

Schoolteacher's knowledge, attitudes, and practice toward student with epilepsy in Taif, Saudi Arabia: Cross-sectional study

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ABSTRACT

Background: Globally, teachers have misconceptions about epilepsy and its management. Little is known about Saudi Teachers' knowledge about epilepsy in Taif City. **Method:** Descriptive questionnaire-based cross-sectional survey of a sample of schoolteachers in Taif Governate. **Results:** The study included ($n = 420$) schoolteachers. All heard about epilepsy and ($n = 116$, 27.6%) knew about epilepsy from an afflicted individual, and ($n = 102$, 24.3%) from social media outlets. Most teachers believed that an epileptic fit constitutes seizures ($n = 370$, 88.1%). Some ($n = 330$, 78.6%) were not satisfied with their knowledge level. Attitudes were positively associated with years of experience, but, generally, were only modest with 50.2% fearful of having an epileptic child in class. The mean practice score was 6.9 (out of 15). Practice was improved by having a pupil with epilepsy in class. **Discussion and Conclusion:** Schoolteachers in Taif showed excellent crude knowledge about epilepsy. However, knowledge of crucial details of the disorder were poor. This could be due to reliance on social media for information. There was high level of insight among schoolteachers regarding their sub-optimum knowledge levels. Knowledge was much better among experienced schoolteachers. Witnessing an epileptic fit improved knowledge. Teachers' attitudes toward epilepsy were negative, likely because of significant epilepsy-related stigma. Years of experience were significantly associated with increased attitude score. Schoolteachers' actual practice in handling epilepsy cases was below-expectation. There is pressing need for high-quality workshops to address knowledge and practice deficits.

Keywords: Attitudes, epilepsy, knowledge, practice, Saudi Arabia, teachers

Introduction

Epilepsy is a prevalent neurological disorder in schoolchildren age with high incidence.^[1] Globally, it affects over 50 million persons about 80% of them are from developing countries,^[2] and in Saudi Arabia its prevalence was estimated at 6.54/1000 of the population.^[3] Teachers' knowledge about epilepsy was shown to be quite insufficient and their misconceptions were

wide-ranging about nature and management of epilepsy, and their training is inadequate.^[4] Sadly, a 16-year-old Kuwaiti schoolboy passed away in the school after an epileptic seizure as a result of insufficient first-aid seizure training among teachers in 2008.^[5] Epilepsy is often linked erroneously to contamination and supernatural causes as evils and spirits, leading to social negative attitudes, false beliefs and discrimination against children and adults with epilepsy.^[6] Most Saudi people believe the cause of epilepsy is Jinn possession.^[7] Hence, many epileptic patients consult traditional healers and rely on complementary and alternative therapies.^[8] Epilepsy is surrounded by prejudice and social stigma whose effect on

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Received: 09-10-2020

Revised: 03-12-2020

Accepted: 14-01-2021

Published: 30-07-2021

Access this article online

Quick Response Code:



Website:
www.jfmipc.com

DOI:
10.4103/jfmipc.jfmipc_2087_20

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How to cite this article: Alzhrani SH, AlSufyani MH, Abdullah RI, Almalki S. Schoolteacher's knowledge, attitudes, and practice toward student with epilepsy in Taif, Saudi Arabia: Cross-sectional study. J Family Med Prim Care 2021;10:2668-78.

children exceeds the effect of epilepsy itself.^[9] Stigma leads to families preventing their children from attending school or sports and social activities.^[10,11] Furthermore, stigma causes 15% of teachers' refusal to admit students with epilepsy in classes.^[4] Stigmatization could be reduced by improving social awareness, attitude and knowledge regarding epilepsy.^[12]

Recent studies indicated that surveys levels of awareness toward epilepsy are comparable across Asian and developing nations, but vastly underperform knowledge and attitude levels in the West and developed countries.^[13] A latest Saudi study the ability of teachers to effectively provide first aid for an epileptic fit was estimated at 31%, indicative of a need for considerable improvement in training.^[2]

The current study aims to explore teachers' knowledge, attitude, and practices regarding epilepsy in Taif, Saudi Arabia.

Methodology

Study design: This study was a cross-sectional questionnaire-based descriptive study. The study included a randomized sample of female schoolteachers from public primary, intermediate and secondary schools in Taif Governate. The survey was conducted between January 2018 and December 2019 in a sample of randomly selected schools in Taif, of Saudi Arabia. We designed a questionnaire with a focus on socio-demographic factors and several questions to assess the knowledge, attitude, and practices on epilepsy and its management. The questionnaire included items that explored:

1. Knowledge of the nature of epilepsy (contagious? Caused by demonic spirits?).
2. Experience of an epileptic fit/pupil in class.
3. Attitudes toward epilepsy.
4. Knowledge of emergency treatment of epileptic seizures.

Setting: The study was carried out on a random sample of schoolteachers selected from the four educational administrations in Taif. Ethical approval was obtained on 15/10/2019 from the Research and Ethics Committee in Alhada Armed Forces Hospitals in Taif Region in Saudi Arabia.

Data analysis: Questionnaire data was entered onto excel workbook and analysed by R-Statistical Software version 3.4.1. Categorical data (such as educational level, type of school taught and if they heard of epilepsy) were summarised using proportions and visualized using tables and bar-graphs. The adjusted effect of categorical variables on the outcome variables (knowledge, attitude and practice scores) were assessed using multiple generalized linear regression modelling. The level of significance was set at $P \leq 0.05$.

Results

The study took place between January 2018 and December 2019 in a randomly selected public schools in Taif, Saudi Arabia.

The total number of participants included in the study was ($n = 420$) female schoolteachers. See Table 1 for detailed account

of participants' characteristics. The mean age for the participating teachers was 37.5 years (Standard Deviation SD = 4.96 years). The range for age was between 25 and 56 years. The median age was 37 years (i.e. 50% of the sample was over 37 years old in terms of age).

The average experience was 11.3 years of teaching (SD = 5.24 years), ranging between 2- and 28-years' experience. The median experience was 10 years (i.e. half of the participating teachers practiced teaching for over 10 years).

The sheer majority of the teachers were university graduates ($n = 364$, 86.7%), followed by Higher Education graduates ($n = 12$, 2.9%), and 'other degrees' ($n = 44$, 10.5%).

Most of our sample of teachers taught in secondary schools ($n = 304$, 72.4%), with ($n = 116$, 27.6%) from intermediate schools.

Almost ($n = 420$, 100%) heard about epilepsy. The distribution of knowledge source about epilepsy was even among the teachers. An ($n = 116$, 27.6%) knew about epilepsy from an afflicted individual, ($n = 1001$, 24%) from Radio, TV, or press, further ($n = 101$, 24%) from a relative or friend, and ($n = 102$, 24.3%) from social media outlets.

Most teachers believed that an epileptic fit constitutes seizures ($n = 370$, 88.1%), whereas ($n = 42$, 10%) believed that it constitutes loss of consciousness and further ($n = 8$, 1.9%) believed that it can present with transient behavioural changes.

Again, the majority ($n = 320$, 76.2%) considered epilepsy a transient neurological disorder. Some ($n = 32$, 7.6%) felt it was a hereditary disorder. Only ($n = 40$, 9.5%) considered it a psychiatric illness, and ($n = 16$, 3.8%) believed that epilepsy is demonic spirits and ($n = 12$, 2.9%) did not know what epilepsy is.

The absolute majority ($n = 398$, 94.8%) were clear that epilepsy was not a contagious disease, but ($n = 6$, 1.4%) felt it was. Only ($n = 16$, 3.8%) declared they did not know in epilepsy was contagious.

Most teachers ($n = 358$, 85.2%) did not think that epilepsy is usually accompanied by mental retardation, but ($n = 16$, 3.8%) felt it is, and ($n = 46$, 11%) did not know. Also, ($n = 322$, 76.7%) of our sample were confident that epilepsy was a treatable condition, whereas ($n = 18$, 4.3%) did not think so, and ($n = 80$, 19%) did not know. Furthermore, ($n = 374$, 89%) believed that patients with epilepsy could get married, ($n = 6$, 1.4%) did not believe so, and ($n = 40$, 9.5%) did not know. Reassuringly, ($n = 334$, 79.5%) were confident that epileptic patients can produce offspring, but ($n = 6$, 1.4%) were not, and ($n = 80$, 19%) did not know. Only ($n = 166$, 39.5%) had an epileptic pupil in class, and ($n = 187$, 44.5%) witnessed an epileptic fit in the school. In terms of feeling fearful of the presence of an epileptic pupil in class, ($n = 211$, 50.2%) were fearful, ($n = 209$, 89.8%) were not. As to treating a pupil with epilepsy exactly as healthy pupils, ($n = 223$, 53.1%) felt that, with ($n = 197$, 46.9%) did

not. ($n = 368, 87.6\%$) were happy for epileptic pupils to attend mainstream education, with ($n = 14, 3.3\%$) were not, and ($n = 38, 9\%$) did not know. In terms of handling epileptic children in class, the majority ($n = 314, 74.8\%$) indicated that they will treat him as any child with a chronic condition, ($n = 53, 12.6\%$) said they will sympathise and avoid the child, and ($n = 53, 12.6\%$) did not know how to handle them. ($n = 387, 92.1\%$) did not think that epileptic children should be segregated from other children in class, only ($n = 33, 7.9\%$) thought so. And ($n = 416, 99\%$) did not think that epileptic children were dangerous, only ($n = 33, 7.9\%$) thought so. Some ($n = 268, 63.8\%$) reported ability to apply first aid procedures if needed for epileptic emergency. However, only ($n = 63, 15\%$) were willing to administer medicines in case of emergency.

Only ($n = 244, 58.1\%$) felt that medical drugs are the treatment for epilepsy, with ($n = 136, 32.4\%$) opted for Ruqia, and ($n = 34, 8.1\%$) for traditional healing, and ($n = 6, 1.4\%$) for cauterization.

Only ($n = 150, 35.7\%$) were self-declared knowledgeable of first aid procedures. Of those, ($n = 83, 19.8\%$) would position the epileptic pupil to the side and ($n = 10, 2.4\%$) will position him face up. Further ($n = 41, 9.8\%$) will open the airways, and ($n = 17, 4\%$) will commence artificial breathing, and ($n = 111, 26.4\%$) will call ambulance, and ($n = 21, 5\%$) will think of administering strong smell to the patient. ($n = 83, 19.8\%$) will place a mouth gauge to protect the tongue and ($n = 26, 6.2\%$) will pull the tongue out. ($n = 77, 18.3\%$) will clear near-by environment. Further ($n = 78, 18.6\%$) will protect the head, and ($n = 44, 10.5\%$) will hold the four limbs in place. None will do nothing.

The ambulance number memorized by most teachers was 997 (by $n = 363, 86.4\%$), followed by 996 (by $n = 29, 6.9\%$), and 998 (by $n = 20, 4.8\%$), lastly 999 (by $n = 8, 1.9\%$). In Saudi Arabia, Police - 999; Ambulance - 997; Fire - 998; Traffic police - 993.

Only ($n = 90, 21.4\%$) were satisfied with their knowledge about epilepsy, and ($n = 330, 78.6\%$) were not.

Inferential statistics

We set to evaluate the effect of background factors (namely; age, years of teaching experience, qualifications obtained, and school stage taught) on the three parameters of interest to the current survey (namely; knowledge, attitude, and practice in terms of epilepsy in school children).

Knowledge

We summed up the scores of the nine knowledge-related questions in our survey to come up with a unified measure for knowledge among our participants. The higher the knowledge score the better the knowledge level.

The mean knowledge score among our participants was 7.0 (out of 8), ranging between 3 and 8. The median score was 7.0 (out of 8). The mean score among secondary schoolteachers was 6.98 and for intermediate schoolteachers was 6.95, whereas the mean for university graduates was 6.92 and for higher education graduates was 7.67 and for others was 7.18 (see Figures 1 and 2).

We ran multiple linear regression modelling to evaluate the effects of all background variables on knowledge score [See Table 2]. Years of experience were significantly

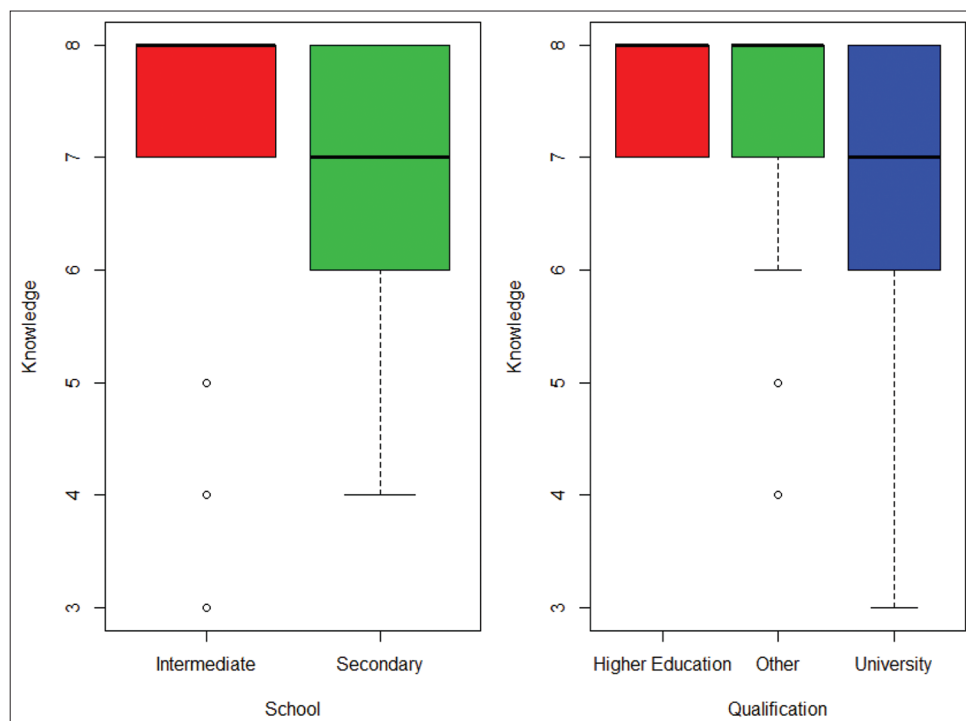


Figure 1: Shows the distribution of knowledge scores broken up by qualification and school type

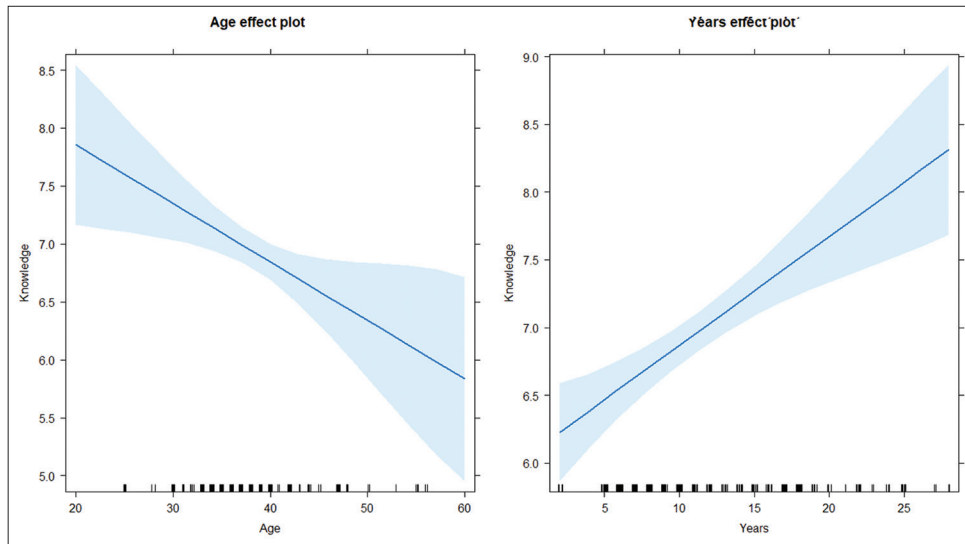


Figure 2: Shows the positive association between experience years and knowledge in contrast to the negative association between age and knowledge

associated with increased knowledge score (one year increase in experience was associated with average increase in knowledge score by 0.132, $P < 0.000001$), whereas age was significantly associated with reduced knowledge score (one year increase in age meant average reduction of knowledge by 0,088, $P = 0.0000486$). Similarly, a university graduate underperformed higher education graduate in terms of knowledge by average of 0.818 units ($P = 0.02738$). And a secondary schoolteacher exceeded average intermediate schoolteacher by 0.403 units ($P = 0.00643$).

Attitude

We summed up the scores of the eight attitude-related questions in our survey in order to come up with a unified measure for attitude among our participants. The higher the score the better the attitude level.

The mean attitude score was 5.4 (out of 8), ranging between 1 and 8. The median score was 5.0 (of 8). The mean attitude score for teachers of secondary schools was 5.32, compared to mean score for intermediate schools' teachers of 5.43. The mean attitude score for university graduates was 5.33, compared to a mean of 5.50 for both higher certificate and other graduates. See Figures 3 and 4.

The results of multiple linear regression modelling gave a clear picture for the effects of all background variables on attitude score. Years of experience were significantly associated with increased attitude score (one year increase in experience was associated with average increase in attitude score by 0.126, $P < 0.000001$), whereas age was significantly associated with reduced attitude score (one year increase in age meant average reduction of attitude score by 0.130, $P < 0.000001$). Qualifications and school type were not associated significantly with change in attitudes. See Table 3.

Table 1: Background characteristics of the participants

Characteristic	Mean (SD)/Count (%)
Age	37.5 (4.96)
Years of experience	11.3 (5.24)
Qualification	
University	364 (86.7)
Higher Education	12 (2.9)
Other	44 (10.5)
School type	
Secondary	304 (72.4)
Intermediate	116 (27.6)

Table 2: Effect of background factors on knowledge score

	Estimate	SE	t	P
Age	-0.08814	0.02147	-4.106	0.0000486***
Years	0.13192	0.02180	6.052	<0.0000001***
Qualification Other	0.16899	0.42410	0.398	0.69049
Qualification University	-0.81760	0.36931	-2.214	0.02738*
Teaching Secondary	0.40322	0.14723	2.739	0.00643**

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: Effect of background factors on attitude score

	Estimate	SE	t	P
Age	-0.12952	0.02413	-5.367	0.000000134***
Years	0.12608	0.02451	5.145	0.000000414***
Qualification Other	0.76975	0.47680	1.614	0.107
Qualification University	-0.05127	0.41520	-0.123	0.902
Teaching Secondary	0.18761	0.16553	1.133	0.258

*** $p < 0.001$

Practice

We summed up the scores of the fifteen practice-related questions in our survey in order to come up with a unified measure for practice among our participants. The higher the score the better the practice level.

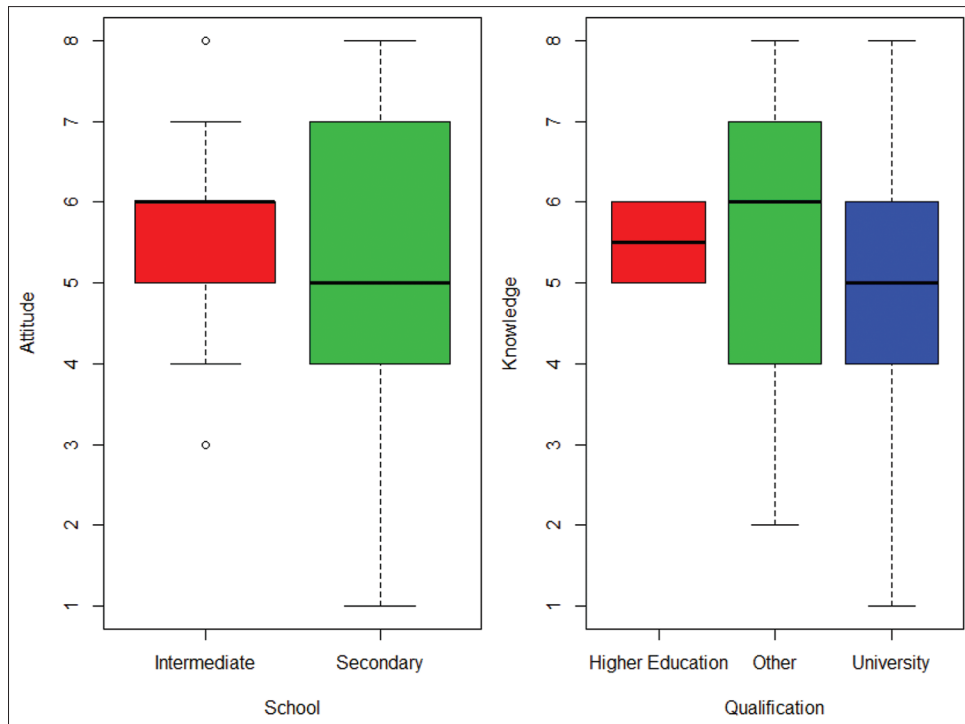


Figure 3: Shows the distribution of attitude scores broken up by qualification and school type

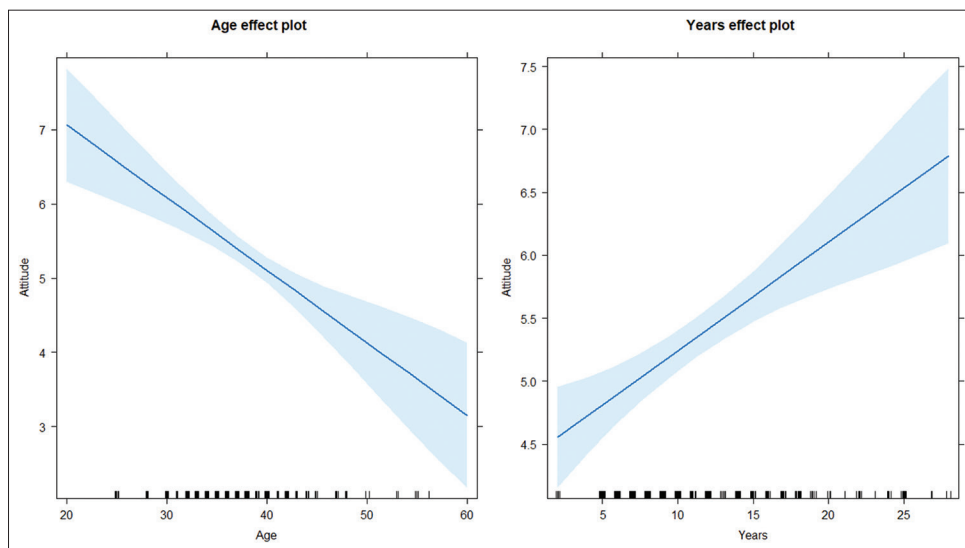


Figure 4: Shows the positive association between experience years and attitudes in contrast to the negative association between age and attitudes

Table 4: Effect of background factors on practice score				
	Estimate	SE	t	P
Age	-0.05253	0.03993	-1.315	0.189
Years	0.03375	0.04055	0.0832	0.406
Qualification Other	0.65069	0.78890	0.825	0.410
Qualification University	-0.23310	0.68699	-0.339	0.735
Teaching Secondary	0.44720	0.27388	1.633	0.103

The mean practice score was 6.9 (out of 15), ranging between 4 and 13, the median practice score was 6.0 (out of 15).

The mean practice score for teachers of secondary schools was 6.94, compared to mean score for intermediate schools’ teachers of 6.93. The mean practice score for university graduates was 6.78, compared to a mean of 7.00 for higher certificate and 7.41 for other graduates. See Figures 5 and 6.

The results of multiple linear regression modelling gave a better picture for the effects of all background variables on practice score. None of the background factors exerted any significant impact on practice scores. See Table 4.

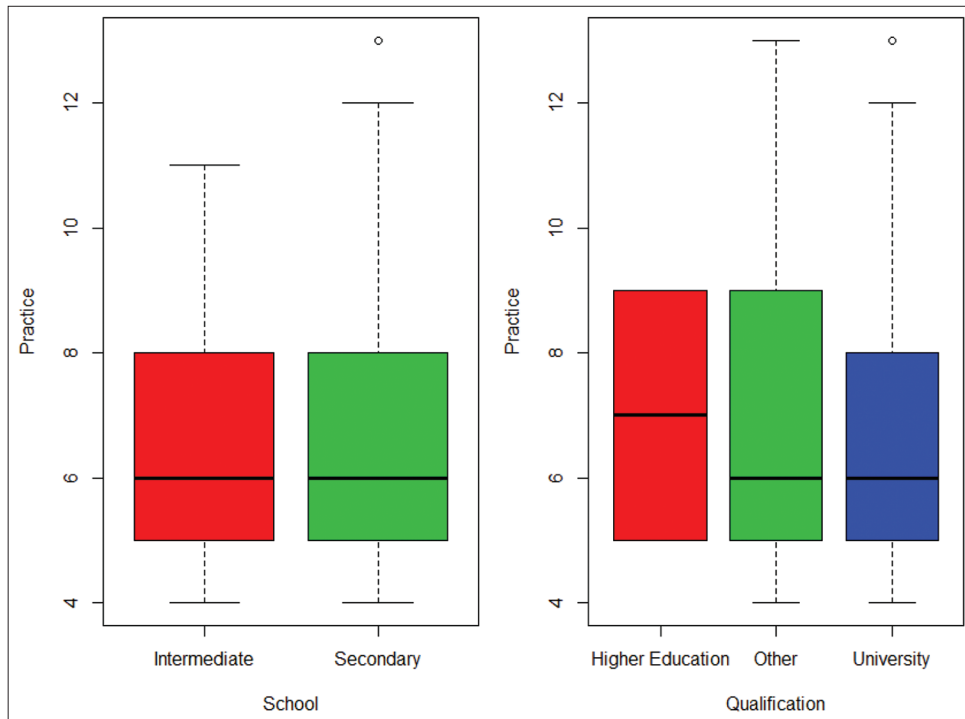


Figure 5: Shows the distribution of attitude scores broken up by qualification and school type

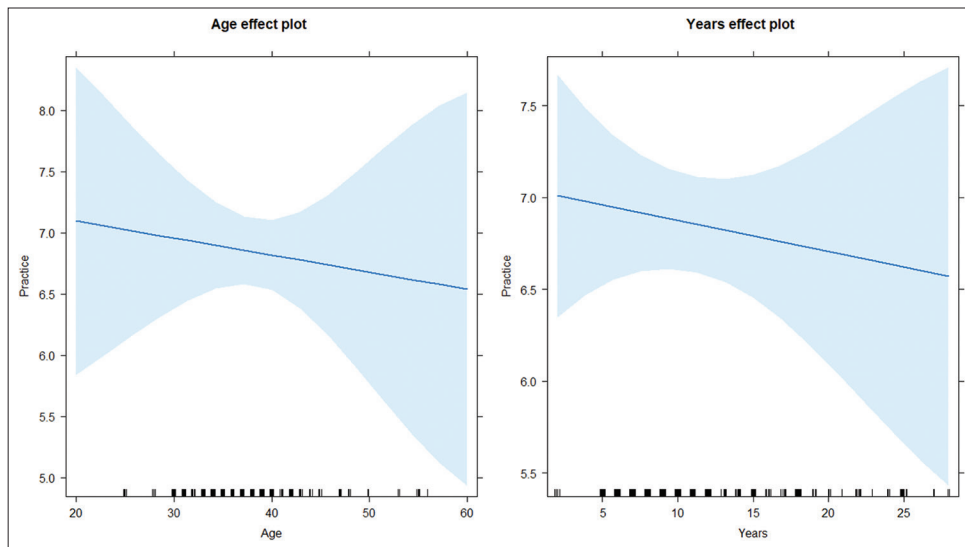


Figure 6: Shows the non-significant association between age and year of experience with practice score

Effect of witnessing epileptic emergency and having an epileptic pupil in class

These varied across the knowledge, attitude, and practice sub-scores. See Table 5 and Figures 7, 8, and 9.

Discussion

The results of our current survey confirm that schoolteachers in Taif showed excellent crude knowledge about epilepsy. As expected from highly skilled professional individuals, all our participants heard about epilepsy and expressed familiarity with the condition. This crude familiarity with epilepsy as a prevalent ailment was

reported across a range of studies from the Arabic-speaking region^[14,15] and further afield, across the globe.^[16-18] However, in our sample of Saudi female schoolteachers, knowledge of crucial details of the disorder were sub-optimum. Many still believed in demonic spirits and traditional healing methods, even among enlightened schoolteachers' community. Such primitive culture-bound erroneous misconceptions about epilepsy were long-gone in many developed parts of the world.^[19] Unfortunately, teachers, and general public alike, do believe in demonic possession as direct cause for epilepsy as found in a chain of very recent surveys.^[7,20] This deficient knowledge about epilepsy among schoolteachers was a common finding across research nationally^[21] and internationally.^[5]

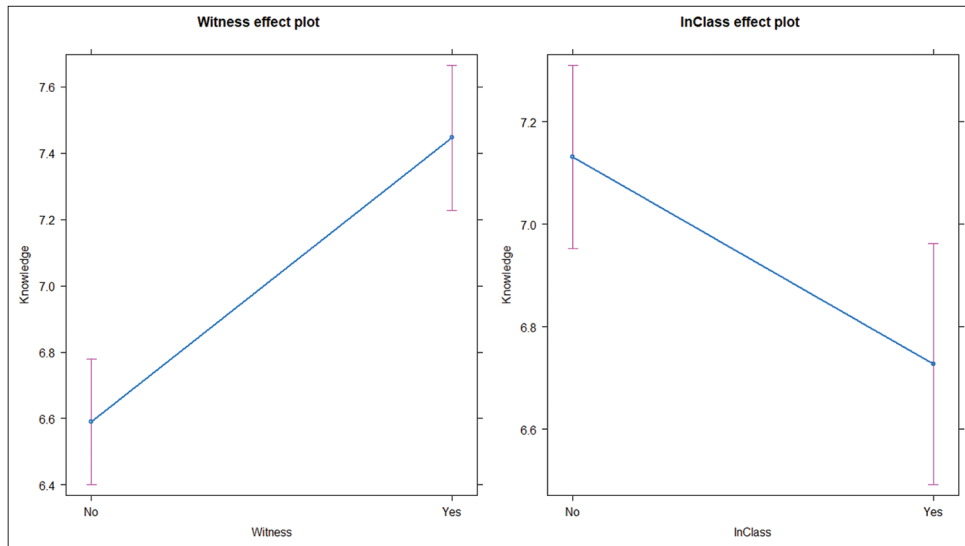


Figure 7: Shows the significant positive association between witnessing epileptic emergency and knowledge score. It also shows the significant negative association between having epileptic child in class and knowledge score

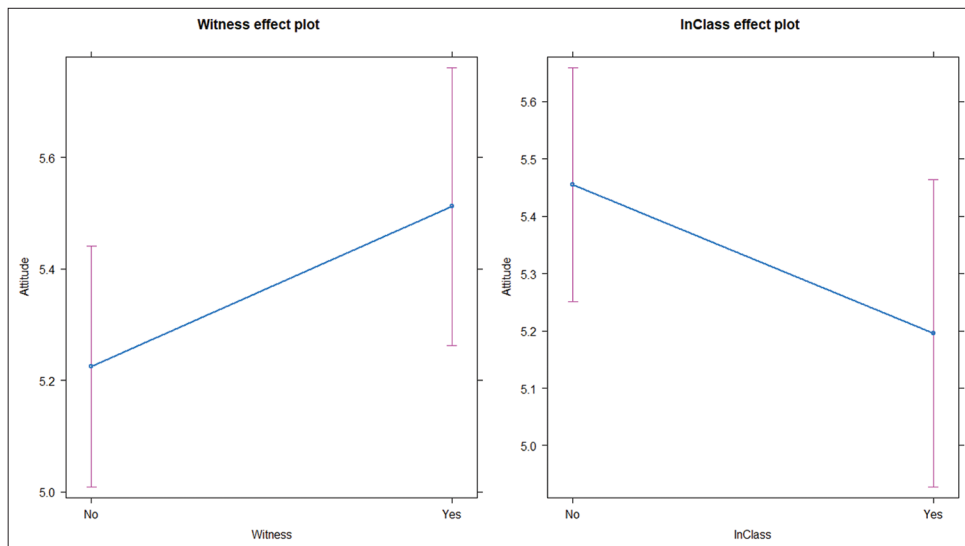


Figure 8: shows the non-significant positive association between witnessing epileptic emergency and attitude score. It also shows the non-significant negative association between having epileptic child in class and attitude score

The reason for such discrepancy between overall knowledge and detailed knowledge could be related to the declared sources of knowledge about epilepsy. Word-of-mouth from patients and relatives were dominant, but teachers also acquired knowledge about epilepsy from the press and, as quite prevalent nowadays, from social media. Information about epilepsy in social media have exploded in recent years. A recent survey^[22] found over three million users providing information about epilepsy on public platforms in Facebook and Twitter with difficulty ascertaining the quality of such information. Nowadays, social media provides social support to epilepsy patients in addition to condition-related facts.^[23] Information available on the internet about epilepsy were far from adequate, particularly in Arabic websites. They tended to be plagiarized with no way to access its authors or original resources.^[24]

This highlights that professional training workshops are lagging as impactful knowledge source for schoolteachers. Such training workshops have established positive effect in correcting misconceptions and increasing teachers' knowledge and confidence in managing epileptic seizures.^[25] However, this would incur substantial costs that could be prohibitive from dunning such training workshops. Indeed, even school-based nursing staff struggle to get such necessary training^[26]! This is reflected in low numbers of teachers who underwent proper first aid training.^[27] Only a minority of schoolteachers had Basic Life Support training.^[28] One proposition to reduce the costs of schoolteachers' training was to involve medical students in far-reaching campaigns to deliver necessary training workshops to schools.^[29] This could certainly be piloted in Saudi Arabia as it was successful elsewhere.^[30]

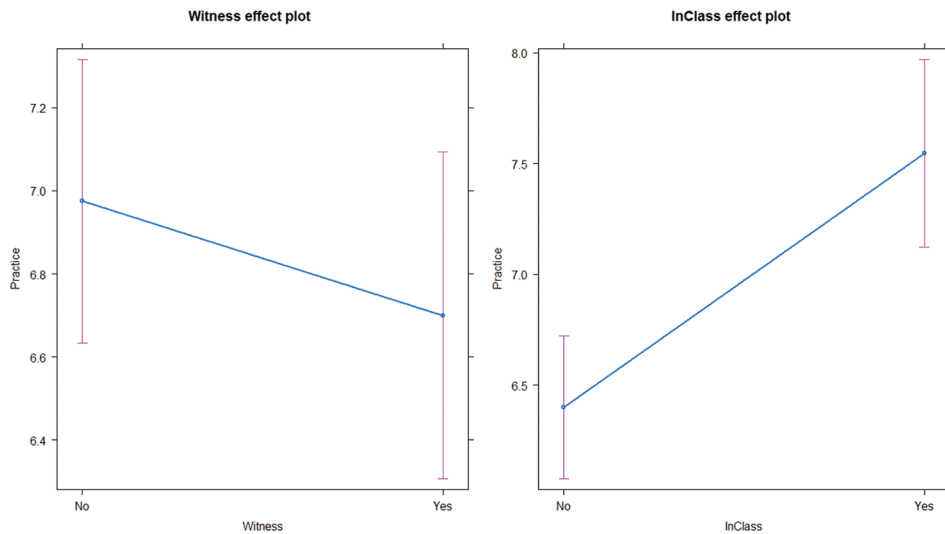


Figure 9: shows the non-significant negative association between witnessing epileptic emergency and practice score. It also shows the significant positive association between having epileptic child in class and practice score

Parameter	Effect	Estimate	SE	t	P
Knowledge	Witnessing epileptic fit	0.85668	0.16661	5.142	0.000000419***
	Having epileptic pupil	-0.40431	0.16937	-2.387	0.0174*
Attitude	Witnessing epileptic fit	0.28685	0.19024	1.508	0.132
	Having epileptic pupil	-0.25925	0.19339	-1.341	0.181
Practice	Witnessing epileptic fit	-0.2754	0.3002	-0.917	0.359582
	Having epileptic pupil	1.1481	0.3052	3.761	0.000193***

*: significant at 0.05 level, **: significant at 0.01 level, ***: significant at 0.001 level

A reassuring finding from our survey is the high level of insight among schoolteachers regarding their sub-optimum knowledge levels. This was seen before as only 17% of the schoolteachers interviewed in Jeddah were satisfied with their level of knowledge about epilepsy.^[31]

One interesting finding from the current investigation is that knowledge was much better among experienced schoolteachers and those teaching secondary schools. The seniority of a teacher was found in many studies to be associated with increased knowledge and better attitudes.^[5] This could reflect their real-life handling of epileptic children during their extended years of teaching and the fact that they may encounter more schoolchildren with the condition in secondary schools.

Age of the teacher and university certificate did not help improve knowledge levels among our sample. Although the results agree with the finding that trainee teachers are less knowledgeable than their senior counterparts,^[33] it clearly contradicts the results found by Abdulhamail *et al.* [2014].^[32] It could be argued that we focused on experience years in our study rather than the actual age of the responding teacher. The result of negative impact for age and university education on knowledge about epilepsy could be reflective of poor knowledge about epilepsy among the general Saudi public and university students.

Indeed, surveys carried out among university students revealed many inaccuracies in their epilepsy-related knowledge.^[34] A considerable chunk of Arabic-speaking university students declared that evil spirit is the cause of epileptic fits.^[35] Also, it could be hypothesized that undergraduate curriculum for trainee teachers contain little or no information about epilepsy and common medical conditions. Such deficit requires immediate action for educational authorities.

Witnessing an epileptic fit improved knowledge scores tremendously but having an actual child in class with epilepsy did not. Clearly, encountering an epileptic emergency motivates the teacher to learn more. It is difficult to explain why teaching a child with epilepsy has such negative impact on knowledge. This may be due to instilling fears and/or denial about the disorder, specifically if it was well-controlled by medications. Figures indicate that, globally, 8 out of every 1000 schoolchildren have epilepsy and 6 out of 1000 will have active symptoms.^[36] National surveys in Saudi Arabia suggest prevalence of up to 55 per 1000 schoolchildren for epilepsy.^[37]

Indeed, very unwell epileptic children will likely not attend school^[38] [Fleming *et al.*, 2019], so we can assume that schoolteachers would have to deal mostly with the moderate to mild spectrum of epileptic symptomatology. It is established that as schoolchildren pass from primary to secondary schooling, their

quality of life drop substantially.^[39] This poses extra-burden on teachers when dealing with children with epilepsy in their classes.

In terms of attitudinal dimensions of our current study, similar picture emerged. Attitudes toward epilepsy continue to be of negative quality and teachers continue to have erroneous beliefs about the chronic neurological condition.^[40] This is consistent with global research findings that teachers often hold negative attitudes toward epileptic children, particularly when it comes to physical education and sport.^[22] Stigma and discrimination play a substantial negative impact on shaping public and teachers' attitudes toward epilepsy and hinder informed-knowledge and correct practices.^[41] Years of experience were significantly associated with increased attitude score (exactly mirroring the results uncovered by regional surveys^[5]), but age was significantly associated with reduced attitude score. Clearly a similar explanation may be warranted. Dealing more with epileptic children may soften the overall hard public attitudes.^[42,43] However, that was not corroborated with our finding that witnessing an epileptic fit or handing an epileptic child in class does not improve attitudes of the teachers. It could be thought of as that teachers with substantial experience would have to tolerate dealing with many emergencies and handling higher number of unwell children. Research has shown that teachers were more susceptible for burnout if they felt low self-efficacy (as in facing an epileptic emergency in class) in the face of high job demands (as in handling a severely epileptic pupil in class^[44]). Clearly, the psychological make-up that promotes longer careers in teaching could come into play.

With regards to schoolteachers' actual practice in handling epilepsy cases within the realm of their schools, the results were below-expectation. This worrying finding was reproduced in international surveys that teachers' knowledge was extremely limited when it comes to dealing with epileptic emergencies.^[22] In a survey carried out in Riyadh, just over a quarter of the teachers were prepared to handle epileptic emergencies.^[2] A range of misconceptions were revealed in our current study of Taif-based schoolteachers. This is consistent with international research findings.^[45] Although none of the background factors were impactful on overall practice level, having a child with epilepsy led to considerable improvement in practice, but witnessing an epileptic fit led to the reverse. Only 4% of participants will commence artificial breathing in epileptic emergency, and only 26.4% will think of calling ambulance, bearing in mind that only (86.4%) knew the correct number for Saudi ambulance services.

The current study has many strengths. The sample size was large and was based on robust mathematical formula. We used a validated structured tool to enumerate attitudes, knowledge, and practice of schoolteachers toward epilepsy. The response rate was substantial, and the schools chosen were representative of the Taif area. However, several limitations must be acknowledged. The cross-sectional one-off design does not allow for external generalizability of the attained results. Also, social desirability bias^[46] could have affected the responses of teachers to the questionnaire.

Future research should be of longitudinal design to examine the trend of knowledge, attitude, and practice in relation to epilepsy over long periods of time. There is almost a lack of qualitative research and further studies should adopt thematic analysis^[47] and triangulation to examine in-depth teachers' beliefs in Saudi Arabia regarding epilepsy. There is pressing need for effective interventions that can improve knowledge, soften attitudes, and correct current practices in relation to epilepsy. Therefore, research should evaluate such interventions in a robust methodological manner.

In summary, examination of epilepsy-related knowledge of schoolteachers showed good crude knowledge particularly among senior staff but revealed poor knowledge of crucial details. Teachers were aware their sub-optimum knowledge. Their attitudes and practices toward epilepsy were negative, likely because of significant epilepsy-related stigma.

Primary care physicians need to be aware of the breadth of negative attitudes held by teachers towards epilepsy and their negative practices and poor knowledge. This should help in designing targeted health educational material that can be delivered in schools to help dissipate epilepsy-related stigma and improve teachers' knowledge about this disorder.

Conclusion and Recommendations

Public health campaigns should target schools to improve schoolteachers' knowledge about epilepsy. Research into improving teachers' attitudes and practices should be longitudinal and large-scale. Research into teachers' attitudes, knowledge and practices should incorporate qualitative methodology and thematic analysis approaches. Facts about epilepsy and other common medical disorders should be incorporated in university curriculum for education students and should also be an integral part of teacher training. Information campaigns about epilepsy should be innovative in dispensing accurate information through social media and state-sponsored press. Research on attitudes, beliefs, and knowledge should also focus on undergraduate university students in education to facilitate development of effective interventions to address expected gaps before their graduation.

Acknowledgements

The authors wish to acknowledge the leadership teams of the health centers that authorized data collection work of this study to be carried at their premises. Authors are also deeply indebted to every patient that took the time to complete the questionnaire associated with this study.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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