Views Of Primary And Secondary School Teachers Of Childhood Epilepsy And Asthma

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Abstract

Epilepsy and asthma are 2 common chronic medical conditions that are seen in school-age children. Both are characterized by paroxysmal attacks that require prolonged medication and regular clinic attendance. Since teacher's attitudes and perception of chronic conditions affects student's academic performance and adjustment in the class, this study compares teachers' knowledge and attitude to these ailments.

Six hundred self-administered standardized questionnaires were given to teachers in public schools (primary and secondary) in Ilorin metropolis, the capital of Kwara State.

The response rate was 88%. Respondents were 35% males and 65% females with age range of 20 to 67 years (mean of 35.±8.9). All the teachers had been educated for 12years, but there health educational knowledge about epilepsy and asthma appear inadequate. However, responses were more in favor of asthma than epilepsy. About 21% and 4% of teachers associated epilepsy and asthma with insanity respectively. Forty-eight percent of participants indicated that epilepsy was contractible through saliva, compared to 13% that held same opinion of asthma (P<0.005). More teachers believe students with epilepsy have submental capacity than asthmatic (44% vs 27%). Children with epilepsy were less encouraged by teachers to play with others than those with asthma.

We conclude that the knowledge and attitude of school teachers to epilepsy and asthma differs significantly. Epileptic students are more likely to be affected by this negative attitude and biases more. It is plausible that this along with other factors might be responsible for the abysmal school performances that have been repeatedly reported amongst pupils living with epilepsy compared to other chronic illnesses.

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Key Words: Teachers-Epilepsy-Asthma-Attitude-Perception Introduction

Chronic conditions by definition are those medical ailments that "have lasted" or expected to last for more than 3 months¹. Epilepsy and asthma are 2 examples of common chronic medical conditions that are seen in school-aged children and young adults²⁻⁴. Other commonly encountered chronic conditions in this age group include diabetes mellitus, sickle cell disease, HIV/AIDS, and congenital heart diseases⁵.

Teacher's attitudes and perception of chronic conditions often have impact on the student's academic performance, peer relationship, psychosocial development and adjustment into the classroom⁶. Likewise the teachers' expectations of such pupil are influenced by their biases and personal experiences; as well as the mode of manifestation of the disease and the prevailing community opinion⁷⁻⁹. School children spend close to half of their wakeful hours in school with peers and teachers. Yet most primary and secondary school teachers are deficient of basic health educational needs of children with chronic medical conditions¹⁰. Part of the challenges that confronts children with chronic conditions includes: the unique demand of their condition, prolong and regular use of medications with clinic visitations, and dealing with potential side effects of drugs⁶.

Amongst children with chronic medical conditions, those living with epilepsy tend to have abysmal school performance and worst school impact¹¹⁻¹³. In sharp contrast those suffering from asthma have good school grades, although they are likely to have more frequent school attacks and absenteeism^{14,15}. From the views of people living with epilepsy, societal attitudes, misunderstanding and discrimination against their illness are more devastating than the effects of the seizures itself¹⁷. Therefore, in caring for people living with epilepsy holistic approach that takes into consideration psychosocial, educational improvement along with good seizure control is crucial to ensuring an independent and productive adulthood ^{12,17,18}.

Till date only few studies have been

carried out amongst teachers who relate on dayto-day basis with children living with epilepsy, while more works existed on the general populace⁸. In this study, asthma was compared with epilepsy since both are long-term ailments that are characterized by paroxysmal attacks, requires prolong use of medications, and regular clinic attendance. By comparing teachers' responses to these two chronic conditions, a good understanding of various issues that could occur in school would be better appreciated, along with possible interventional program. It is therefore justifiable to understudy schoolteachers' knowledge and attitude of these 2 chronic conditions.

Methods

Subjects

Randomly selected teachers in public schools (primary & secondary) within Ilorin metropolis participated in the studies. Multistage sampling technique was used to select the participants. Before the selection was done, lists of schools within each of the 3 local governments within Ilorin metropolis (West, East and South) was obtained from the local government educational authorities. Ten primary and 10 secondary schools were randomly selected from each local governments. From each school 10 teachers spread across the classes were selected and encouraged to participate in the study. A total of 300 teachers in primary and 300 in secondary schools gave their consent and filled the questionnaires.

Materials and data analysis

A self-administered standardized questionnaire from previous published works^{17,18} was modified and pretested. Informed verbal consent was obtained from the schools' head teacher and participants. The survey questions were divided into categories of knowledge about epilepsy, familiarity with epilepsy and attitudes towards epilepsy. A total of 525 teachers responded, giving a response rate of 88%. Epi info computer soft ware was used to analyze the data. Frequency distributions of variables were determined. Independent and dependent variables were cross tabulated to examine the association and to test the statistical significance. Statistical significance of the associations was determined with Chi-square and P value less than 0.05 was considered significant.

Results

The respondents were 202 (35%) males and 323 (65%) females. Their ages ranged from

20 to 67 years (mean \pm SD was 35.8 \pm 8.9 years). All the teachers had been educated for not less than 12 years; 81% were university graduates and 11% attended different forms post-secondary schools. Their teaching experiences varied from 1 to 40 years. A total of 324 teachers (62%) were Christians, 194 (37%) were Muslims and 1% traditionalist. Close to 71% of our respondents were married and 28% unmarried, this is further shown in Table 1.

Most of these teachers had basic health education knowledge of asthma and epilepsy, but the depth of their knowledge was of varying quality. Some of the teachers' responses to questions about knowledge of these diseases were not totally correct. Close to 25% of our respondent indicated that epilepsy was not a chronic disorder, while 23% had same opinion of asthma. When questioned on the mode of inheritances of both disorders, 46% opined that epilepsy was an inheritable diseases compared to 40% of respondents that had same opinion for asthma. Furthermore 48% of teachers indicated that epilepsy could be contracted through saliva, on the contrary only 13% had same belief of asthma (P<0.02). Although some teachers could rightly differentiate these 2 chronic medical conditions from being insane, nevertheless a greater proportion (21%) still related epilepsy with insanity compared to (4%) that linked asthma with insanity (P<0.05). When requested to indicate which of the 2 diseases was worse, greater proportion of the teachers (80%) opined that epilepsy was worse than asthma.

With regards to the teachers' attitude, 44% of them thought a pupil with epilepsy had subnormal mental capacity, while 37% viewed that such pupil will not be able to attain maximum educational potential. Contrariwise, 17% of the respondents believed asthmatic students have subnormal mental capacity and 17% thought an asthmatic child will not be able to attain maximum educational potential. While responding to question on possible aggression by students with these diseases, 52% of teachers thought a student with epilepsy is likely to be aggressive, and 50% had similar opinion of an asthmatic student (P>0.05). More teachers were likely to reject a child with epilepsy than one with asthma into their classroom (50% versus 42%) with a P value <0.05. Teachers' gender, the class they taught and religion did not influence their views to attitudinal and perceptual questions.

The proportion of teachers in this study

that indicated they have a close relative with epilepsy (3%) is significantly smaller than those with a relative with asthma (11%). Only forty-six teachers (9%) indicated that they have ever taught a student with epilepsy earlier before responding to the questionnaire. In comparison, 84 teachers (16%) had taught a pupil with asthma with P<0.05. Responses of these teachers indicated that most of them are favorably disposed to healthy students interact and play with pupils with either of these 2 diseases. But a child with epilepsy is less likely to be encouraged by more teachers (44%) than one with asthma (18%) to play with peers P<0.05. Teachers' responses are as shown in table 2.

Discussion

The goal of caring for children with chronic conditions is to make them become productive individual within the society, have self-esteem and possess adequate coping skills for their condition¹⁹. The traditional end point in managing epilepsy with antiseizure drugs is towards attaining good seizure control but this is not enough. Parents and guidance would like the issues of their wards' schooling and academic progress to be properly tackled by the attending clinician, school health workers and teachers²⁰. However, to attain improvement in the academic pursuit of such pupil; an enabling school environment is crucial, since the extent to which an educator understand the unique demand of a child with chronic medical condition often affect his or her school performance^{16,20}.

The findings from this study showed that teachers in public schools (elementary and secondary) in Ilorin have inadequate health education knowledge of epilepsy and asthma. They also have negative perceptions and attitude towards these conditions most especially epilepsy. For example 48% of teachers indicated that epilepsy was contractible through saliva and 20% associated it with insanity. This was similar to earlier reports in which epilepsy and acquired immunodeficiency syndrome were negatively perceived by teachers to have the worst impact on schooling, while asthma had the least^{1,8,21}. Majority of these respondents believed epilepsy was worse than asthma. Reports from several studies have consistently demonstrated that school teachers lack basic knowledge of epilepsy and the level of their educational attainment did not seem to have an influence on this^{10,17,18,22}. Although, most of our teachers had formal education for least 12 years,

but their knowledge of epilepsy and asthma is patchy. They will benefit from further health education and training on etiology of these disorders and how to care for children living with epilepsy.

Greater proportion of teachers indicated that a child with epilepsy was likely to be aggressive, even though there is presently no evidence to show that epilepsy is associated with aggression. Therefore such a pupil is unlikely to injure others while playing in school. About onethird of the teachers also thought a child with epilepsy will have educational difficulty and in essence unlikely to attain maximum educational potential. It was therefore not surprising that about half of the respondents would prefer not to have such student in their classrooms, a proportion that was much higher than what had been reported^{18,22}. It is unlikely that teachers' responses were influenced by previous classroom experiences, as only small proportion of them had ever taught a child with epilepsy. This observation corroborated the fear of parents that their children were likely to be rejected and isolated in schools²³. Because the perception of a child as either good or bad by teachers have significant influence on school achievement, above finding could have a long lasting effect on the student learning ability^{23,24}. From previous qualitative studies, issues raised by school teachers regarding students with epilepsy included: fear of how to respond to emergency, demand for teacher's extra time or attention by the pupil and effect of treatment on academic performance of such student¹⁹. Even though few students with epilepsy may need special attention, majority of them do not^{1,6,7}, therefore most of these claims are unfounded.

It is pertinent to note that very few respondents indicated to have ever taught a pupil with epilepsy, even though the prevalence of epilepsy in Nigeria is about 37 per1000 and most patients are below 40 years of age³. Plausible reasons for this observation might be: rarity of seizure attacks in school, or those students with epilepsy are not disclosing their illness at school to peers and teachers alike, due to stigma^{10,22,25,26}. It may also be an indirect indicator of poor school enrolment pattern of epileptic children in developing countries as ours^{10,27}.

In conclusion the result of this crosssectional survey showed that teachers in public schools in Ilorin metropolis had poor health education knowledge of epilepsy. Teachers' attitude and perception of epilepsy remain negative like in other studies^{10,17,18,25}. This might be part of the several reasons for the observed poor academic performances of pupils with epilepsy in comparison with those with asthma and healthy peers^{11,12,28}. A recent prospective study, which had compared academic performances of students with asthma and epilepsy²⁹, found that most students with epilepsy had normal academic performance at onset of first epileptic seizure. However, significant drop in academic performances was found after two years despite good seizure control. On the contrary, those with asthma maintained good academic performance at the end of that study. Plausible reasons given for the observation were side effect of antiepileptic drugs, maladjustment in school and psychosocial deraignment.

Part of the limitations of this study included the forced choice responses to questions asked and the fact that the teachers were only drawn from public schools. Nevertheless this finding is likely to reflect the view and opinion of teachers in the state. Since adequate information and education is the best tool to overcome negative influence about any condition, an inservice training and health education on common chronic conditions of school-age group is urgently required for teachers in public schools.

Table 1: Demographic and baseline data of teachers.

Character	Number	Percentages
Age		
$Mean = 35.84 \pm 8.9$		
Gender		
Male	202	38
Female	323	62
Religion		
Christian	324	62
Muslim	194	37
Traditionalist	7	1
Level of teaching		
Secondary	327	62
Primary	198	38
Marital status		
Married	372	71
Single (unmarried)	148	28
Single (married)	5	1
Educational status		
University	423	81
Polytechnic	59	11
College of education	38	7
Secondary	5	1



Figure : Comparison of teachers' knowledge of epilepsy and asthma

Fable 2: Comparison of teacher	s' attitude and familiarity	with epilepsy and asthma
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	Number (%)	X ² test	P value
Attitude			
Worse of the two diseases			
Epilepsy	420 (80%)		
Asthma	79 (15%)	449	0.0001
Indifference	7(5%)		
Cannot attain maximum educational			
capacity			
Epilepsy	170(37)	32	0.005*
Asthma	88(17)		
Have subnormal mental capacity			
Epilepsy	231(44)	30.9	0.005*
Asthma	144(27)		
Possible aggression by student			
Epilepsy	274(52)	1.12	0.29
Asthma	262(50)		
Object to have student in classroom			
Epilepsy	263(50.1)	5.46	0.02*
Asthma	223(42.3)		
Give special attention to child in class			
Epilepsy	459(87.4)	0.11	0.7
Asthma	464(88.4)		
Familiarity			
Ever taught a student with disease			
in class			
Epilepsy	46(8.8)	12.6	0.0003*
Asthma	84(16)		
Has family member with disease			
Epilepsy	18(3.4)	20.3	0.0006*
Asthma	55(10.5)		
Encourage other children to play with			
student suffering disease			
Epilepsy	293(56)	84.9	0.0007*
Asthma	428(82)		

Reference

1. McCarthy AM, Williams JK, Eidahl L. Children with chronic conditions: educators' views. J Pediatr Health Care. 1996;10:272-279.

2. Osuntokun BO, Adeuja AOG, Nottidge VA, Bademosi O, Olumide A, Ige O, *et al.* Prevalence of epilepsies in Nigeria Africans: a community-based study. Epilepsia. 1987;28:272-279.

3. Ibeh CC, Ele PU. Prevalence of bronchial asthma in adolescent in Anambra State, Nigeria. Nig. J. Int. Med. 2002;5:23-26.

4. Erhabor GE, Agbroko SO, Bamigboye P, Awopeju OF. Prevalence of asthma among university students 15-35 years of age in Obafemi Awolowo University Ile-Ife, Osun State. J Asthma. 2006;43:161-164.

5. <u>Falade AG</u>, <u>Olawuyi JF</u>, <u>Osinusi K</u>, <u>Onadeko BO</u>. Prevalence and severity of symptoms of asthma, allergic rhinoconjunctivitis, and atopic eczema in 6- to 7-year-old Nigerian primary school children: the international study of asthma and allergies in childhood. <u>Med Princ</u> <u>Pract.</u> 2004;13:20-25.

6. Perrin EC, Newacheck P, Pless IB, Drotar D, Gortmaker SL, Leventhal J, *et al.* Issues involved in the definition and classification of chronic health conditions. Pedriatrics. 1993;91:787-793.

7. Johnson BB, Fowler MG. Teacher needs assessment for the educational management of children with chronic illnesses, J Sch Health. 1988;58:232-377.

8. Holdsworth L, Whitmore K. A study of children with epilepsy attending ordinary schools, II: information and attitudes held by their teachers. Dev Med Child Neurol. 1974;16:759-765.

9. Baumann RJ, Wilson JF, Wiese HJ. Kentuckians' attitudes towards children with epilepsy. Epilepsia. 1995;36:1003-1008.

10. Sanya EO, Salami TAT, Goodman OO, Buhari OIN, Araoye MO. Perception and attitude to epilepsy among teachers in primary, secondary and tertiary educational institutions in middle belt Nigeria. Trop Doct. 2005;35:153-156.

11. Mitchell W, lee H, Chavez JM, Guzman BL. Academic underachievement in children with epilepsy. J Child Neurol. 1991;6:65-72.

12. Austin JK, Huberty TJ, Huster GA, Dunn DW. Academic achievements in children with epilepsy and asthma. Dev Med Child Neurol. 1998;40:248-255.

13. Bourgeois BFD, Prensky AL, Palkes HS, Talent BK, Busch SG. Intelligence in epilepsy: a prospective study in children. Ann Neurol. 1983;14:248-255.

14. Adewuya AO, Oseni SB, Okeniyi JA. School

performances of Nigerian adolescents with epilepsy. Epilepsia. 2006;47:415-420.

15. Gutstadt LB, Gillette JW, Mrazek DA, Fukuhara JT, LaBrecque JF, Strunk RC. Determinants of school performance in children with chronic asthma. Am J Dis Child. 1989;143:471-475.

16. Hanai Toshio. Quality of life in children with epilepsy. Epilepsia. 1996;37:28–32.

17. Aydin K, YIldiz H. Teachers' perception in central Turkey concerning epilepsy and asthma and the short-time effect of a brief education on the perception of epilepsy. Epilepsy and Behavior. 2007;10:286-290.

18. Hsieh LP, Chiou HH. Comparison of epilepsy and asthma perception among preschool teachers in Taiwan. Epilepsia. 2000;42:647-650.

19. Henriksen O. Education and epilepsy: assessment and remediation. Epilepsia. 1985;106:683-687.

20. Olson AL, Seidler AB, Goodman D, Gaekic S, Nordren R. School professionals' perceptions about the impact of chronic illness in the classroom. Arch Pediatr Med. 2004;158:53-59.

21. <u>Awaritefe A</u>: Epilepsy: the myth of a contagious disease. <u>Cult Med Psychiatry.</u> 1989;13:449-456.

22. Mielke J, Adamolekun B, Ball D. Knowledge and attitude of teachers towards epilepsy in Zimbabwe. Acta Neurol Scand. 1997;96:133-137.

23. Gonzalez RAM, Blanco NR. Parents and children academic values and social achievement. Int J Edu Res. 1991;15:163-169.

24. Bevis M, Taylor B. What do schoolteachers know about asthma? Arch Dis Child. 1990;65:622-625.

25. Ojinnaka NC. Teachers' perception of epilepsy in Nigeria: a community-based study. Seizure. 2002;11:386-391.

26. Sanya EO, Olarinoye JK, Wahab KW, Mustapha Ojo OO. Appraisal of perception and attitude of undergraduate students to epilepsy. J Health Sci. 2008;15:66-70.

27. Shorvon SD. Epilepsy in developing countries: a review of epidemiological, sociocultural, and treatment aspects. Epilepsia 1988;29:S36-S54.

28. Huberty TJ, Austin JK, Risinger MW, McNeils AM. Relationship of selected seizure variables in children with epilepsy to performance on school-administered achievement tests J Epilepsy 1992;5:10-16.

29. McNelis AM, Dunn DW, Johnson CS, Austin JK, Perkins SM. Academic performance in children with new-onset seizures and asthma: a