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A Comparative Study on Knowledge, Attitudes and Believes of Epilepsy Among Communities of Egypt and Kingdom of Saudi Arabia.

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Abstract: *This study aimed to compare the knowledge, attitudes and believes on epilepsy among community populations in Port-Said city, Egypt and Arar city, Kingdom of Saudi Arabia. Quantitative Research Approach with cross-sectional Survey design was the methodology used in this study. An objective of the study was to assess the socio-demographic data of the subjects, determine the level of knowledge on Epilepsy among the communities of Egypt and Saudi Arabia. Recognize the attitude and believes on epilepsy among community people of Egypt and Saudi Arabia. Compare the knowledge, attitude and believes on Epilepsy among Communities of Egypt and Saudi Arabia. There will be a significant difference between the knowledge, attitude and believes of Epilepsy among Communities of Egypt and Saudi Arabia was the hypotheses of the study. Setting of the study was the Primary Health Centers of Port-said city, Egypt and Arar city, Kingdom of Saudi Arabia. Population of the study was males and females of Port Said City, Egypt and Arar City, Saudi Arabia. Stratified Random Sampling Technique was used for selecting samples. Sample Size was 1320; it includes 660 males and females from Port said City Egypt and 660 males and females from Arar City Saudi Arabia. They were recruited during their visit to the outpatient clinics, either alone or accompanied with others, Data collection period was 11 weeks, from September – December 2013. Epileptic patients were excluded from this study. Two tools were used to collect data: - A questionnaire to assess participants' demographic data which included age, sex, marital status, educational level, occupation and level of knowledge on epilepsy. Attitudes were measured with questions on willingness to socialize with persons with epilepsy, persons with epilepsy having jobs like other people, epilepsy as a mental illness, the danger of epileptic seizures while driving , it included their attitude toward what is to be done when a seizure or fit occurs. Regarding results of the study, 64.24% were married, and 35.76%were single among the Port -said population, while among the Arar population, 61.21% were married and 38.79% were single. Concerning their educational level, the highest percentage of the population of Arar were illiterates (45.76%), while those of the Port-said population had completed their University education (42.73%). Regarding hypothesis of the study, highly significant differences were found between Egyptian and Saudi population on knowledge in relation to manifestations of epilepsy ($p<0.001$). Regarding the Influence of level of education of Arar, Saudi Arabia and Port- said City, Egypt, population on their attitude towards epilepsy and epileptic patients, it also reveals that population with University education were more likely to exhibit positive attitudes toward the epileptic patients when compared to illiterate population (37.9% versus 7.5% for the Arar, Saudi Arabia people and 4.6% versus 22.7%for the Port- said City, Egypt population ($P< 0.001$). The study concluded that knowledge about epilepsy is scant among Arar population, and the majority of the negative attitudes toward epilepsy were significantly associated with the misunderstanding of epilepsy and can vary substantially by culture. This study recommended conducting public awareness strategies through: - creation of effective health education materials to address misconceptions and the development of other means of publicity to reach the underprivileged population.*

Key words: *knowledge, attitude, believes, epilepsy.*

I. Introduction

Epilepsy comes from the Greek word epilepsy, which means to be attacked or to be seized. In the Arabic language, the term used for epilepsy is called "Al-Saraa". Arab and Muslim scientists like **Al-Tabari and Al-Razi** described Al-Saraa (epilepsy) very clearly in their books, thousand years ago, as a disease of the brain. They made a clear distinction between it and psychiatric disorders, and stated clearly that epilepsy is not related to evil spirits or supernatural powers. [1]

Epilepsy is basically a chronic brain disorder characterized by recurrent derangement of the nervous system due to sudden excessive disorderly discharge of the cerebral neurons. The discharge results in almost

instantaneous disturbance of sensation, loss of consciousness or psychic function, convulsive movements or some combination of these.[2]

Types of epilepsies are differentiated by how the seizure activity manifests, the most common syndromes being those with generalized seizures and those with partial-onset seizures. Epilepsy can be primary (idiopathic) or secondary, when the cause is known and the epilepsy is a symptom of another underlying condition such as a brain tumor. Although there is evidence that susceptibility to some types of epilepsy may be inherited, the cause of seizures in many people is unknown. Epilepsy may be due to birth trauma, asphyxia neonatorum, head injuries, some infectious diseases (bacterial, viral& parasitic), toxicity (carbon monoxide & lead poisoning), circulatory problems, fever, metabolic and nutritional disorders, and drug or alcohol intoxication **[3].** It is also associated with brain tumors, abscesses, and congenital malformations**[4].**

I.1. Need and Significance of the Study

Approximately 2.7 million Americans have epilepsy, and about 2, 00,000 new cases were diagnosed each year**.** An estimated 10% of Americans will experience a seizure at some point, and approximately 3% will be diagnosed with epilepsy by age 80 **[5].** The prevalence of active epilepsy is even higher in resource-poor countries with 6 to 10 cases per 1000 being reported **[6].** The reported prevalence of active epilepsy in developing countries ranges from 5- 10 /1000 people [7]. However, worldwide prevalence rate of epilepsy varies from 2.8 - 19.5/ 1000 of the general population [8].

Understanding knowledge and attitudes towards epilepsy among the general public play a major role in determining the extent to which people with epilepsy could be integrated into their societies[9]. Gauging the knowledge, attitude and understanding of epilepsy is the first step towards alleviating discrimination. Before a health education program can be formulated and established, one must first know what the target population believes and does with respect to the disease in question [10]**.** Hence; there is a clear indication to objectively assess the community's level of understanding and attitudes towards epilepsy. In recent years, surveys to assess the awareness and understanding towards epilepsy among the public in Asian countries generally showed a similar level of awareness, but more negative attitudes towards epilepsy when compared to the developing countries in the West **[11]**.

In the Arabic communities, like in many other communities epilepsy is still surrounded by, many myths, misbelieves, and stigma. Stigma and public attitudes towards persons with epilepsy reflect general understanding and knowledge about the disorder [12]. Accordingly, it is hoped that determination of the present knowledge and attitudes towards patients with epilepsy in the Egyptian community might help in the design of future efforts directed towards decreasing the stigma in Jordan. Such studies are very rare in the Arab countries**[13].** In order to ensure proper management of epilepsy, it is important to have a clear understanding of people's attitudes towards the disease.

I.2. Statement of the Problem

A Comparative Study on knowledge, attitudes and believes of epilepsy among communities of Egypt and Kingdom of Saudi Arabia

I.3. Aim of the Study

This study aimed to assess the knowledge, attitudes and believes on epilepsy among community populations in Port-Said city, Egypt and Arar city**,** Kingdom of Saudi Arabia.

I.4. Objectives

1. Assess the socio-demographic data of the subjects
2. Determine the level of knowledge on Epilepsy among the communities of Egypt and Saudi Arabia
3. Recognize the attitude and believes of community people of Egypt and Saudi Arabia
4. Compare the knowledge, attitude and believes of Epilepsy among Communities of Egypt and Saudi Arabia.
5. Find out the association between socio-demographic variables and knowledge, attitude and believes of Epilepsy among Communities of Egypt and Saudi Arabia.

I.5. Hypotheses

H1: There will be a significant difference between the knowledge, attitude and believes of Epilepsy among Communities of Egypt and Saudi Arabia.

H2: There will be as significant association between socio-demographic variables and knowledge, attitude and believes of Epilepsy among Communities of Egypt and Saudi Arabia.

II. Materials And Methods

II.1 Research Approach: Quantitative Research Approach

Research Design: Cross-sectional Survey design was used to conduct this study.
Research setting: The study was conducted at the Primary Health centers, in Port-said city, Egypt and Arar city**,** Kingdom of Saudi Arabia.
Population: Males and females of Port Said City, Egypt and Arar City, Saudi Arabia
Sampling Technique: Stratified Random Sampling Technique**.**
Sample Size: 1320 males and females. 660 from Port said City Egypt and 660 from Arar City Saudi Arabia.
Sample: The study population included 1320 individuals (males & females), 660 individuals from Port-said city, residing in Port-said district, and 660 individuals from Arar city, residing in Arar city.
Data Collection Period: 11 weeks, from September 2013 to December 2013.
Exclusion criteria: Epileptic patients were excluded from this study as well as their caregivers.
Inclusion Criteria: Males and females above the age of 18 years.

II.2. Research Tools: Two tools were used in this study for collecting data from the subjects.
I. **A Structured Questionnaire** :-
A. Socio- demographic data

It includes demographic characteristics such as age, gender, marital status, educational level and occupation.

B. **Knowledge on Epilepsy**

It includes causes of epilepsy (7 items), manifestations of the disease (7 items), awareness and preference of treatment option (5 items) and sources of their information towards epilepsy (5 items). The questionnaire was derived from literature reviews [14]**.** All questions regarding knowledge had two options; "Yes" or" No". This questionnaire was translated by the researchers into Arabic language and it was tested for its content validity by a group of five experts from the Department of Neurology, Psychiatric Medicine and Psychiatric Nursing staff. The required modifications were carried out accordingly. Then, test-retest reliability was applied and the tool proved to be strongly reliable (r=0.8222).

II- Respondents' Attitude Questionnaire toward epileptic patients,

It included 11 items that were measured with questions about willingness to socialize with persons with epilepsy, persons with epilepsy having jobs like other people, epilepsy as a mental illness, and the danger of epileptic seizures while driving. As well, the questionnaire sheet included respondents' attitude towards what is to be done when a seizure or fit occurs (9 items). All questions regarding attitude had two options; "Yes" or" No" [15]. This scale was translated by the researchers into Arabic language and some items were excluded and modified. It was tested for its content validity by a group of five experts from the Community Medicine and Community Health Nursing. The required modifications were carried out accordingly. Then test-retest reliability was applied and the tool proved to be strongly reliable (r=0.8)

II.3. Pilot study:

A pilot study was carried out on 60 individuals from the two groups (Port-Said population & Arar population) being followed up through their visits to the outpatient clinics in the two selected Primary Health Centers (PHC), in order to test the applicability of the tools and clarity of the included questions, as well as to estimate the average time needed to fill in the questionnaire. Those who shared in the pilot study were excluded from the main study sample.

II.4. Ethical Consideration

At the beginning, ethical approval for conducting the study was obtained from the directors of Public Health Center, following written consent was obtained from the participants who visited the PHC during the data collection periods.

II.5. Data Collection Process

The researchers introduced themselves and briefly explained the study objectives to participants. Then, the participants proceeded to fill in the questionnaires under the supervision of the researchers. All information gathered was kept confidentially. Data were collected over a period of 11 weeks at the PHC in Port-said city, Egypt &Arar city, Saudi Arabia from September 2013 to December 2013, for 3days/week from 9.30a.m to

1.30p.m (Saturday, Monday & Wednesday for each center). The samples were taken 30-45 minutes for completing the questionnaire. Data collection period was 11 weeks.

III. Figures & Tables

The obtained data were coded /analyzed and tabulated with the help of SPSS. Descriptive and inferential statistical techniques were used to analyze the data.

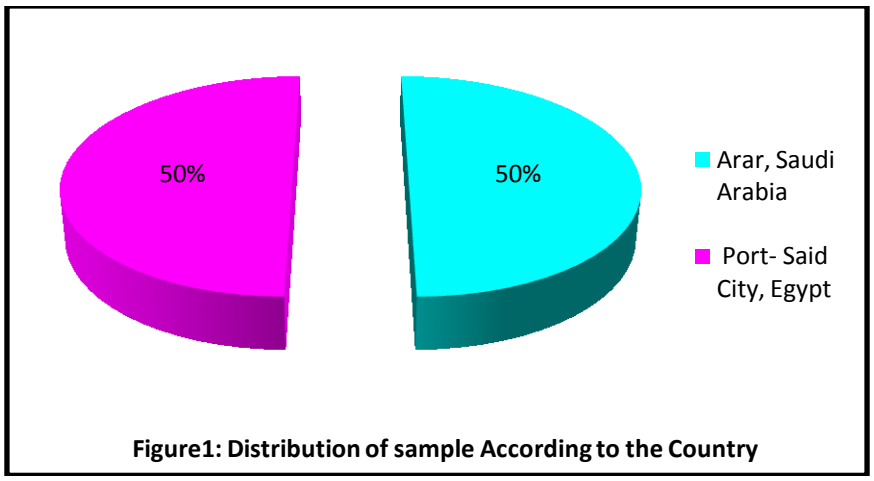

Figure1: Distribution of sample According to the Country

Figure 1 depicts that, out of 1320 samples, 660 samples from Arar City, Saudi Arabia and 660 from Port said City, Egypt.

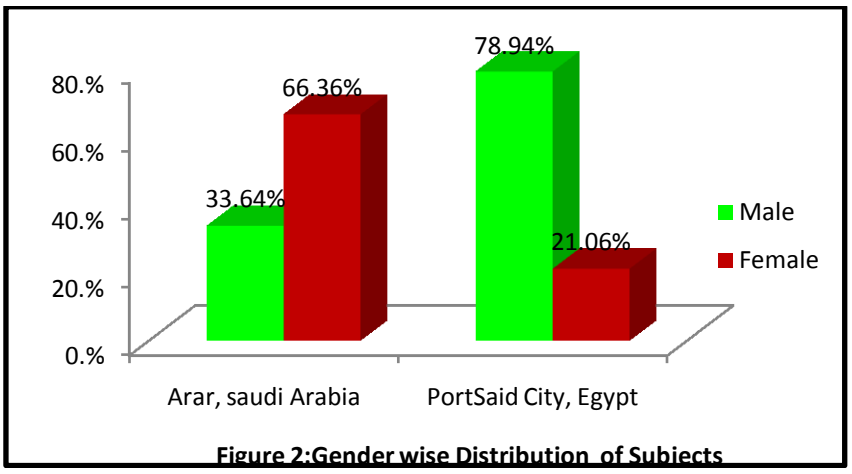

Figure 2:Gender wise Distribution of Subjects

Figure 2 shows that, out of 660 subjects of the Arar city, 33.64% of them were males and 66.36% of the samples were females, but in Port said City, 78.94% of them were males and 21.06% were females.

Table (1): Distribution of Arar and Port-said, populations according to their Socio-demographic characteristics

Items	Arar City, Saudi Arabia (n= 660)		Port-said City, Egypt (n= 660)	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Marital status Married	424	64.24	404	61.21
Single	236	35.76	256	38.79
Educational level				
Illiterate	302	45.76	97	14.70
Primary education	214	32.42	81	12.27
Secondary education	109	16.52	103	15.61
University	29	4.39	282	42.73
Post graduate	6	0.91	97	14.69
Employment status				
Unemployed	69	10.45	53	8.03

Student	121	18.33	188	28.5
Housewife	201	30.45	101	15.30
Employed	89	13.5%	176	26.66
Free business	161	24.4%	109	16.52
Retired	19	2.87	33	5.0

Table (1) depicts that out of 660 sample 64.24% were married, and 35.76% were single among the Port -said population, while among the Arar population, 61.21% were married and 38.79% were single. Concerning their educational level, the highest percentage of the population of Arar were illiterates (45.76%), while those of the Port-said population had completed their University education (42.73%). According to their occupation, the highest percentage of Arar population was housewives (30.45%) followed by (24.4%) business people; while the highest percentage among Egyptian population were students (28.5%) and 26.66% were employed.

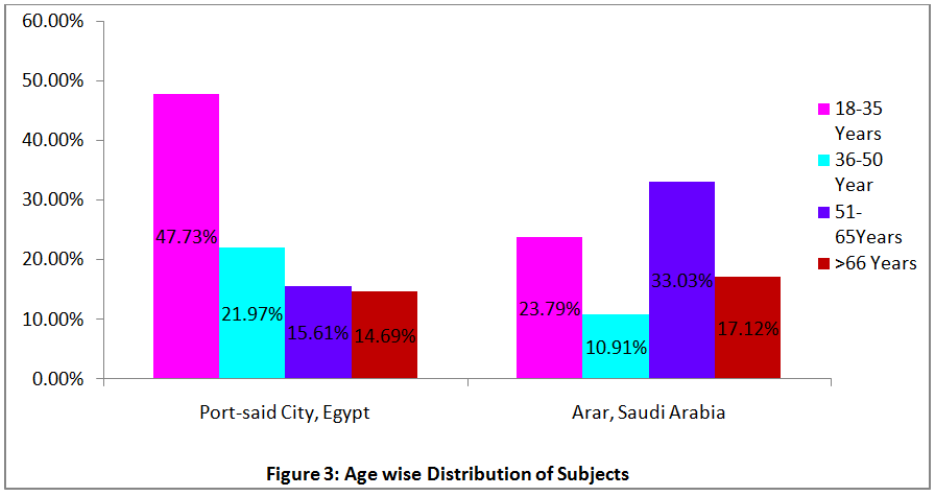

Figure 3: Age wise Distribution of Subjects

Figure 3 Shows that 47.7% of the samples were belongs to 18-35 years of Port said City Egypt, but 23.79% of the Arar people belong to 18-35 years. About 17.12% and 14.69 % of the subjects were above the age of 66 years.

Table (2)**: Distribution of Arar and Port-said, populations according to their knowledge about Epilepsy**

Items of Knowledge	**Arar, Saudi Arabia n=660**		**Port- said Egypt N=660**		χ^2	**P Value**
	Frequency	**Percentage (%)**	**Frequency**	**Percentage (%)**		
Causes of Epilepsy Brain injury	83	12.6	98	14.85	1.083	0.2981
Psychiatric disorder	109	16.52	240	36.4	48.42	0.001**
Heredity factors	99	15.0	105	15.91	0.123	0.7263
God's punishment	201	30.5	87	13.2	44.34	0.001**
Possession by evil spirit	213	32.3	73	11.1	67.56	0.001 **
Don't know	198	30.0	68	10.30	62.56	0.001**
Manifestations of Epilepsy Convulsion	76	11.52	321	48.64	149.98	0.001 **
Falling down	78	11.82	212	32.12	60.997	0.001 **
Rolling of eyes	43	6.52	142	21.52	51.914	0.001**
Foaming of mouth	46	6.97	121	18.33	32.79	0.001**
Urination	63	9.55	134	21.67	24.873	0.001**
Biting of tongue	42	6.4	176	26.67	81.142	0.001**
Don't know	514	77.88	132	20.0	224.71	0.001**
Preference of treatment Option: Herbal therapy	331	50.2	215	32.6	24.22	0.001 **
Traditional medicine	298	45.2	75	11.4	132.13	0.001 **
Spiritual healing	419	63.5	53	8.03	282.25	0.001**
Surgery therapy	133	20.2	165	25.0	3.26	0.0725
Don't know	124	18.8	95	14.4	3.58	0.0585 *

Table 2 depicts the knowledge on Epilepsy among Arar Community, Saudi Arabia and Egyptian community, this table reveals that highly significant differences were found between Egyptian and Saudi population on knowledge in relation to manifestations of epilepsy (P<0.001). In relation to causes of epilepsy, statistically significant differences between communities of Arar and Port Said population's knowledge in relation to psychiatric disorder, God's punishment and possession by evil spirit as the perceived causes of epilepsy (P<0.001), the same table also reveals that spiritual healing was the most preferred method of treatment for epilepsy among Arar population but for the Port said population, it was herbal therapy (32.6%) followed by surgery (25.0%).

Table (3): Distribution of sample According to their attitudes toward epilepsy and epileptic patients to Arar and Port-said, populations

Attitude	Arar, Saudi Arabia		Port-said Egypt		χ^2	P Value
Positive Attitudes	**Yes**	**%**	**Yes**	**%**		
Do you think that epileptic person can live in the society like other persons?	310	46.97	511	77.42	48.72	0.001 **
Do you think that epileptic person can perform daily life activities?	140	21.21	196	29.7	9.003	0.002**
Do you think that women with epilepsy have their own children?	213	32.3	309	46.82	17.29	0.001 **
Do you think that epileptic person should be employed in the same jobs as other people?	83	12.6	135	20.5	11.93	0.0006***
Do you think that epileptic person should have a driving license?	118	17.9	9	1.4	91.84	0.001 **
Would you tell others if your family members are having epilepsy?	172	26.1	93	14.1	22.59	0.001 **
Negative Attitudes						
Do you think that epilepsy is a form of insanity?	332	50.30	93	14.1	133.28	0.001**
Do you think that epilepsy is a hindrance to a happy life?	409	61.97	398	60.30	0.124	0.7248
Do you think that epileptic person should study in special school?	94	14.24	176	26.7	24.3	0.001 **
Would you object to your son or daughter marrying an epileptic person?	133	20.2	165	25.0	3.26	0.0725
Do you think that IQ of epileptic person lower than normal population?	104	15.8	312	47.3	103	0.001**

Table 3 depicts the Participants' attitudes towards epilepsy and epileptic patients. There was a statistically significant differences for positive attitudes between people of Port-said City, Egypt and people of Arar City, Saudi Arabia (P<0.001), in relation to: "Do you think that epileptic person can live in the society like other persons?", "Do you think that epileptic person can perform daily life activities?" , "Do you think that women with epilepsy have their own children", "Do you think that epileptic person should be employed in the same jobs as other people?", " Do you think that epileptic person should have a driving license?" and Would you tell others if your family members are having epilepsy?".

Table (4): Distribution of Arar and Port-said, populations according to their attitudes toward the initial first aid measures during seizure

Items	Arar City, Saudi Arabia		Port said City, Egypt		χ^2	P
	Frequency	Percentage (%)	Frequency	Percentage (%)		
Pull the tongue	197	29.85	213	32.3	0.549	0.4588
Remove any dangerous objects	240	36.4	423	64.1	49.961	0.001
Protect his/her head	123	18.64	512	77.6	237.08	0.001
Take him/her to the hospital	93	14.1	490	74.24	268.98	0.001
Wait for the end of the episode before doing anything	53	8.03	69	10.5	1.844	0.1745
Put an object between the teeth	397	60.2	134	20.30	129.27	0.001
Lie the patient down	375	56.82	533	80.76	27.16	0.001
Take off his/her clothes	43	6.52	35	5.30	1.01	0.3143
Ensure good ventilation	113	17.12	205	31.1	26.04	0.001
Don't know	251	38.03	145	21.97	27.85	0.001

Table (4) reveals that statistically significant differences were found between Arar Population and Port Said population's attitudes in relation to the initial first aid measures given to patient during a seizure. In most of

the items (p<0.001) except for" Pull the tongue", Wait for the end of the episode before doing anything" and "Take off his/her clothes", were, not having any statistically significant differences were found between Arar City, Saudi Arabia and Port- Said City, Egypt population's attitudes. The same table also reveals that a high percentage (60.2%) for Arar population compared to 20.3% for Port Said population for the incorrect item as ''Putting an object between the teeth.

Table (5): Distribution of Arar and Port-said, populations according to their sources of information toward epilepsy and epileptic patients

items	Arar , Saudi Arabia n = (660)		Port-said, Egypt n = (660)		χ^2	P Value
	Frequency	Percentage (%)	Frequency	Percentage (%)		
T.V / Radio	332	50.30	93	14.1	133.28	0.001**
Internet	98	14.85	405	61.4	186.15	0.001 **
Newspapers/ Books	87	13.2	91	13.8	0.051	0.8221
Family / Friends	102	15.5	85	12.88	1.369	0.242
Didn't heard or read	211	31.97	104	15.76	35.67	0.001 **

Table 5 depicts the source of information about this disease, it indicates that 50.30% of the Arar population reported that they heard about this subject from mass Medias, such as Television/ Radio and for 61.4% of Port said City, Egypt population identified that they heard about it from the internet. (P < 0.001).

Table (6): Influence of level of education of Arar **and port-said, population's and attitude towards Epilepsy and Epileptic patients**

Level of education	Arar, Saudi Arabia		Port Said City, Egypt		Total
	Frequency	Percentage (%)	Frequency	Percentage (%)	
Illiterate	99	7.5	300	22.73	399
Primary	150	11.4	145	10.98	295
Secondary	140	10.61	72	5.5	212
University	250	37.9	61	4.6	311
Post graduate	90	6.82	13	0.9	103

χ^2 =284.3 df = 4 P< 0.000 Highly significant

Regarding the Influence of level of education of Arar, Saudi Arabia and Port- said City Egypt, population on their attitude towards epilepsy and epileptic patients, it also reveals that population with University education were more likely to exhibit positive attitudes toward the epileptic patients when compared to illiterate population (37.9% versus 7.5% for the Arar, Saudi Arabia people &4.6% versus 22.7% for the Port- said City, Egypt population (P< 0.001).

IV. Results

Regarding 1320 samples, 660 samples from Arar City, Saudi Arabia and 660 samples from Port said City, Egypt. Out of 660 subjects of the Arar city, 33.64% of them were males and 66.36% of the samples were females, but in Port said City out of 660 subjects, 78.94% of them were males and 21.06% were females. 64.24% were married, and 35.76% were single among the Port -said population, but among the Arar population, 61.21% were married and 38.79% were single. Concerning their educational level, the highest percentage of the population of Arar were illiterates (45.76%), while those of the Port-said population had completed their university education (42.73%). According to their occupation, the highest percentage of Arar population were housewives (30.45%) followed by (24.4%) business people. Among Port -said population, highest percentage were students (28.5%) and 26.66% were employed. 47.7% of the samples were belongs to 18-35 years of Port said City Egypt but 23.79% of the Arar people were belongs to 18-35 years. 17.12% and 14.69 % of the subjects were above the age of 66 years in Saudi Arabia and Egypt respectively.

Regarding the level of knowledge on Epilepsy among Arar Community, Saudi Arabia and Egyptian community, there was a highly significant differences were found between Egyptian and Saudi population on knowledge in relation to manifestations of epilepsy **(p<0.001).** In relation to causes of epilepsy, statistically significant differences between communities of Arar and Port Said population's knowledge in relation to psychiatric disorder, God's punishment and possession by evil spirit as the perceived causes of epilepsy **(P<0.001)**, they believes that spiritual healing was the most preferred method of treatment for epilepsy among Arar population but for the urban population, it was herbal therapy (32.6%) followed by surgery (25.0%).

Participant's attitudes towards epilepsy and epileptic patients. There was a statistically significant differences for positive attitudes between people of Port-said City, Egypt and people of Arar City, Saudi Arabia **(p<0.001)**, in relation to: "Do you think that epileptic person can live in the society like other persons?", "Do you

think that epileptic person can perform daily life activities?" , "Do you think that women with epilepsy have their own children", "Do you think that epileptic person should be employed in the same jobs as other people?", " Do you think that epileptic person should have a driving license?" and Would you tell others if your family members are having epilepsy?".

Statistically significant differences were found between Arar Population and Port- Said populations attitudes in relation to the initial first aid measures during seizure. In most of the items **(p<0.001)** except for" Pull the tongue", Wait for the end of the episode before doing anything" and "Take off his/her clothes", were, not having any statistically significant differences were found between Arar, Saudi Arabia and Port said City, Egyptian population's attitudes. The same table also reveals that a high percentage (60.2%) for Arar population compared to20.3% for Port Said population for the incorrect item as ''Putting an object between the teeth.

Regarding the source of information about this disease, it indicates that 50.30% of the Arar population reported that they heard about this subject from mass medias, such as Television/ Radio and for 61.4% of Port Said population identified that they heard about it from the internet **(P< 0.001)**.

Regarding the Influence of level of education on their attitude towards epilepsy and epileptic patients among people of Arar, Saudi Arabia and Port- said City Egypt, it reveals that population with University education were more likely to exhibit positive attitudes toward the epileptic patients when compared to illiterate population (37.9% versus 7.5% for the Arar, Saudi Arabia people and 4.6% versus 22.7% for the Port- said City, Egypt population **(P< 0.001)**.

V. Discussion

Knowledge, attitudes and believes on epilepsy of the public play a major role in determining the extent to which people with epilepsy could be integrated into their societies. Thus, it is important to determine the magnitude of misconceptions about epilepsy in developing community [16]. Regarding socio-demographic data, the result of the present study revealed that the highest percentages of the sample were females and housewives (66.36% & 30.45% respectively) among the population of Arar City, Saudi Arabia, while in Port -said population, the highest percentages were males and employers (78.94% and 26.66% respectively). This result is supported by the other study, i.e. Out of 165 respondents, 62% were women and 38% were men [17]. The result of the present study revealed that in Arar area the highest percentages (33.03%) of population's age ranged from 51-65years and were illiterate 45.76%, while in Port-said area, 47.73% of the subjects were belongs to the age group of 18-35 years and were University graduates (42.7%). This result is supported by Myeong and Byeong who found that the rural residents of his study were usually less educated and older in average than those in urban area [18]. Another study explained that young adults as well as older adult age groups would particularly benefit from increased knowledge and awareness of epilepsy because they are likely to have frequent contact with epileptic person [19].

Regarding the knowledge on Epilepsy, findings of the current study findings shows that statistically significant difference for Port-said population knowledge in relation to manifestations of epilepsy compared to Arar population. It may be due to that convulsions and falling down symptoms are easily noticeable[20]. Additionally, more than half of the samples of Port-said population have either University or Postgraduate degrees.

In relation to causes of epilepsy, results of the current study revealed statistically significant differences for Arar population's knowledge in relation to " God's punishment" and "Possession by evil spirit" perceived as causes of epilepsy. This concurs with the report from the Ghanaian study, [21] in which 27.9% of respondents mentioned witchcraft or evil spirits as the cause of epilepsy. This is a common belief in African society as most diseases affecting the brain or the mind are assumed to be due to affliction by evil spirits. Many communities in Africa and other developing countries believed that epilepsy results from witchcraft or possession by evil spirits and therefore treatment should be through the use of herbs from traditional doctors and religious leaders[22]. Findings of this study also revealed that spiritual healing was the most preferred method of treatment for epilepsy among Arar population adopted by less than two thirds, which it may be due to that the participants who opted for this method of treatment were mostly those who believed that the disorder was a result of affliction by evil spirits. This choice of method of treatment is also not unconnected with religious inclination of the study population. Particularly Muslims assume that prayer has the power to heal many ailments. Similarly, [23] found in a survey among rural Sri Lanka that 41.5% had resorted to spiritual healing methods, because of strong faith in those methods. This study results showed that less than third of the rural respondents admitted ignorance of the causes of epilepsy. Similar findings were reported among adults in the rural population in Ghana [24].

Present study findings shows that almost half of people in Arar area heard about epilepsy through Television/ Radio. It may be due to that, Television is the most popular source for Arar population, leading to influence on cognitive responses, which in turn can positively affect social attitudes. Findings of the present study were incongruent with other study [18]. This study stated that mass media such as local radio and TV did not seem to be effective vehicle in the rural areas because the residents usually had to work in the field until late in the evening? The people in Port-said area heard about epilepsy through internet. This finding was supported by results of another study[25], they found that the information has become widely available through the internet between urban populations.

Regarding Participant's attitudes towards the epileptic persons, a highly statistically significant differences was detected for positive attitude among Port-said population compared to Arar population P<0.001 in relation to: "Do you think that epileptic person can live in the society like other persons? "Do you think that epileptic person can perform daily life activities?, "Do you think that women with epilepsy have their own children?" , and "Do you think that epileptic person should be employed in the same jobs as other people?" . The high frequency of positive attitude among the Port-said respondents may be due to that they know that epileptic patients are able to control their seizures sufficiently and to live normally as other person with adequate medications. Additionally, they believed the fact that an epileptic patient is not viewed as a mentally sick person. He is therefore considered to be in control of his mental faculties like any other person, except during an attack. This is even more so in an urban setting where the study population is more educated and less superstitious when compared to persons in the rural area (Alisson,Felipe&Maria2009) [26]. Findings of the present study were incongruent with other study [27] result, which found that approximately 17% of the interviewees would not employ a patient with epilepsy. Several reasons are given by some employers for not giving jobs to epileptics, such as, fear that the seizures could cause accidents, especially in industry; there is an assumption that epileptics have a lower working capacity and, therefore, lower productivity.

Results of the present study also revealed that a statistically highly significant difference for positive attitude among rural population compared to urban population (P<0.001). In relation to " Do you think that epileptic person should be have a driving license?" and "Would you tell others if your family members having epilepsy?' It may be due to that the residents of rural area were usually less educated and two thirds of them were females leading to sympathetic attitudes towards the plight of the epileptics.

Findings of the current study revealed that statistically significant differences were detected for negative attitude among Arar population compared to Port Said population (p<0.05). In relation to " Do you think that epilepsy is a form of insanity ?" which may be due to that they attributed epilepsy to demonic possession because the epileptics commonly make unusual sounds during seizures which some witnesses describe this voice of an evil spirit and expressing itself through the mad (Somsak, 2005) [28]. This result is congruent with other study, who found that 16% of the respondents opinion is that epilepsy is some form of insanity [29].

Statistically highly significant differences were denoted for negative attitude among PortSaid City population compared to Arar population (P<0.001) in relation to: "Do you think that Intelligent Quotient of an epileptic person is lower than that of normal population? and recommend that "children with epilepsy study in a special school." It may be due to that they perceive the presence of personality problems in epileptic child as well as fears about their unreliability and non-normality [30]. This contributes to deterioration of the students' condition and development of complications. This result is congruent with other study [31], who found that 15% of the respondents preferred to place all children with epilepsy in a special classroom. This preference may result from fear of having to deal with a seizure; it was assumed that epilepsy would affect school performance because of learning problems. This result is on line with another study, which found that epileptic students could not be as intelligent as other students [32].

It is somewhat surprising, that no statistically significant difference was found between Port said City and Arar population in relation to:"Do you think that epilepsy is a hindrance to a happy life? and "Would you object to your son or daughter marrying an epileptic person", which suggests that the respondents recognized that those affected persons have the potential to lead an ordinary and happy life and be successful in the same life domains as others, but are limited from doing so by society. A study conducted in the United Kingdom arrived at the same conclusion [33]. It may be due to; they were sympathetic towards the plight of the epileptic, additionally, in a society in which poor health facilities and poverty make the care of people with epilepsy a major burden for both patients and their families. In every recent study stated that they are afraid from transmission of disease from parents to children after marriage.

Results of the current study revealed that statistically significant differences for Port said City, population attitudes in relation to the initial first aid to administer during a seizure compared to Arar population in most of the items (P<0.001). It may be due to that the level of education influences the answers about the disease and leads to less negative attitudes to persons with epilepsy[35]. This happens mainly due to lack of information in the media accessible to rural people [32].

Statistically insignificant differences were found between Arar and Port-Said population attitudes toward "Pull the tongue", "Wait for the end of the episode before doing anything" and "Take off his/her clothes". This agrees with the result, who found that, 54.7% of the individuals worry about "Pull the tongue, take off his/her clothes" and they preferred to wait for the end of the episode before doing anything, these results go on line with other study [33], who found that38.8% of participants, attitude such as keeping away from the person was marked by only a small fraction of the sample. Statistically significant difference for Port Said City population compared to Arar population for incorrect items such as putting objects between the teeth.(p<0.001). It may be due to that the majority of the sample of Port Said population was younger, and have University and postgraduate degrees. Regarding Influence of level of education of rural and urban population on attitude towards epilepsy and epileptic patients, results revealed that population with university education were more likely to exhibit positive attitudes toward the epileptic patients when compared to non-literate population (P< 0.001). These finding may be due to that the majority of the sample of Port Said population were younger and are educated with university and postgraduate degrees. These findings are in agreement with the cross-sectional studies of other person [28], who found that knowledge about epilepsy is scant among rural population. However, findings of the present study were incongruent with other study, who carrying out a community based study of teachers' perception of epilepsy in Enugu, Nigeria found that, lack of knowledge on epilepsy resulted in negative attitude and beliefs despite the teachers' high level of education[36].

VI. Recommendations

A high level of public awareness, especially among the young is critical at this stage to facilitate the development of intervention program to protect the community by fighting stigma and ensuring a safer environment for epileptic patients. The following are the main recommendations suggested: Development of public awareness strategies through:-

1. Creation of effective health educational programs to address social misconceptions and to improve the appropriate understanding of epilepsy.
2. Development of other means of publicity to reach the underprivileged population, such as; role-playing for Arar and online for Port Said City.
3. Further research could include patients with epilepsy and the agencies that serve them in developing studies or interventions aimed at increasing awareness and reducing stigma.
4. Specific activities might include conducting focus groups and/or convening an advisory committee consisting of the target group and related agencies and organizations to inform the study's process, guide development of materials.
5. Help to interpret findings, and assist in disseminating results. At each phase of the community-based participatory research process, involvement and input from the target group should be included.

VII. Conclusion

This cross-sectional study revealed that knowledge about epilepsy was inadequate among Arar population and the majority of the negative attitudes toward epilepsy were significantly associated with them in understanding of epilepsy and can vary substantially by culture. Although most subjects had good overall knowledge, there were wide and significant gaps between Arar and Port- said City dwellers, males and females and different educational levels.

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