

Full Length Research Paper

The perspectives of secondary school students on common diseases and medicines used: Implications for the implementation of school based health programmes in Nigeria

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Existing health programmes in Nigeria for young people mostly target children below 5 years. Both quantitative and qualitative techniques were used to assess perspectives of male and female adolescents on common diseases they experience and medicines used for treatment during a three month study in a boarding secondary school in Owerri, Imo State of Nigeria. Malaria was named and ranked as the most severe and frequently experienced disease followed by diarrhea. High body temperature, headache and loss of appetite are some of the symptoms recognized during illness. Pharmaceuticals including paracetamol, fansidar, flagyl, pro-cold and ampicillin were used for treatment of illnesses. These are administered by the school nurse or by self medication and were obtained mainly from drug shops. The healthcare needs and priorities of adolescents are infectious diseases which they could readily identify. This underscores the need and relevance of implementing school based health programmes in secondary schools in Nigeria.

Key words: Perspectives, medicines, diseases, healthcare, adolescents.

INTRODUCTION

School based health programme is a very important medium for addressing the health needs of children and adolescents. The World Health Organization stipulates that school health programmes should include HIV/AIDS and sexually transmitted diseases, violence and injury, unintended pregnancy and poor reproductive health, helminth infection, poor nutrition and food safety, poor sanitation and water control, lack of immunization, poor oral health, malaria, respiratory infections, psychological problems, alcohol, tobacco and illicit drug abuse (WHO, 1997). The World Bank and the United Nations Children's Fund however have an essential public health package for school programmes which includes treatment of worm

infections and micro nutrient deficiency and provision of health education (World Bank, 1993; UNICEF, 1995). Although health education is learnt as a subject in many Nigerian primary and secondary schools, the implementation of school based health programmes has not been effective. Most health programmes are directed towards saving under five children from so called killer diseases through immunizations and other mechanisms such as the roll back malaria programme. Underlying this focus on younger children is the general idea that those above five years would have developed significant immunity to communicable diseases (WHO, 2000a; WHO, 2000b). Because of this adolescent group are most times neglected, more disturbing is the fact that therapies are readily accessible in Nigerian markets, even on the streets without prior medical consultation (Adome et al., 2000).

The core question to this study therefore becomes how adolescents perceive and seek therapy for the common

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illness that they suffer.

This study is premised on the fact that from adolescence (12 years), a person's thinking becomes logical and adolescents can interpret changes in their bodily experience and act upon it (7). The study sought to determine common diseases at school and medicines used to restore normality. Sub-questions were on: a) How adolescent's experience common illnesses, (b) how they manage their conditions, (c) how they know they are ill, (d) how they determine severity of illness episodes, (e) which medicines they use for illnesses, (f) what criteria they use in medicine selection, and (g) where they get the medicines.

Based on secondary school student's own perspective on health and healthcare, this study suggests the implementation of school based health programmes in schools and serious consideration of adolescents when planning health programmes. Moreover the need to introduce sexual health education in secondary schools is underscored.

SUBJECTS AND METHODS

Study setting

The study was carried out from May to August 2007 at a mixed boarding secondary school in Owerri, Imo State, Nigeria. This school was selected on purpose due to the principal's willingness for the study to be conducted in his school, the status of the school as a mixed boarding school (boys and girls) and its easy accessibility. Furthermore, the selected school's typical conditions reflect the general pattern of a good number of schools both in urban and rural areas.

Study design

This study approached the school as a specific social context in which student's experience illnesses and devise means to ensure recovery. Both quantitative and qualitative methods were employed in this study.

Study participants

A total of 320 students participated in the study. Participation was mainly determined by age (that is, those aged between 12 - 17 years), gender and individuals' willingness to discuss the research themes.

Compositions and narratives

In discussing "common diseases and medicines students used at school", 60 boys and girls either wrote or told short stories of their experiences to the first author.

Focus group discussions

A total of 12 focus groups were formed for discussion on the research themes. Each group consisted of both boys and girls between the ages of 12 and 17 years.

Individual interviews

In-depth discussions were conducted with 20 selected students.

Questionnaires

Structured pretested questionnaires were administered to the 270 students aimed at eliciting their perspectives on the research themes.

Other techniques included observation of school environment and cases in the school dormitories and examination of past medical records,

Key informants

Four public health doctors and the school nurse were interviewed to verify students' assertions concerning their health status. These include non-professional healthcare givers including 3 drug-shops owners near the school, 5 matrons, and 5 school dormitory masters. The school Food/Health Mistress and 6 parents were interviewed to determine the profile of diseases and medicines used by boarding school students and to elicit the respondents' perspectives concerning how they interact with the students as independent healthcare seekers.

Ethical considerations

The school administrator, teachers and students were presented with the study objectives; their approval was sought and obtained. Respondents were informed of their freedom to participate in the study or to opt out of the study. Permission for students to participate in the study was granted by their parents, legal guardians or their school principal. In addition, students and administrators were assured of confidentiality and anonymity incase information contrary to school regulations was disclosed.

RESULTS

Student population and staff at school

In the year of study, 2007, the school had a student population of 675 (Table 1), 321 students were males while 354 students were females. A total of 320 students actively participated in the study.

Common diseases and common symptoms experienced

Students named and ranked diseases such as malaria (87.4%), diarrhea (79.5%), cough (58.2%), ringworm (51.8%), scabies (48.9%), typhoid (45.7%) and flu (33.1%) as common diseases adolescents experience (Table 2). The percentages given are high because students had multiple responses for common diseases at school. Recognized in case of these illnesses were high body temperature, vomiting, headache, weakness, loss of appetite and diarrhea. No student mentioned an experience with sexually transmitted infections.

Common medicines used at school

Students used a variety of pharmaceuticals including pa-

Table 1. School staff and students enrolment for 2007.

Class of study	Students		Position	Staff	
	Male	Female		Male	Female
SSS 3	38	43	Principal	1	
SSS 2	64	72	Vice Principal	1	
SSS 1	53	68	Class Teachers	11	7
JSS 3	61	59	Nurses		1
JSS 2	58	63	Matrons		5
JSS 1	47	49	Cooks	2	6
			Shop keeper		1
			Driver	1	
Total	321	354		15	20

SSS; Senior Secondary school, JSS; Junior Secondary School.

Table 2. Common diseases experienced among male and female students at school.

Diseases	Male (%)	Female (%)	% of Cases
Malaria	31(20.3)	34(22.7)	87.4
Diarrhea	29(19.1)	32(21.3)	79.5
Ringworm	27(17.8)	24(16.0)	51.8
Cough	21(13.8)	23(15.3)	58.2
Flu	18(11.8)	17(11.3)	33.1
Typhoid	7(4.6)	9(6.0)	45.7
Scabies	19(12.5)	11(7.3)	48.9
S.T.I	0(0.0)	0(0.0)	0.0
Total	152(100)	150 (100)	404.6

STI; Sexual Transmitted Infections.

nadol (91.0%), fansidar (72.4%), chloroquine (68.7%), Flagyl (61.0%), capsules (ampicillin and tetracycline (37.8%), vitamin C (13.5%), pro-cold (18.3%), septrin (21.9%) and other unspecified pharmaceuticals (21.2%) in treatment (Table 3). The students obtained these from medicine shops (82.9%), clinics (78.3%), pharmacies (77.6%), hospitals (43.1%) or at homes (40.8%) and markets (19.7%) without prior medical consultations (Table 4). Some students got the pharmaceuticals from the school nurse, matrons or food/health masters. The school commonly allowed students to come with and use their own medicines.

Qualitative data: Focus group discussions and in-depth interviews

During the focus group discussions, students showed their experiences with frequently occurring illnesses such as malaria, diarrhea, cough and flu. Their accounts show a logical flow from the appraisal of body changes to self diagnosis. For example, in one group a girl gave this account:

Table 3. Common medicines used at school.

Name	Male (%)	Female (%)	% of Cases
Paracetamol	38(22.0)	42(20.4)	91.0
Fansidar	27(15.6)	31(15.1)	72.4
Flagyl	19(11.0)	29(14.2)	61.0
chloroquine	32(18.5)	34(16.6)	68.7
Capsules	15(8.5)	14(6.8)	37.8
Vitamin C	7(4.1)	11(5.4)	13.5
Pro-cold	12(6.9)	13(6.3)	18.3
Seprin	18(10.4)	23(11.2)	21.9
Others	5(2.9)	8(3.9)	12.2
Total	173(100)	205 (100)	396.8

Others - pharmaceuticals that are not specified.

Table 4. Sources of medicines

Name	Male (%)	Female (%)	% of Cases
Clinic	26(19.8)	22(18.2)	78.3
Pharmacy	24(18.3)	30(24.8)	77.6
Medicine shop	37(28.2)	33(27.3)	82.9
Hospital	18(13.7)	5(12.4)	43.1
Home	17(13.0)	15(12.4)	40.8
Market	9(6.9)	6(5.0)	19.7
Total	131(100)	121 (100)	342.4

"Last week, I woke up feeling cold, yet my body was hot. I had a headache. I went to brush my teeth, but even my mouth was bitter. When I took some tea, I vomited it, I knew I had malaria".

In an exercise to rank common diseases, both boys and girls ranked malaria as the most common, followed by diarrhea and cough.

Boys emphasized body weaknesses and vomiting as major signs of illness whereas the girls emphasized loss

of appetite and headache. The most common medicines used were paracetamol, Fansidar, chloroquine, flagyl and ampicillin often described by the student's as "the red and black capsules". Here is how a boy described the effectiveness of flagyl on an episode of diarrhea:

"This one (flagyl) works so fast, just after two hours of swallowing it, you will go to the toilet and you are already well".

Only 9 students out of the 320 study population named Oral Rehydration Therapy (ORT) in the management of a recent episode of diarrhea at home. By observation neither the matrons nor school nurse had ORT packets, neither did they mention the use of ORT in the management of diarrhea at the school. There was no discussion or interview where students mentioned sexually transmitted infections. They were rather uncomfortable and shy to discuss the subject.

Information provided by the school nurse showed that the commonest medicines available to the children were largely antimalaria such as fansidar and chloroquine, antibiotics such as ampicillin, tetracycline and penicillin for cough while other infective conditions such as diarrhea, septrin and metronidazole were administered. The students used paracetamol, panadol extra and aspirin in treatment of pains and aches. The nurse however added;

"There are a wide variety of medicines to choose from, at the pharmacies, I am always told about and even reminded of other drugs to buy. Some of them may be of the same kind like the ones I have already bought. But still the sellers insist that I should try them as well. What I choose just depends on what I think works best for the students"

Sources of medicine

Students revealed various sources of medicines including friends in the dormitories, clinics, school shop, nurse and home. Various boys underscored the importance of a fellow student called "Doc" who was a vital source of medication to ill boys in the dormitory.

Observation

The school had no clinic and sick students were given medicines from the dormitories by the nurse who came only once in a week. Each of the five matrons had plastic containers in which a wide range of pharmaceuticals were kept and administered to any sick student. The nurse reported to the school to review sick students who did not respond quickly to treatment. Often, such a student was given an exit to go home for medications. More girls (52) than boys (19) obtained exist in order to seek medical attention in August 2007.

The school sanitation was poor, flush toilets had no

flowing water and each student was obliged to fetch water from the school tap or underground tank with a bucket and use it for flushing after use. It was also observed that these same buckets were used for fetching drinking water.

The garbage containers were left unattended to for a long time. This attracted houseflies, the vectors for diarrhea causing pathogens. The dormitories were congested, with students sleeping on closely arranged double bunk beds. Some of the dormitories had no windows.

It was a common occurrence that over five students would be asleep in dormitories or sit under the sun for warmth due to fever during class periods. The commonest response for such students was that they had malaria or diarrhea.

In a one week observation exercise at one drugstore close to the school and inspection of records of sales of pharmaceuticals to students at another, it was discovered that 43 students bought paracetamol for headache and 38 bought chloroquine for malaria but all in less than the recommended doses. For instance, students often bought 3 or 4 tablets of chloroquine instead of 12 tablets as per recommended dose. The main determinant being the amount of money they had for medications.

Write-ups and narratives

Narratives and write-ups provided by 87 students' reiterated malaria, diarrhea, cough and flu as the most common diseases students suffer from at school. Also pharmaceuticals they frequently wrote about were various kinds or paracetamol, Fansidar, chloroquine, ampicillin and pro-cold in the treatment of the conditions.

DISCUSSION

Adolescents' perspectives suggest that infectious diseases such as malaria, diarrhea, cough, skin infections, flu and typhoid are common diseases they experience.

Furthermore, results of this study indicate that adolescents are able to tell when they are ill, what symptoms they use to diagnose their illness episodes and appropriately take steps to manage their conditions in conjunction with professional and non professional healthcare providers. The implication here is that in Nigeria, there is need to introduce and implement school based health programmes, which will integrate infectious diseases into its planning to enhance its relevance (Harzema, 1996).

The study has revealed that adolescent students self medicated and readily obtained pharmaceuticals without prior medical consultation. Students largely accessed pharmaceuticals in less than the recommended doses. The nurse and matrons administered only chloroquines, fansidar or paracetamol for malaria. Such findings are contrary to recommendations (Nosten and White, 2007) for episodes of malaria. The implication here is that apparent poor management of malaria episodes generates

and increases drug resistant strains of malaria parasites. There could also be over-use, miss-use and under-use of pharmaceuticals for common symptoms.

Findings points to high prevalence of diarrheal diseases at this school. This could be due to the school's poor hygienic conditions thereby providing opportunistic conditions for oral-faecal transmission of diarrhea causing pathogens. Better hygienic and living environments need to be ensured in schools especially those with boarding facilities. Also management of diarrheas by using preventive measures rather than antibiotics is recommended.

Conclusion

Findings where adolescents in secondary schools are able to identify diseases, including malaria, diarrhoea, cough, skin infections, flu and typhoid as diseases they commonly experience challenge the relevance and implementation of essential packages for school based health programmes in Nigeria. The introduction of sexual health education as taught subjects in secondary schools is also suggested.

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