.572
Mother alive***	17	2.0 1(±0.17)	133.77	·
Yes	325	2.53(±0.15)	97.85	χ2=5.408 Df=1
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X is Kruskal Wallis Chi-square, df is degree of freedom, p-value is the level of significant **** very significant at p-value < 0.05.

Discussion

The main purpose of this study was to assess family functioning and psychosocial health status of in school adolescents and determine if their family functioning pattern influenced their psychosocial health status. The In-school adolescent family functioning pattern was measured based on the self-report of the adolescents. Majority of respondents in this study were within the age group of 16-19 years (mean age15.41±1.65 years). More than half were Christians, from the Yoruba tribe and in Senior Secondary School, with an almost equal number of both gender with 50.4% of the total sample identifying as male. Some of these findings were similar to respondents in a study by Davies (2012), however majority of participants in Davies (2012) were Caucasians of the British origin.

Family functioning pattern of the respondents from the findings of this study showed that majority of the participants had unhealthy family functioning pattern in all the dimensions. This finding synchronized with the finding in a study of relationship between family functioning and aggression among school adolescents by Dabaghi et al.,25 where majority of participants had unhealthy family functioning pattern. The percentage of families with unhealthy family functioning pattern in this study were considered high with the need for urgent attention in view of its implications on the psycho-social health status of school adolescents. High percentage of dysfunctional families may be attributed to the current challenges in Nigeria; these include insurgency, insecurity, inflation, poor income and inconsistent payment of workers' wages. All of these may put pressure and stress on families as such tend to exacerbate poor family functioning. Dai & Wang., 13 in their review acknowledged that father's employment status, living condition and financial status may influence family functioning. Other factors include the stage of the family, for example families with teenagers. All of these factors must be planned into interventions to improve family functioning. Unhealthy functioning in any of the family functioning dimensions may result in physical and emotional stress and may aggravate psychosocial problems in the school adolescent.

Also, approximately 1 out of 6 (16%) of the respondents had impaired psychosocial status. This finding is consistent with the findings in a similar study by Tilmalsina et al.,24 where 12.9% of school adolescent had impaired psychosocial status. In another study by Bista et al.,3 17.3% of school adolescents had impaired psychosocial impairment. Adolescents have unique and specific needs which must be well taken care of in the parenting process. Inadequate attention to the psychosocial health status of school adolescents may have an adverse influence on their academic performance. A study revealed that higher psychosocial impairment was seen in children with poor performance in class.²⁶ Poor performance in the classroom may eventually affect ability to achieve or attain high educational level in future. Apart from the implication of impaired psychosocial status of school adolescents on their academic performance, impaired psychosocial status may result in mental health problems, which may limit the economic productivity of the adolescents in future.

This study also showed that there was a negative association between the problem-solving dimension of family function and psychosocial health of respondents. This finding is contrary to findings in past studies that reported positive association of family functioning with psychosocial well-being of adolescents. 15,27,28 Another study reported association of general family functioning with psychological symptoms. 29 Variance in the findings from this study may be as a result of the self-report nature of data collection and

differences in the regions where studies were conducted. Furthermore, the impact of poor family functioning may not be significantly felt on the psychosocial health status of older adolescents when they relate and spend more time with friends outside the family. This is with the understanding that the school adolescent spends more time in the school than home. However, the family remains an important social setting for the adolescents' well-being. A healthy functioning family is crucial to reduce the risk of psychopathology amongst adolescents.^{30,31}

Parents should develop the ability to resolve problems that emanate through family members daily interactions; most especially those related to feelings and emotions or those that threaten the integrity or the functioning capacity of the family. Generally, parents and other members of the family must show appropriate affection and demonstrate adequate emotional sharing. Open expressions of feelings and concerns must be encouraged among family members while appropriate boundaries are set to prevent over-involvement. Parents should be flexible with rules and ensure satisfaction of all family members. All of these serve as protective factors that promote adolescent psychological functioning. These should also be incorporated into the interventions for improving family functioning. In view of the fact that the school adolescents stay more in school than home except during holidays; school teachers must show love and provide a safe and supportive environment for the adolescents. Adolescents should be helped to accept defeat and failures and be assisted to cope with stressful life situations. 32,33

Conclusion

In conclusion, majority of the school-adolescents had unhealthy family functioning status, in the domains of family roles, problem solving and affective involvement. There was a negative significant association of problem solving and psychosocial health among school-adolescents. Targeting improvement of functioning patterns in families is an important strategy in improving emotional and behavioral problems among school adolescents for interventions. The findings from this study highlight gaps for further studies into the multifaceted dimensions of family functioning. Community health nurses should be involved in future researches to implement preventive interventions within the community in collaboration with teachers for prompt identification of adolescents at risk of psychosocial health challenges associated with family functioning.

Limitation of study

A self-report of family functioning and psychosocial health status of adolescents without parent's reports may serve as a limitation to this study. Also, this was a cross-sectional study, the predictive limitation must be put into consideration.

Acknowledgments

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Author's contribution

OOI worked with IKO to conceptualize the study. OOI supervised the project. IKO collected data. CBB analyzed data and was involved in literature search and report of findings. OBO proofread the findings. CBB was involved in writing the draft of the manuscript. OOI AND OBO reviewed and edited the manuscript. All authors read and approved the final version of the manuscript.

Conflicts of interest

The authors declare that there is no conflict of interest.

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