

ORIGINAL ARTICLES

Knowledge and attitude towards epilepsy among students of economics in Herat, Afghanistan

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Abstract

Objective: We conducted a study on knowledge and attitude towards epilepsy in Afghanistan, where there is no previous report, where Islam coexist with shamanistic concepts derived from earlier beliefs and practices. **Methods:** A self-administered questionnaire consisting of 19 questions and 72 items, based on questions used in previous studies was distributed to students of economics at Herat University. **Results:** Of 515 returned questionnaires, 243 were analysed after exclusion of the insufficiently completed questionnaires. Fewer respondents in our survey than in others reported to ever heard or read of epilepsy. Spirit possession as a cause for epilepsy was held by less than 10% of our respondents. Students who marked at least one item that indicated that they viewed Islamic beliefs positively (i.e. Curse from God as a cause of epilepsy, would pray when witnessing a seizure, would recommend to see an imam to a relative with epilepsy) were reluctant to share their room with a person with epilepsy (54.3% vs. 35.4%; $p < 0.001$) or marry a person with epilepsy (61.2% vs. 37.0%; $p < 0.001$). They were more pessimistic concerning the effectiveness of treatment of epilepsy. Nevertheless they would more often recommend a relative with epilepsy to see a doctor (63.8% vs 38.6%; $p < 0.001$). Medical doctors, imams and traditional healers were recommended for the treatment of seizures and epilepsy by the same students, indicative of syncretic concepts and mixed attitude to epilepsy. **Conclusion:** This study shows that Afghan economic students have mixed modern scientific as well as shamanistic and Islamic concepts of epilepsy.

Keywords: epilepsy, knowledge, attitude, stigma, spirit possession, traditional medicine, Islam, Afghanistan, developing countries

INTRODUCTION

Epilepsy affects all races, ages, social classes and countries. The oldest epilepsy text is a part of a handbook for conjurers in ancient Babylonia, which in part dates back to the 11th century BC.¹ For the authors of this text, the manifestations of epilepsy were the work of demons and ghosts.² This was rejected by the author of the Hippocratic text “The sacred disease”³, who thought that the phlegmatic condition in the system of humoral pathology led to seizures, because the phlegma would sometimes disrupt the supply of the brain with air. The system of humoral pathology was largely accepted in the ancient Greek and near Eastern world and later adopted by the medieval Arabic physicians. The traditional Islamic medicine of today continues to hold on to this concept.⁴ However, in the early 14th century, Ibn

Qayyim al-Jawziyya⁵ published a treatise called “Medicine of the prophet”, in which he claimed that even Hippocrates had distinguished between epilepsy caused by humours and epilepsy caused by spirits. Although we were not able to find the sentence quoted by Ibn Qayyim al-Jawziyya in the Corpus Hippocraticum, it has to be acknowledged that the Greek word “*pneuma*” which was used several times by the Hippocratic authors especially in “The sacred disease”³, may be translated not only as “wind” or “breath” but also as “spiritual or immaterial being”.⁶ In the Holy Quran, the word “epilepsy” or its equivalent, is not written anywhere. In Hadith there is one recorded case of a female with epilepsy.⁷ Ibn Qayyim al-Jawziyya commented that this case of epilepsy was caused by humoral pathology.⁵

In a recent study, 50% of a group of students in Jeddah, Saudi Arabia, considered possession as a cause of epilepsy.⁸ The belief in supernatural cause of epilepsy may contribute to the treatment gap in developing countries and the stigma perceived by patients with epilepsy. We conducted this explorative study on knowledge and attitude towards epilepsy in Afghanistan, where Islam is known to co-exist with shamanistic beliefs derived from earlier traditions and practices.⁹

METHODS

In order to determine the knowledge of and attitude towards epilepsy among students at the Faculty of Economics, University of Herat, Afghanistan, we designed a self-administered questionnaire consisting of 19 questions with 72 items mainly based on questions used in previous similar studies.¹⁰⁻¹⁹ The items exploring Islamic beliefs and the items exploring shamanistic beliefs are marked in Table 1. Due to the fact that jinn possession is not mentioned in the Holy Quran and the Hadith as a cause of epilepsy, we classified the items concerning jinn possession as reflecting shamanistic beliefs. We obtained the official permission from the Dean of the Faculty of Economics at the University of Herat for our study. The questionnaire was translated into Persian by three native speakers and randomly distributed to 520 students of the Faculty of Economics in English and Persian languages. The native speakers, who had translated the questionnaire gathered groups of 10 to 20 students and delivered to each group one Persian copy of the questionnaire and explained it orally. They remained with each group of students for 20 – 30 minutes. The analysis of the answers was done in Germany. The results of the questionnaire survey were transferred into a Microsoft Access database and later evaluated in Microsoft Excel. For the analysis we excluded the questionnaires of students who did not reveal their gender, their fluency in English or the number of terms they had already studied. We did not exclude the questionnaires of students who did not reveal their age, because the exact date of birth is not known by everyone in Afghanistan. We additionally excluded the questionnaires of all students who marked “not familiar with epilepsy” in at least one of the three questions, where this answer was possible. We did not exclude the questionnaires of students, who did not state to have ever heard or read of epilepsy, because we learned that this question was interpreted as aiming at the presence of epilepsy in the public. Finally we excluded

the questionnaires of all students who denied having witnessed a seizure, but stated to have witnessed certain symptoms of a seizure, because we considered this as an indication for a careless approach to the questionnaire. This was because according to our question, answers should only be given, if a seizure had been witnessed.

For the statistical analysis of the association of certain answers we performed chi²-tests. Since this is an explorative study we decided to perform Bonferroni corrections for the number of items tested in the realms of knowledge and attitudes separately and only for the number of tests performed in each subgroup of students. The level of significance for associations concerning knowledge of epilepsy therefore was set to 0.0015 and the level of significance for associations concerning attitudes to epilepsy was set to 0.0012. For the comparison of the demographic data the level of significance was set to 0.0125.

RESULTS

Study population

Five hundred and fifteen questionnaires were returned resulting in a response rate of 99%. But not every question was answered by all students. After excluding the insufficiently completed questionnaires according to the criteria stated above, 243 questionnaires were analysed. Even in the 243 questionnaires used for analysis. some questions were answered by no more than 60% of students. Of the 243 questionnaires, 186 were completed by male students, and 57 by female students. Two hundred and twenty two students revealed their age, the average was 21.7 (SD 2.6) years. Only 16.9% of the students claimed to be fluent in English.

Knowledge about epilepsy

The results concerning knowledge about epilepsy are listed in Table 1. The majority of students (178) claimed that they have not heard or read of epilepsy, though many of them answered that they have known someone with epilepsy or have witnessed a seizure. We learned that our question was interpreted as having heard about epilepsy in radio or television or read about epilepsy in a newspaper, which may have resulted in the conflicting results.

Attitudes towards epilepsy

The results on attitudes towards epilepsy are listed in Table 2.

Table 1: Knowledge about epilepsy

Question	Study from which the questions were adapted	Yes	No	Missing Data
Do you have epilepsy?	10, 11	3.29% (n = 8)	96.71% (n = 235)	0% (n = 0)
Have you ever heard or read of epilepsy?	10 - 18	26.75% (n = 65)	72.43% (n = 176)	0.82% (n = 2)
Have you ever known anyone with epilepsy?	10, 12, 14, 16 -18	73.25% (n = 178)	23.05% (n = 56)	3.7% (n = 9)
Have you ever witnessed a seizure?	10, 12-14, 16, 18	51.85% (n = 126)	43.62% (n = 106)	4.53% (n = 11)
		Yes		
If yes, please check all those things you observed	12	Confusion	39.51% (n = 96)	
		Tongue biting	36.63% (n = 89)	
		Loss of urine or stool (defecation)	30.04% (n = 73)	
		Loss of consciousness	29.63% (n = 72)	
		Stiffening	30.86% (n = 75)	
How long should antiepileptic drugs be taken? (some students gave more than one answer)	19	Staring	19.75% (n = 48)	
		For life	15.23% (n = 37)	
		For 2 – 5 years	19.34% (n = 47)	
		Only during an episode	21.4% (n = 52)	
What causes a seizure?	19	For 3 -6 months	6.58% (n = 16)	
		An abnormal psychic reaction	33.74% (n = 82)	
		An abnormal electrical discharge in the brain	14.4% (n = 35)	
		Jinn possession*	13.99% (n = 34)	
What do you think is the cause of epilepsy?	10-16, 18,19	A result of witchcraft / <i>jadu / dua</i> or evil eye (<i>Nasar</i>)#	5.35% (n = 13)	
		None of them	27.57% (n = 67)	
		Blood disorder	23.46% (n = 57)	
		Genetic disease	21.16% (n = 49)	
		Excessive worry	16.05% (n = 39)	
		Brain tumors	15.64% (n = 38)	
		Insanity	15.23% (n = 37)	
		Unknown cause	15.23% (n = 37)	
		Witchcraft*	14.4% (n = 34)	
		Birth injury	12.35% (n = 30)	
		Infection	11.52% (n = 28)	
		Head trauma, stroke	10.29% (n = 25)	
		Spirit possession (Jinn)#	9.88% (n = 24)	
		Other causes	7.82% (n = 19)	
		Curse from god*	7.82% (n = 19)	
High fever	6.58% (n = 16)			
Influence of full moon*	3.7% (n = 9)			

*items reflecting Islamic belief, #items reflecting shamanistic belief

Association with Islamic beliefs

One hundred and sixteen (47.7%) students marked at least one item that indicated that they viewed Islamic beliefs positively (i.e., Curse from God as a cause of epilepsy, would pray when witnessing a seizure, would recommend to see an Imam to a relative with epilepsy). These students believed more often than others that the cause of epilepsy may be a blood disorder (32.8 vs.15%; $p < 0.001$) or a brain tumour (24.1% vs.7.9%; $p < 0.001$). They would more often than others recommend to employ a person with epilepsy as gardener. On the other hand they answered more often than others that epilepsy may be caused by witchcraft (22.4% vs. 7.1%; $p < 0.001$), recommended more often than others to a relative with epilepsy to see a magician (19% vs. 2.4% $p < 0.001$). They would more often than others object to sharing their apartment with a person with epilepsy

(54.3% vs. 35.4%; $p < 0.001$), marry a person with epilepsy (61.2% vs. 37.0%; $p < 0.001$), disagreed that epilepsy can be cured completely (56.9% vs. 29.9%; $p < 0.001$) or that seizures can be well controlled with medication (45.7% vs. 22%; $p < 0.001$). However, they recommended more often than others to a relative with epilepsy to see a doctor (63.8% vs 38.6%; $p < 0.001$).

Association with shamanistic beliefs

Seventy one (29.2%) students marked at least one item reflecting a positive view to shamanistic beliefs. These students were less often fluent in English (7.04% vs. 20.9%; $p < 0.009$). They more often than others observed a staring during a seizure (33.8% vs. 14.0%; $p < 0.001$); attributed high fever to be the cause of epilepsy (16.9% vs. 2.3%; $p < 0.001$); expressed that persons with epilepsy should not play soccer (47.9% vs.

Table 2: Attitudes towards people with epilepsy

Question	Study from which the questions were adapted	Yes	If appropriate	No	Missing Data
Would you share your apartment with a person with epilepsy?		35.39% (n = 86)		42.8% (n = 104)	21.81% (n = 53)
Would you marry a person with epilepsy?	11	29.22% (n = 71)		49% (n = 119)	21.81% (n = 53)
If you had epilepsy, would you hide it from your friends?	18	18.52% (n = 45)		57.61% (n = 140)	23.87% (n = 58)
Do you think patients with epilepsy are frightening?		25.51% (n = 62)		49.79% (n = 121)	24.69% (n = 60)
Would you employ a person with epilepsy, if you were employer?*	18	10.7% (n = 26)	36.63% (n = 89)	28.81% (n = 70)	25.51% (n = 62)
				Yes	
People with epilepsy may be employed as	16	Economist		34.57% (n = 84)	
		Teacher		11.11% (n = 27)	
		Nurse		10.7% (n = 26)	
		Policeman		5.76% (n = 14)	
		Soldier		6.58% (n = 16)	
		Gardener		59.67% (n = 145)	
		Machinery worker		14.81% (n = 36)	
What are the limitations for people with seizures?	11, 14-16, 19	Should not drive the motor vehicle or car		29.63% (n = 72)	
		No sexual intercourse		13.58% (n = 33)	
		Should not get pregnant		9.47% (n = 23)	
		Should not join soccer (Football)		31.28% (n = 76)	
		Should not join polo (<i>Booskashi</i>)		32.1% (n = 78)	
		Abruptly stop anti-epileptic drugs during pregnancy		14.81% (n = 36)	
		Not able to lactate		4.94% (n = 12)	
		Should not get married		9.05% (n = 22)	
		Should not study in ordinary schools or universities		9.47% (n = 23)	
There are no limitations for people with epilepsy		26.75% (n = 65)			
What would you do, if you face a person with an epileptic seizure?	18, 19	Wait, until the seizure is over		5.76% (n = 14)	20.99% (n = 51)
		Pray*		19.34% (n = 47)	
		Place the person in a semi-prone position to prevent choking		27.57% (n = 67)	
		Place something in the mouth to prevent biting the tongue		24.69% (n = 60)	
		Call the doctor		40.33% (n = 98)	
		Call the Imam*		14.81% (n = 36)	
		Call the police		4.94% (n = 12)	
		Call a traditional healer [#]		4.53% (n = 11)	
Take actions to prevent injury during the episode		11.11% (n = 27)			
If you had a friend or relative with epilepsy, what kind of treatment would you suggest?	12, 14	See a doctor		51.03% (n = 124)	18.52% (n = 45)
		See an Imam*		29.22% (n = 71)	
		See a magician/ <i>Jadugar</i> [#]		9.88% (n = 24)	
		Acupuncture		6.17% (n = 15)	
		Nothing, there is no treatment		4.94% (n = 12)	
		I don't know what to recommend		16.87% (n = 41)	
			Yes	No	Missing Data
Can epilepsy be cured completely?	19		23.46% (n = 57)	42.8% (n = 104)	33.74% (n = 82)
In most patients a seizure can be well controlled with medication.			32.1% (n = 78)	33.33% (n = 81)	34.57% (n = 84)

*Some students marked "if appropriate" in addition to one of the other answers.

24.4%; $p < 0.001$) or polo (47.9% vs. 25.6%; $p < 0.001$). When observing a seizure, they would more often than others call the police (12.7% vs. 1.7%; $p < 0.001$). For treatment of epilepsy they recommended more often than others acupuncture (14.1% vs. 2.9%; $p < 0.001$). These students also more often than others considered a curse from god to be the cause of epilepsy (16.9% vs. 4.1%; $p < 0.001$), and would recommend a relative with epilepsy to see an imam (49.3% vs. 20.9%; $p < 0.001$).

Mixed concepts and attitude to epilepsy

As mentioned above, students who marked at least one item that indicated that they viewed Islamic beliefs positively more often than others would recommend to a relative with epilepsy to see a doctor; students who marked at least one item reflecting a positive view to shamanistic beliefs would more often than others recommend a relative with epilepsy to see an imam. A subgroup analysis showed that of the 98 students who would call a doctor when managing an acute seizure, 22 (22.5%) would also call an imam and 3 (3%) a traditional healer. Only 73 (74.5%) of the 98 students would recommend to see a doctor to a friend or relative with epilepsy, while 32 (33%) would recommend to see an imam and 9 (9.2%) to see a magician.

Conversely of the 36 students, who would call an imam when managing an acute seizure, 22 (61%) would also call a doctor and 4 (11%) a traditional healer. Only 24 (67%) of them would recommend to see an Imam to a friend or relative with epilepsy, while 20 (56%) would recommend to see a doctor and 6 (17%) to see a magician.

Of the 11 students, who would call a traditional healer when managing an acute seizure, 4 (36%) would also call an imam and 3 (27%) a doctor. Only 5 (45%) of them would recommend to see a magician to a friend or relative with epilepsy, while 7 (64%) would recommend to see an imam and 6 (55%) to see a doctor.

Further subgroup analyses concerning single items of our questionnaire are listed in Table 3.

DISCUSSION

There is limitation in our survey since no experienced psychologist supervised the students while filling in the questionnaire. We tried to mitigate this limitation by the exclusion of some questionnaires as detailed in the "Methods". However, the data presented here are, to our best knowledge, the only report on this subject from

Afghanistan. Table 4 lists the comparison with surveys performed in other countries, particularly those among students and teachers. Compared to surveys in other countries¹⁰⁻¹⁸, considerably fewer respondents in our study reported that they have heard or read of epilepsy. As mentioned in the "Methods", this was probably due to the question being interpreted as having heard about epilepsy in radio or television or read about epilepsy in a newspaper. In our survey, students with epilepsy would more often employ a person with epilepsy and marked more often that epilepsy is caused by unknown causes. (Table 3) But there were no other significant differences concerning knowledge and attitudes towards epilepsy. This is in line with other studies showing that knowledge about the disorder in patients with epilepsy is poor in some developing countries.²⁰ In Egypt, students with epilepsy were even more often misinformed concerning the aetiology of epilepsy than others.¹¹ Spirit possession as a cause for epilepsy was held by less than 10% of our respondents. This is in line with the majority of the studies listed, where the percentage that held the concept ranged from 1% to 28% (Table 4). It is interesting to note that in a recent report from another Islamic country, 50% of a group of students in Jeddah, Saudi Arabia, considered possession as a cause of epilepsy.⁸ In Nigeria, more Christian than Moslem teachers believed in demonic possession as a cause for epilepsy¹³ (32.1% > 19.2%), demonstrating that syncretic concepts of epilepsy may be prevalent in the non-Western communities, including those professing Islamic or Christian faiths.

Believe in jinn possession among our respondents had only a negative influence on the recommendations for the use of antiepileptic drugs. There were no other significant differences concerning attitudes towards epilepsy when compared to the other students. Nonetheless when lumping the belief in jinn possession together with six other items reflecting shamanistic beliefs, there were differences in attitudes towards epilepsy between students marking at least one item reflecting acceptance of some shamanistic beliefs and others. Probably many of these students came from an extremely resource poor background because they were less fluent in English and would call the police more often than others when observing a seizure, which is a common reaction in this settings, where medical emergency services are not available.¹² It can be speculated that their belief in fascination, which means enchantment by gazing at somebody, particularly made them aware of the staring in seizure semiology. They

Table 3: Subgroup analysis of the responses to the epilepsy questionnaire

Students with epilepsy marked more often than the others the item	% Vs %, p <
Epilepsy caused by unknown causes	63% vs. 14%; p < 0.001
employ a person with epilepsy	50% vs. 9%; p < 0.001
Students having ever known someone with epilepsy marked more often than others the item	% Vs %, p <
witnessed an epileptic seizure	65% vs. 17%; p < 0.001
an abnormal psychic reaction to be the cause of seizure	41% vs. 14%; p < 0.001
employment as economist	42% vs. 15%; p < 0.001
employment as gardener	70% vs. 31%; p < 0.001
should not join polo	39% vs. 14%; p < 0.001
Students believing that an abnormal psychic reaction causes a seizure marked more often than others the item	% Vs %, p <
antiepileptic drugs should be taken for life	26% vs. 10%; p < 0.001
cause of epilepsy is a brain tumour	28% vs. 9%; p < 0.001
cause of epilepsy is insanity	26% vs. 10%; p < 0.001
employ a patient with epilepsy as gardener	77% vs. 51%; p < 0.001
Students believing that an abnormal electrical discharge in the brain causes a seizure marked more often than others the item	% Vs %, p <
cause of epilepsy is a genetic disease	46% vs. 16%; p < 0.001
cause of epilepsy is a blood disorder	73% vs. 17%; p < 0.001
to place the person in a semi-prone position to prevent choking	51% vs. 24%; p < 0.001
Students believing in jinn possession as a cause for seizures marked more often than others the item	% Vs %, p <
antiepileptic drugs should be taken during an episode only	44% vs. 18%; p < 0.001
As the cause of epilepsy an infection	29% vs. 9%; p < 0.001
as the cause of epilepsy witchcraft	71% vs. 5%; p < 0.001
as the cause of epilepsy jinn possession	41% vs. 5%; p < 0.001
Students confirming that epilepsy is caused by a genetic disease marked more often than others the item	% Vs %, p <
antiepileptic drugs should be taken for life	35% vs. 10%; p < 0.001
an abnormal electrical discharge in the brain to be the cause of a seizure	33% vs. 10%; p < 0.001
the cause of epilepsy a blood disorder	47% vs. 18%; p < 0.001
the cause of epilepsy an infection	31% vs. 7%; p < 0.001
the cause of epilepsy excessive worry	39% vs. 10%; p < 0.001
the cause of epilepsy a brain tumour	35% vs. 11%; p < 0.001
the cause of epilepsy insanity	35% vs. 11%; p < 0.001

would exclude persons with epilepsy from soccer and polo, rather than just playing polo because of the horseback riding.²²

Students who marked at least one item indicating that they held Islamic beliefs positively were reluctant to share their room with a person with epilepsy or marry a person with epilepsy.

This indicates that being more receptive to Islamic belief does not automatically protect a person from discrimination of persons with epilepsy. Students who marked at least one item indicating that they hold Islamic beliefs positively were rather pessimistic concerning the effectiveness of treatment of epilepsy. Nonetheless

Table 4: Comparison of the frequency of “yes” answers between several studies concerning knowledge of and attitudes towards epilepsy

Question	Our data	India ¹⁰	Egypt ¹¹	Zambia ¹²	Nigeria ¹³	Zambia ¹⁴	Egypt ¹⁵	Italy ^{16a}	Korea ¹⁷	Silesia ¹⁸	Thailand ¹⁹
Do you have epilepsy?	3.29%	7.3%									
Have you ever heard or read of epilepsy?	26.75%	92.5%		97.7%	>90%	95.6%	100%	93.4%	45.1%	95%	
Have you ever known anyone with epilepsy?	73.25%	43.4%		91.7%		78.7%		51.7%	8.1%	43.2%	
Have you ever witnessed a seizure?	51.58%	41.6%		85%	78%	83.9%		45.1%		44.7%	
Antiepileptic drugs be taken for life	15.23%										26.5%
Antiepileptic drugs be taken for 2 – 5 years	19.34%										56.9%
Antiepileptic drugs be taken only during an episode	21.4%										8.8%
Antiepileptic drugs be taken for 3 – 6 months	6.58%										19.6%
An abnormal electrical discharge in the brain causes a seizure	14.4%										78.4%
Jinn/demonic possession causes a seizure	13.99%										1%
Genetic disease is the cause of epilepsy	21.16%	37%		35.5%	15.5%		23.3%	51.1%		35.2%	74.5%
Blood disorder is the cause of epilepsy	23.46%			31.3%	20%	35.5%	1.6%				
Infection is the cause of epilepsy	11.52%							25.5%			
Birth injury is the cause of epilepsy	12.35%			21.1%		35.5%		55.8%		59.2%	
Curse from god is the cause of epilepsy	7.82%			4.2%		1.9%					1%
Excessive worry is the cause of epilepsy	16.05%			7.2%		15.5%					
Brain tumors is the cause of epilepsy	15.64%	40.9%						32.8%			56.9%
Insanity is the cause of epilepsy	15.23%	32.5%			10%		7.9%	56.1%			
Head trauma, stroke is the cause of epilepsy	10.29%	28.4%		13.9%	6.7%	71.6%		62.4%			
Witchcraft is the cause of epilepsy	14.4%			18.7%	5.7%	16.8%					
Spirit possession (Jinn) is the cause of epilepsy	9.88%				28%	20%		4.1%			1%
High fever is the cause of epilepsy	6.58%										67.6%
Would you marry a person with epilepsy?	29.22%		8.1%								
If you had epilepsy, would you hide it from your friends?	18.52%									18.1%	
Would you employ a person with epilepsy, if you were employer?	10.7%									75.3%	
People with epilepsy may be employed as soldier	6.58%							18%			
People with epilepsy may be employed as machinery worker	14.81%										23.5%
People with seizures should not drive the motor vehicle or car	29.63%		86.8%					79.8%			79.4%
People with seizures have no sexual intercourse	13.58%		28.4%					17.8%			9.8%
People with seizures should not get pregnant	9.47%										2%
People with seizures abruptly stop anti-epileptic drugs during pregnancy	14.81%										24.5%
People with seizures are not able to lactate	4.94%										6.9%
People with seizures should not get married	9.05%		28.3%					19.6%			2%
People with seizures should not study in ordinary schools or universities	9.47%				33.2%		4.8%			12.1%	
Can epilepsy be cured completely?	23.46%										
Facing a person with an epileptic seizure I would place the person in a semi-prone position to prevent choking	27.57%										82.4%
Facing a person with an epileptic seizure I would place something in the mouth to prevent biting the tongue	24.69%									77.4%	63.7%
Facing a person with an epileptic seizure I would take actions to prevent injury during the episode	11.11%										64.7%
To a relative or friend with epilepsy I would suggest to see a doctor	51.03%			85.6%		88.6%					
To a relative or friend with epilepsy I would suggest see a Magician/Jadugar	9.88%			24.6%		34.2%					

*In this study¹⁶ respondents were asked to rate how much epilepsy limits certain activities. To make this data comparable to ours we counted the rating of “not at all” and “scarcely” as “yes” for an opportunity of employment (e.g. as soldier) and the rating of “strongly” and “moderately” as “yes” for a limitation.

they recommended more often than others to a relative with epilepsy to see a doctor. This may be explained by many of our respondents who had several different concepts of epilepsy, they were syncretic in their concepts of epilepsy. This may have contributed to the complexities in the attitude to epilepsy. In respect to the description of such a care systems, we would like to use the term “threefold usage of care systems”, in contrast to the dual usage of care systems described in Zambia.¹⁴ In Zambia, 88.6% of teachers recommended someone with epilepsy to see a doctor. But more than a third of teachers also recommended care from a traditional healer. In our study population, medical doctors, imams and traditional healers were recommended for the treatment of seizures and epilepsy by the same students. It implies that scientific concepts and treatment of epilepsy may be introduced in among the public and patients in some of the developing countries, while the public and patients may still hold on to other beliefs. In some circumstances, confrontation with religious or traditional beliefs may not be necessary.²¹

In conclusion, mixed shamanistic, Islamic as well as modern concepts of epilepsy beliefs are held in a survey of economic students in Afghanistan.

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