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RESEARCH ARTICLE

KNOWLEDGE AND PERCEPTIONS OF COMMUNITY TOWARDS EPILEPSY IN QASSIM REGION, SAUDI ARABIA

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Abstract

Introduction:-

Study Background

Epilepsy is a disease with high prevalence worldwide, it affects around fifty million people around the globe. Roughly 4.7 million people with epilepsy live in the WHO Eastern Mediterranean Region (WHO, 2010). Highest prevalence is found in sub-Saharan Africa (SSA) and relatively higher prevalence in economically poor countries (Ngugi et al., 2013). Studies show that if epilepsy is diagnosed then treated properly, up to 70% of its patients could lead a seizure-free life. Limited epidemiological studies on epilepsy in Saudi Arabia are available (Al Rajeh, 2001).

Epilepsy in Saudi Arabia is sought to be linked to evil spirit possession by some despite the efforts exerted by the Kingdom to improve public awareness of disease facts (Muthaffarand Jan, 2014). A major part of Saudi Arabia's ambitious plan of 2030 vision is to improve public health and awareness. This included advancing in epilepsy management strategies through the increase of specialized highly trained medical staff at epilepsy centers and equipping those centers with sophisticated medical equipment across different Saudi country regions. Saudi Arabia also celebrated purple day on 26th March to improve public awareness of epilepsy in many cities (Khan, 2015).

Study Problem

Sociocultural factors have negative impacts on countries' plan of epilepsy management (Teferi and Shewangizaw, 2015). Religious beliefs influence treatment options received by epilepsy patients and their families. These misbeliefs lead to wrong treatment of epileptic patients using herbal medicines prescribed by traditional practitioners and religious personnel (Chilopora et al., 1993). The study aims to spread awareness among Qassim community members with the nature of epilepsy and decrease levels of discrimination against its patients.

Study Significance

1. Increase awareness among community population with the nature of epilepsy and the right ways of treatment.
2. Correct community misconceptions about epilepsy.
3. Provide law makers with statistics about the problem to help setup rules to address this issue in Saudi.
4. Study recommendations based on study results shall help with increase early discovery of epilepsy and early treatment leading to drop in prevalence percentages.

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Study Question
What's the level of community knowledge and perceptions towards epilepsy in Qassim region, Saudi Arabia?

Study Objectives
General
Investigate the level of community knowledge, perceptions, and attitudes towards epilepsy amongst people in Qassim region, Saudi Arabia

Specific
Investigate the relationship between knowledge, perceptions and attitudes of community towards Epilepsyregarding age groups, gender, education level, financial status, nationality and urban and rural residency

Literature Review:-

Previous studies has investigated and measured public knowledge and awareness of epilepsy and its related treatment strategies. In Jordan, Daoud et al. (2007) conducted a study to assess the knowledge and attitudes among theJordanian community towards epilepsy, that have not been verified before this date.Study included 16044 study samples of which 8158 were males and 7886 were females across Jordanian kingdom. Study samples were interviewed by invitation using standard four set questionnaire that was constructed from previous similar studies. Study's overall conclusion on community knowledge and attitudes of Jordanian people towards epilepsy can be comparable with the similar results from Asian countries. The knowledge and perception were low compared with reports from the Western countries. Study recommends well-organized educational campaigns for Jordanian community in order to improve public perception about epilepsy.

Study of Maiga et al. (2014) in Mali aimed at assessing parental beliefs and attitudes among families with affected children versus families without affected children. Study has included 720 pediatric patients, half with epilepsy. Interviews were conducted with children parents to measure their perceptions. Study concluded a widespread of misconceptions of epilepsy in Mali. The findings argued more awareness of the disease through educational initiatives for adults and among young people and especially for traditional healers who may adopt a treating regimen that lead to hazards to the patients. Study recommended efforts to be exerted to reduce the stigma linked to epilepsy among community in order to improve epilepsy patients quality of life.

Another study was conducted in Ethiopia by Teferi and Shewangizaw (2015) to assess the knowledge, attitude, and practice related toepilepsy and its associated factors. The study used semi-structured questionnaire to collect data form study sample. Study concluded the presence of significant associated to knowledge, attitude, and practices of study sample related to epilepsy: being ruraldwellers and also living alone. Other factors such as more years of formal education,distance of health facility from the community, heard information aboutepilepsy,age range from 46 years to 55 years, had witnessed an epileptic seizure,had heard about epilepsy, prior knowledge of epilepsy, history of epilepsy,occupational history of being self-employed or a laborer, and history ofepilepsy in family member. This explained familiarity of Ethiopian community to epilepsy but with an unfavorable attitude towards it and unsafe practices used in treatment.

Kabel et al. (2020) conducted research in Taif to analyze students' knowledge, perceptions, and attitudes concerning epilepsy. Male and female students from Taif University's colleges of medicine, pharmacy, and applied medical sciences were given the questionnaires. The responses were from 352 women (87.3%) and 51 men (12.7%). There was a high degree of epilepsy knowledge. The majority of participants (84.1%) linked epilepsy to neurological disorders, 97% said convulsions were a common symptom, and 48.1% said that removing an epileptic patient from danger during an intense seizure was the right solution. The majority of respondents (87.3%) and participants (76.4%) agreed that epileptic women may marry and have children of their own.There are still unfavorable viewpoints and falsehoods. Methods for dispelling these unfavorable beliefs and attitudes must be determined via more research.

In the Kingdom of Saudi Arabia's Shaqra Area, Alshahrani et al. (2019) conducted a study to evaluate local community populations' knowledge, attitudes, and beliefs about epilepsy. 130 females and 155 guys made up the sample size. A structured 14-question survey was created. Epilepsy was connected to an organic etiology by educational contributors. But among contributors, 10.96% of men and 9.23% of women likewise connected epilepsy

to evil spirits. Compared to 44.51% of male contributors, 70.76% of female contributors thought epilepsy was an organic illness. Male contributions made up 28.38% of the total, while females made up 46.92%. More female responders (82.30%) than male participants (58.70%) thought that medicine may be used to treat epilepsy.Finally, it could be said that the Saudi Arabian community's knowledge, awareness, and attitudes regarding epilepsy have significantly improved.

Iannone et al. (2021) researched to gauge the knowledge and attitudes of Italian schoolteachers and students concerning epilepsy. For teachers and students, the surveys had a structure of 27 and 16 items, respectively. According to the findings, almost 40% of teachers believed epilepsy is an inherited or congenital disease, and less than 17% believe it is caused by psychological issues. The majority of students attributed the rise in epilepsy to head traumas (42.9%) and psychological conditions (41.1%). 43.9% of teachers and 33.0% of students believed epilepsy to be an incurable disease.Even though 50% of teachers claimed to be knowledgeable about managing seizures, the majority of those surveyed—50%—would always call an ambulance, regardless of their duration, kind, or other characteristics—as advised by guidelines. According to the findings, epilepsy knowledge and social awareness had increased over the past 10 years, yet undesirable attitudes had persisted. Future initiatives should not be delayed to enhance views around epilepsy and reduce stigma through more communication interventions.

Study Methodology:-

This chapter intoduce a detailed presentation of the methodology of the study, the procedures used to implement the study, and to achieve its objectives, starting with clarifying the method used, and then identifying the sample of the study and its characteristics, in addition to clarifying how the data collection tool is designed, the mechanism of verification of its sincerity and validity , and finally addressing the procedures of its application, and concluding the chapter by presenting the statistical methods used in data processing and extracting results, and the following is a detailed presentation of this**:**

Methodology:-

The researchers used the descriptive (survey) method as the most appropriate scientific method for the nature of the current study**.**

Population

The current study community consists of al persons who live in Qassim region, Saudi Arabia. During the period of study during the first term of the academic year 2022/2023**.**

Sample Study

The participants consisted of ($n = 302$) case, selected in a simple random method

Characteristics of the individuals in the study sample:

1. Age

Table No. (1):- Distribution of participants according to the Age variable.

Age	Frequancy	%
18-25	118	39.1%
26-33	84	27.8%
34-41	37	12.3%
42-50	26	8.6%
> 50	37	12.3%

It is clear from Table No. (1) that 39.1 % (118) of the participants their age lies between 18-25 years. while 27.8 % (84) of them their age lies between 26-33 years. 12.3% (37) their age lies between 34-41 years. And 12.3% (37) their age More than 50 years as indicated in the following figure:

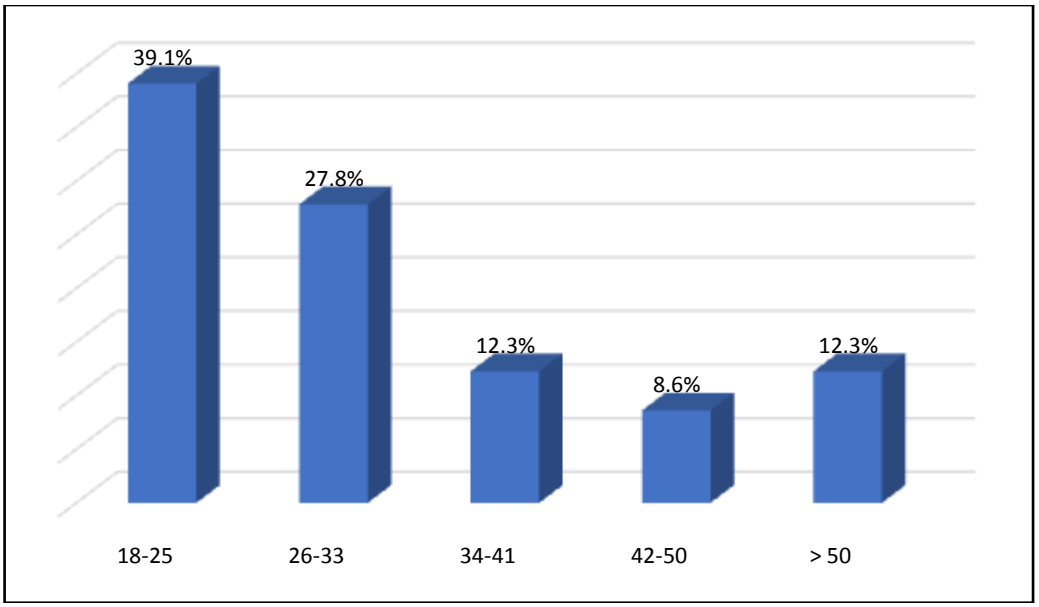

Figure No. (1):- Distribution of participants according to the Age variable.

Gender

Table No. (2):- Distribution of participants according to the Gender variable.

Gender	Frequancy	%
Male	113	37.4%
Female	189	62.6%

It is clear from Table No. (2) that (113) of the participants represent 37.4% of the total sample population were females, while (189) of them represent 62.6% of the total participants were males, as indicated in the following figure:

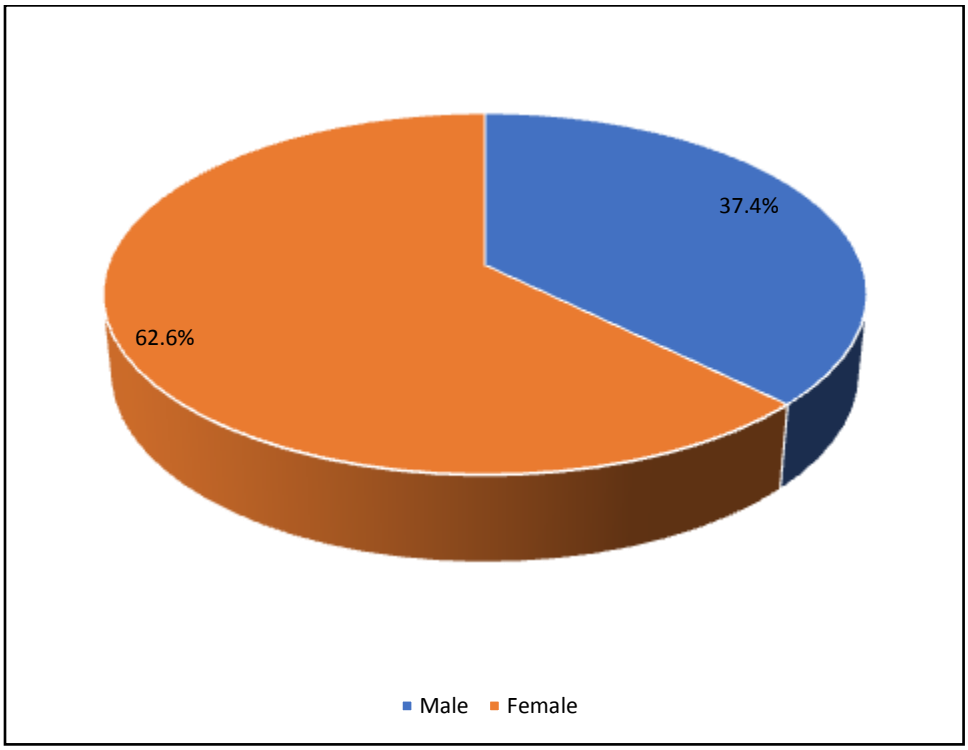

Figure No. (2):- Distribution of participants according to the Gender variable.

Educational Level

Table No. (3):- Distribution of participants according to the Educational Level variable.

Educational Level	Frequancy	%
Secondary Education	70	23.2%
Diploma	51	16.9%
Higher Education	169	56.0%
Master degre	9	3.0%
PH. D	3	1.0%

It is clear from Table No. (3) that (70) of the participants represent 23.2% of the total participants have a Secondary Education, while (51) of them represent 16.9% of the total participants have Diploma, (169) of them represent 56.0% of the total sample population have a Higher Education, (9) of them represent 3.0% of the total sample population have a Master degree, and only (3) of them represent 1.0% of the total sample population have a PH.D degree as indicated in the following figure:

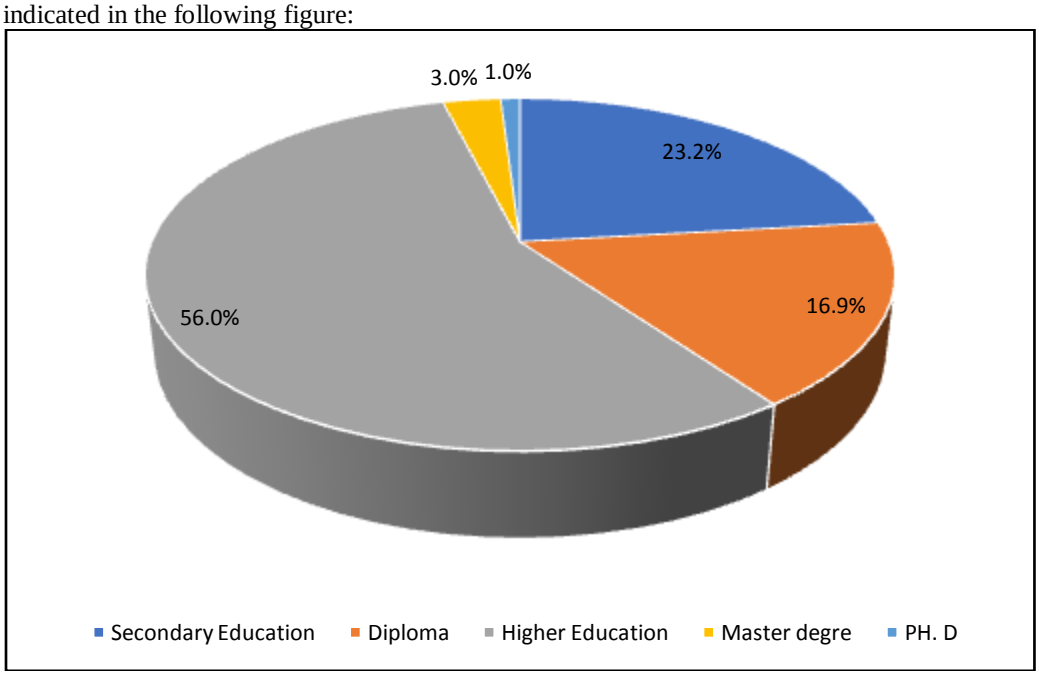

Figure No. (3):- Distribution of participants according to the Educational Level variable.

Monthly Income:

Table No. (4):- Distribution of participants according to the Monthly Income variable.

Monthly Income	Frequancy	%
< 5000	159	52.6%
5000 – 10000	94	31.1%
10000-20000	48	15.9%
> 20000	1	0.3%

It is clear from Table No. (4) that (159) of the participants represent 52.6% of the total sample population their income Less than 5000 SAR, while (94) of them represent 31.1% of the total participants their income lies between 5000 to 10000 SAR, (48) of them represent 15.9% of the total participants their income lies between 10000 to 20000 SAR, and (1) of them represent 0.3% of the total participants their income More than 20000 SAR as indicated in the following figure:

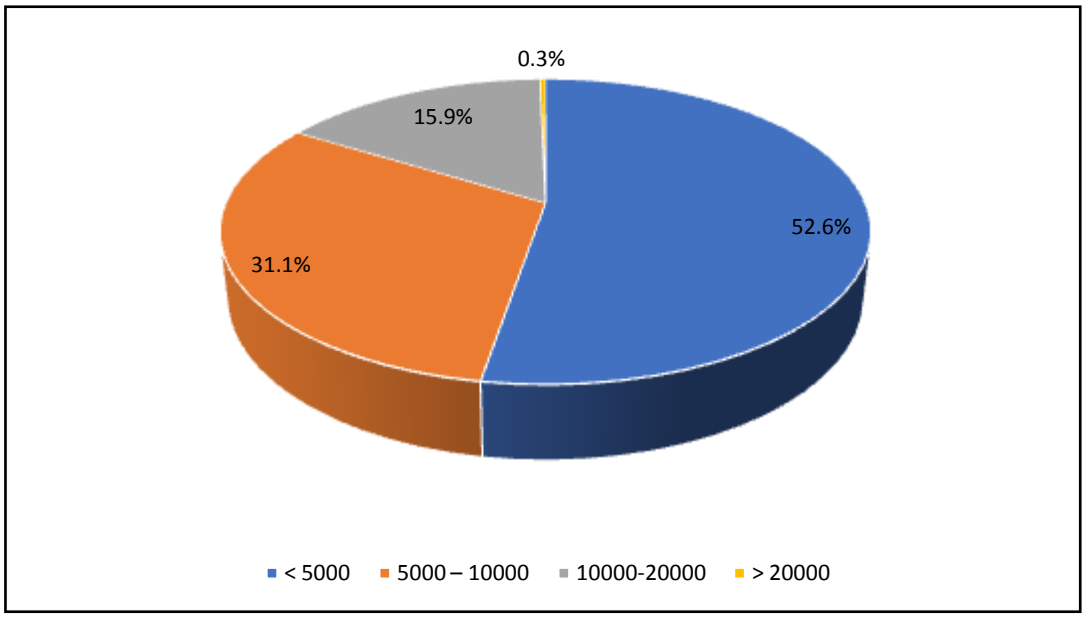

Figure No. (4):- Distribution of participants according to Monthly Income variable.

Residence

Table No. (5):- Distribution of participants according to the variable Residence.

Residence	Frequancy	%
Urban	278	92.1%
Rural	24	7.9%

It is clear from Table No. (5) that (278) of the participants represent 92.1% of the total sample population live in Urban, while (24) of them represent 7.9% of the total participants live in Rural as indicated in the following figure:

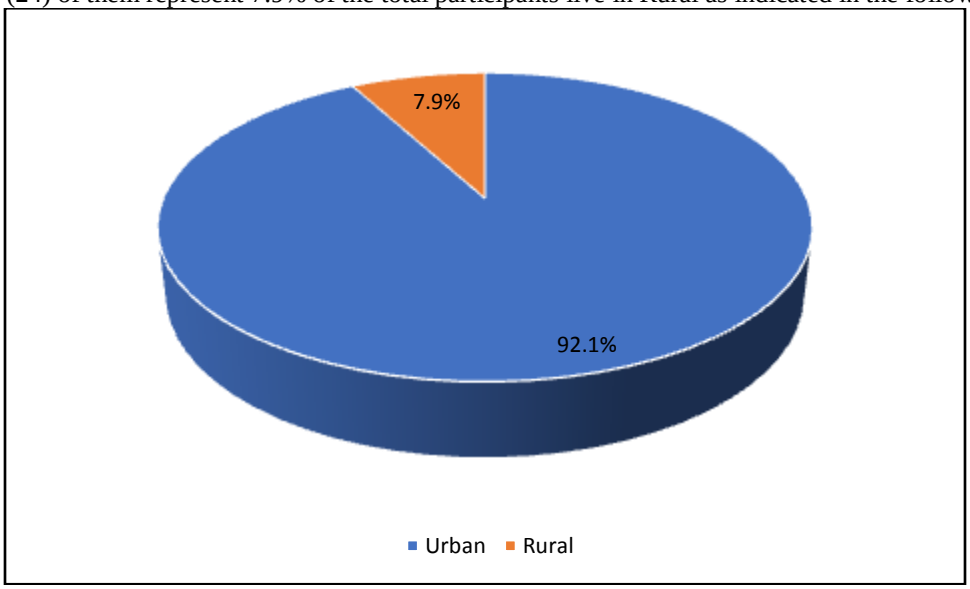

Figure No. (5) Distribution of participants according to Residence variable

Nationality

Table No. (6) Distribution of participants according to the Nationality variable

Nationality	Frequancy	%
Saudi	299	99.0%

Other	3	1.0%

It is clear from Table No. (6) that (299) of the participants represent 99.0% of the total sample population were saudi, as indicated in the following figure:

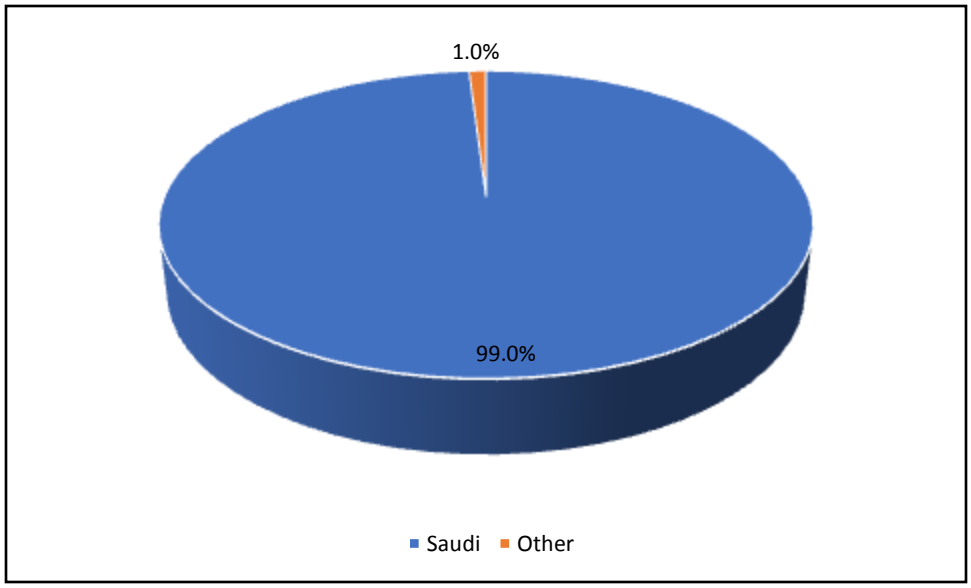

Figure No. (6):- Distribution of participants according to Nationality variable.

Job status

Table No. (7):- Distribution of participants according to the Job status variable.

Job status	Frequancy	%
Unemployed	158	52.3%
Employed	144	47.7%

It is clear from Table No. (7) that (144) of the participants represent 47.7% of the total sample population wereEmployed , as indicated in the following figure:

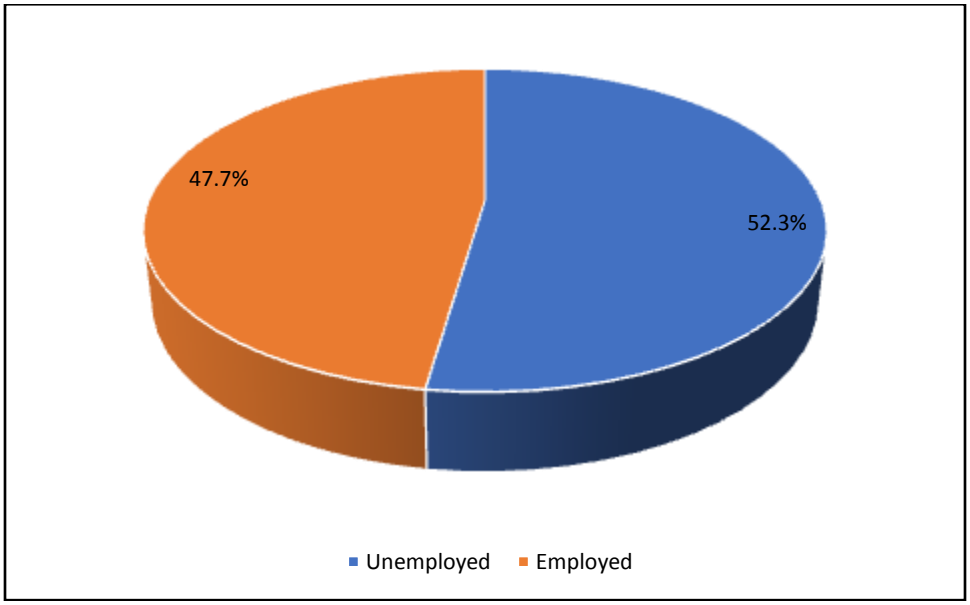

Figure No. (7):- Distribution of participants according to Job status variable.

General knowledge of Epilepsy

Table No. (8):- Distribution of participants according to the General knowledge of Epilepsy variable.

General knowledge of Epilepsy	Frequancy	%
Poor Knowledge	84	27.8%
Fair Knowledge	190	62.9%
Good Knowledge	28	9.3%

It is clear from Table No. (8) that (84) of the participants represent 27.8% of the total sample population have a Poor Knowledge aboutEpilepsy, while (190) of them represent 62.9% of the total participants have a Fair Knowledge, and (28) of them represent 9.3% of the total participants havea Good Knowledge, as indicated in the following figure:

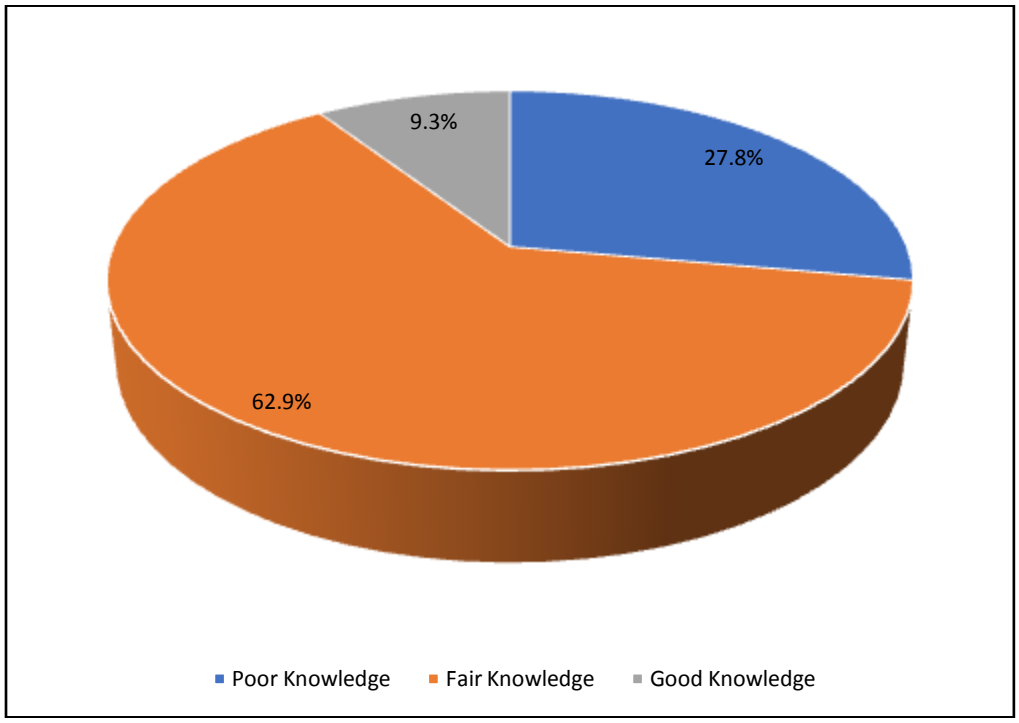

Figure No. (8):- Distribution of participants according to General knowledge of Epilepsy variable.

The tool of the study

The researchers used the questionnaire as a tool to collect data, due to its suitability of the study aims, its curriculum, and its society, and to answer its questions. The questionnaire is considered one of the most important means of collecting data and codified information, and the most reliable and reliable**.**

Set up the study tool:

After reviewing the educational literature and previous studies related to the subject of the current study, and in light of the data and questions of the study and its objectives, the tool (the questionnaire) was built, and it consisted of three parts. The following is a presentation of how it was constructed, and the procedures used to verify its authenticity and reliability**:**

1. The first section: It contains an introductory introduction to the aims of the study, and the type of data and information that researchers want to collect from members of the study sample, while providing guarantees of confidentiality of the information provided, and pledging to use it for scientific research purposes only**.**
2. The second section: It consists of (8) items about General knowledge of Epilepsy in Qassim region, represent one main axes
3. The last section: It consists of (4) questions about perceptions towards epilepsy in Qassim region, represent one main axes

Validity for the tool of the study

Truthfulness of the study tool means making sure that it measures what was prepared as intended to include the questionnaire for all the elements that are included in the analysis on the one hand, and the clarity of its expressions on the other hand, so that it is understandable to everyone who uses it. The researchers have made sure the study tool is validated by**:**

Validate the internal consistency of the tool

To verify the validity of the internal consistency of the questionnaire, the Pearson's Correlation Coefficient was calculated to determine the degree of correlation of each of the questionnaire expressions to the overall degree of the axis to which the item belongs, and the following tables show the correlation coefficients for each of the axes including their terms**.**

Table No. (10):- Pearson correlation coefficients for General knowledge of Epilepsy expressions with the overall grade of the axis.

(General knowledge of Epilepsy)			
Item number	correlation coefficient	Item number	correlation coefficient
1	.561**	5	.339**
2	.278**	6	.531**
3	.469**	7	.397**
4	.489**	8	.575**

**Significant at 0.01

It is clear from Table (10) that the values of the correlation coefficient for each of the items with their dimension are positive, and statistically significant at the level of significance (0.01) or less, which indicates the validity of the internal consistency between the statements of the first axis, and their suitability to measure what was prepared to measure it**.**

The validity of the study tool:

The validity of the study instrument was confirmed by using the validity factor of Cronbach's Alpha (α), and Table (11) shows the values of the parameters of the validity of each of the questionnaire axes**.**

Table No. (11):- Alpha Cronbach coefficient to measure the validity of the study instrument.

Axes of the questionnaire	N	constancy
General knowledge of Epilepsy	8	0.747

It is clear from Table No. (11) that the validity coefficient is high for the tool of the study and this indicates that the tool of the study has a high degree of validity reliable. that can be relied upon in the field application of the study**.**

Statistical processing methods:

To achieve the aims of the study, and to analyze the collected data, many appropriate statistical methods were used using the Statistical Package for Social Sciences, which is denoted by the abbreviation (SPSS)**.** Then the following statistical measures were calculated:

1. frequencies and percentages to get to know the characteristics of the participants and determine their responses to the main axis items that are included in the study tool
2. Weighted Mean, to know the average responses of the participants on each of the axes items, and it is useful for arranging the items according to the highest weighted average arithmetic**.**
3. "**Mean**" arithmetic mean, in order to know the extent of the high or low responses of the participants from the main axes, knowing that it is useful in arranging the axes according to the highest arithmetic mean**.**
4. **Standard Deviation**: to know the extent of the deviation of the responses of the participants for each of the items of the study variables, and for each of the main axes of their mean. It is noted that the standard deviation clarifies the dispersion in the responses of the participants individuals for each of the items of the study variables, in addition to the main axes. The closer its value approaches zero, the more the responses are concentrated, and the dispelrsal decreases**.**
5. **correlation :** The correlation coefficient is used to measure the degree of correlation between two variables. The value of this parameter expresses the strength of the relationship between the two variables, and some approximate

indicators can be used to judge the degree of this relationship. If the value of the correlation coefficient lies between (0, 0.5), this indicates the weakness of the relationship, while if its value lies between (0.5,1) this indicates the strength of this relationship. The relationship between the two variables is absent if the correlation coefficient is zero, while the value of one for the correlation coefficient indicates a complete relationship between the two variables. The sign of the correlation coefficient usually indicates the direction of the relationship between the two variables.

6. **Chi-square test:** it is a non parametric test that used to analyze the relation between two variables.

Study Results:-

The results of the study, discussion and interpretation

This chapter deals with a detailed presentation of the results of the current study, by answering the study's questions according to the appropriate statistical treatments, and then interpreting these results according to what is reached, as follows**:**

First: The answer to the first question: What's the level of community knowledge towards epilepsy in Qassim region, Saudi Arabia?

To know the level of community knowledge towards epilepsy in Qassim region, Saudi Arabia, iterations, percentages, arithmetic mean, standard deviations, and ranks for the responses of the members of the participants have been calculated on the terms of the level of community knowledge towards epilepsy in Qassim region, Saudi Arabia, the results are as follows**:**

Table No. (12):- Responses of the participants about the level of community knowledge towards epilepsy in Qassim region, Saudi Arabia, descending according to the Means of knowledge.

	No		Not sure		Yes		Mean	Standard Deviation	Percentage	Level
	Count	%	Count	%	Count	%				
Do you think epilepsy can be cured?	32	10.6%	73	24.2%	197	65.2%	2.55	0.68	84.9%	Good
Do you think epilepsy can cause death?	57	18.9%	74	24.5%	171	56.6%	2.38	0.78	79.2%	Good
Do you think epilepsy is hereditary?	91	30.1%	77	25.5%	134	44.4%	2.14	0.85	71.4%	Fair
Do you think epilepsy is a form of mental illness?	121	40.1%	59	19.5%	122	40.4%	2.00	0.90	66.8%	Fair
Do you know the cause of epilepsy?	135	44.7%	88	29.1%	79	26.2%	1.81	0.82	60.5%	Fair
Do you know how to perform first-aid seizure management?	179	59.3%	45	14.9%	78	25.8%	1.67	0.86	55.5%	Fair
Do you think epilepsy is caused by evil spirit or demon possession?	232	76.8%	44	14.6%	26	8.6%	1.32	0.62	43.9%	Poor
Do you think epilepsy is contagious?	275	91.1%	21	7.0%	6	2.0%	1.11	0.37	37.0%	Poor
General knowledge of Epilepsy							1.87	0.35	62.4%	Fair

In Table (12) it is clear that the participants have a Fair knowledge of Epilepsy with a degree of (1.87 from 3), a degree that falls in the second category of third scale categories (from 1.66 to 2.33).

It is clear from the results in Table (12) that the participants have a Fair knowledge of Epilepsy on most of items, which was arranged in descending order according to the knowledge of the participants as follows**:**

The item " thinking that epilepsy can be cured" come first in terms of knowledge of the participants with a degree of (2.55 out of 3)**.**

The item " thinking that epilepsy can cause death", come in the second place in terms of knowledge of the participants with a degree of (2.38 out of 3**).**

The item " thinking that epilepsy is hereditary." came third in terms of knowledge of the participants with a degree of (2.14 out of 3**).**

The item " thinking that epilepsy is a form of mental illness" at the fourth position in terms of knowledge of the participants with a degree of (2.0 out of 3**).**

The item " knowing that the cause of epilepsy" at the fifth position in terms of knowledge of the participants with a degree of (1.81 out of 3**).**

The item " knowing that how to perform first-aid seizure management" at the sixth position in terms of knowledge of the participants with a degree of (1.67 out of 3**).**

The items " thinking that epilepsy is caused by evil spirit or demon possession " at the seventh position in terms of knowledge of the participants with a degree of (1.32 out of 3**).**

The item " thinking that epilepsy is contagious" at the last position in terms of knowledge of the participants with a degree of (1.11 out of 3), as indicated in the following figure:

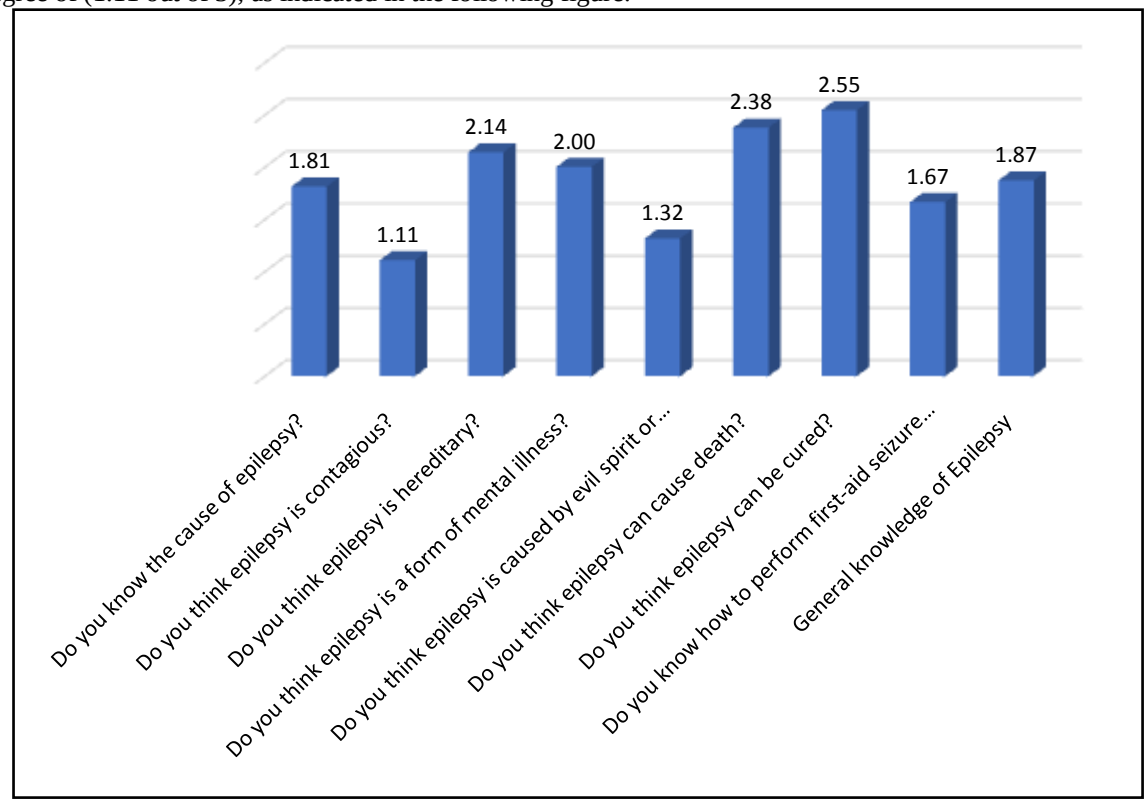

Figure No. (9):- Responses of the participants about knowledge of Epilepsy.

Second: Answer the second question: Are there found a significant association between the knowledge, perceptions towards epilepsy in Qassim region, Saudi Arabia and the demographic variables?
To answer this question chi-square test have been used, where the null hypothesis refer to that no significant association between the knowledge, perceptions towards epilepsy in Qassim region, Saudi Arabia and the demographic variables the results indicated as follows:

For General knowledge of Epilepsy

Table No. (13):- association between the knowledge about epilepsy in Qassim region, Saudi Arabia and the demographic variables.

		General knowledge of Epilepsy						chi-square	sig
		Poor Knowledge		Fair Knowledge		Good Knowledge			
		Count	%	Count	%	Count	%		
Age	18-25	25	8.3%	80	26.5%	13	4.3%	12.833	0.118
	26-33	24	7.9%	50	16.6%	10	3.3%		
	34-41	10	3.3%	25	8.3%	2	0.7%		
	42-50	8	2.6%	15	5.0%	3	1.0%		
	> 50	17	5.6%	20	6.6%	0	0.0%		
Gender	Male	31	10.3 %	64	21.2%	18	6.0%	9.772	.008*
	Female	53	17.5 %	126	41.7%	10	3.3%		
Education Level	Secondary Education	20	6.6%	44	14.6%	6	2.0%	4.626	0.797
	Diploma	16	5.3%	32	10.6%	3	1.0%		
	Higher Education	46	15.2 %	106	35.1%	17	5.6%		
	Master degre	2	0.7%	5	1.7%	2	0.7%		
	PH. D	0	0.0%	3	1.0%	0	0.0%		
Monthly Income	< 5000	41	13.6 %	107	35.4%	11	3.6%	4.748	0.577
	5000 – 10000	27	8.9%	55	18.2%	12	4.0%		
	10000-20000	16	5.3%	27	8.9%	5	1.7%		
	> 20000	0	0.0%	1	0.3%	0	0.0%		
Residence	Urban	77	25.5 %	174	57.6%	27	8.9%	0.808	0.668
	Rural	7	2.3%	16	5.3%	1	0.3%		
Nationality	Saudi	84	27.8 %	188	62.3%	27	8.9%	2.742	0.254
	Other	0	0.0%	2	0.7%	1	0.3%		
Job status	Unemployed	47	15.6 %	102	33.8%	9	3.0%	5.156	0.076
	Employed	37	12.3 %	88	29.1%	19	6.3%		

The previous table indicate that:

No significant association between the knowledge about epilepsy in Qassim region and Age, where the p.value of the test 0.118 greater than 0.05

There was found a significant association between the knowledge about epilepsy in Qassim region and Gender, where the p.value of the test 0.008 less than 0.05

No significant association between the knowledge about epilepsy in Qassim region and Education Level, where the p.value of the test 0.797 greater than 0.05

No significant association between the knowledge about epilepsy in Qassim region and Monthly Income, where the p.value of the test 0.577 greater than 0.05

No significant association between the knowledge about epilepsy in Qassim region and Residence, where the p.value of the test 0.668 greater than 0.05

No significant association between the knowledge about epilepsy in Qassim region and Nationality, where the p.value of the test 0.254 greater than 0.05

No significant association between the knowledge about epilepsy in Qassim region and Job status, where the p.value of the test 0.076 greater than 0.05

For Psychological factors

Table No. (14):- association between the perceptions (Psychological factors) towards epilepsy in Qassim region, Saudi Arabia and the demographic variables.

		(Psychological factors)								chi-square	sig
		Loneliness		Stress		Work/school/marriage difficulties		Change in weather			
		Count	%	Count	%	Count	%	Count	%		
Age	18-25	5	1.7%	101	33.4%	10	3.3%	2	0.7%	21.224	.047*
	26-33	5	1.7%	67	22.2%	3	1.0%	9	3.0%		
	34-41	1	0.3%	35	11.6%	0	0.0%	1	0.3%		
	42-50	1	0.3%	25	8.3%	0	0.0%	0	0.0%		
	> 50	0	0.0%	34	11.3%	1	0.3%	2	0.7%		
Gender	Male	8	2.6%	85	28.1%	9	3.0%	11	3.6%	21.595	.000*
	Female	4	1.3%	177	58.6%	5	1.7%	3	1.0%		
Education Level	Secondary Education	5	1.7%	57	18.9%	7	2.3%	1	0.3%	18.424	0.103
	Diploma	1	0.3%	46	15.2%	1	0.3%	3	1.0%		
	Higher Education	6	2.0%	150	49.7%	5	1.7%	8	2.6%		
	Master degre	0	0.0%	7	2.3%	1	0.3%	1	0.3%		
	PH. D	0	0.0%	2	0.7%	0	0.0%	1	0.3%		
Monthly Income	< 5000	7	2.3%	141	46.7%	9	3.0%	2	0.7%	30.052	.000*
	5000 – 10000	2	0.7%	82	27.2%	3	1.0%	7	2.3%		
	10000-20000	3	1.0%	39	12.9%	2	0.7%	4	1.3%		
	> 20000	0	0.0%	0	0.0%	0	0.0%	1	0.3%		
Residence	Urban	9	3.0%	242	80.1%	14	4.6%	13	4.3%	6.026	0.110
	Rural	3	1.0%	20	6.6%	0	0.0%	1	0.3%		
Nationality	Saudi	12	4.0%	259	85.8%	14	4.6%	14	4.6%	0.463	0.927
	Other	0	0.0%	3	1.0%	0	0.0%	0	0.0%		
Job status	Unemployed	5	1.7	141	46.7	11	3.6%	1	0.3%	16.103	.00

			%		%						1*
	Employed	7	2.3 %	121	40.1 %	3	1.0%	13	4.3%		

The previous table indicate that:

There was found a significant association between the Psychological factors about epilepsy in Qassim region and Age, where the p.value of the test 0.047 less than 0.05

There was found a significant association between the Psychological factors about epilepsy in Qassim region and Gender, where the p.value of the test 0.000 less than 0.05

No significant association between the Psychological factors about epilepsy in Qassim region and Education Level, where the p.value of the test 0.103 greater than 0.05

There was found a significant association between the Psychological factors about epilepsy in Qassim region and Monthly Income, where the p.value of the test 0.000 less than 0.05

No significant association between the Psychological factors about epilepsy in Qassim region and Residence, where the p.value of the test 0.110 greater than 0.05

No significant association between the Psychological factors about epilepsy in Qassim region and Nationality, where the p.value of the test 0.927 greater than 0.05

There was found a significant association between the Psychological factors about epilepsy in Qassim region and Job status, where the p.value of the test 0.001 less than 0.05

For Personal factors

Table No. (15):- Association between the perceptions (Psychological factors) towards epilepsy in Qassim region, Saudi Arabia and the demographic variables.

		(Personal factors)								chi-square	sig
		Use of drugs/cannabis		Excessive alcohol use		Immoral lifestyles		Bad thoughts			
		Count	%	Count	%	Count	%	Count	%		
Age	18-25	42	13.9 %	17	5.6%	19	6.3%	40	13.2 %	16.437	0.172
	26-33	19	6.3%	5	1.7%	20	6.6%	40	13.2 %		
	34-41	7	2.3%	5	1.7%	6	2.0%	19	6.3 %		
	42-50	4	1.3%	3	1.0%	5	1.7%	14	4.6 %		
	> 50	8	2.6%	3	1.0%	9	3.0%	17	5.6 %		
Gender	Male	37	12.3 %	9	3.0%	21	7.0%	46	15.2 %	4.429	0.219
	Female	43	14.2 %	24	7.9%	38	12.6%	84	27.8 %		
Education Level	Secondary Education	20	6.6%	8	2.6%	12	4.0%	30	9.9 %	16.411	0.173
	Diploma	5	1.7%	8	2.6%	10	3.3%	28	9.3 %		
	Higher Education	52	17.2 %	16	5.3%	33	10.9%	68	22.5 %		
	Master degre	2	0.7%	0	0.0%	4	1.3%	3	1.0		

									%		
	PH. D	1	0.3%	1	0.3%	0	0.0%	1	0.3 %		
Monthly Income	< 5000	43	14.2 %	22	7.3%	26	8.6%	68	22.5 %	10.043	0.347
	5000 – 10000	24	7.9%	9	3.0%	24	7.9%	37	12.3 %		
	10000-20000	12	4.0%	2	0.7%	9	3.0%	25	8.3 %		
	> 20000	1	0.3%	0	0.0%	0	0.0%	0	0.0 %		
Residence	Urban	79	26.2 %	29	9.6%	54	17.9%	116	38.4 %	7.129	0.068
	Rural	1	0.3%	4	1.3%	5	1.7%	14	4.6 %		
Nationality	Saudi	80	26.5 %	31	10.3%	59	19.5%	129	42.7 %	10.076	.018*
	Other	0	0.0%	2	0.7%	0	0.0%	1	0.3 %		
Job status	Unemployed	45	14.9 %	20	6.6%	27	8.9%	66	21.9 %	2.546	0.467
	Employed	35	11.6 %	13	4.3%	32	10.6%	64	21.2 %		

The previous table indicate that:
No significant association between the Personal factors about epilepsy in Qassim region and Age, where the p.value of the test 0.172 greater than 0.05

No significant association between the Personal factors about epilepsy in Qassim region and Gender, where the p.value of the test 0.219 greater than 0.05

No significant association between the Personal factors about epilepsy in Qassim region and Education Level, where the p.value of the test 0.173 greater than 0.05

No significant association between the Personal factors about epilepsy in Qassim region and Monthly Income, where the p.value of the test 0.347 greater than 0.05

No significant association between the Personal factors about epilepsy in Qassim region and Residence, where the p.value of the test 0.068 greater than 0.05

There was found a significant association between the Personal factors about epilepsy in Qassim region and Nationality, where the p.value of the test 0.018 less than 0.05

No significant association between the Personal factors about epilepsy in Qassim region and Job status, where the p.value of the test 0.467 greater than 0.05

For Supernatural factors
Table No. (16):- Association between the perceptions (Supernatural factors) towards epilepsy in Qassim region, Saudi Arabia and the demographic variables.

		(Supernatural factors)								chi-square	sig
		Divine punishment		God's will		Evil spirit/witchcraft		Destiny			
		Count	%	Count	%	Count	%	Count	%		
Age	18-25	7	2.3%	3	1.0%	10	3.3%	98	32.5	37.762	.00

									%		0*
	26-33	23	7.6%	1	0.3%	9	3.0%	51	16.9 %		
	34-41	2	0.7%	0	0.0%	3	1.0%	32	10.6 %		
	42-50	2	0.7%	1	0.3%	0	0.0%	23	7.6 %		
	> 50	2	0.7%	0	0.0%	0	0.0%	35	11.6 %		
Gender	Male	27	8.9%	3	1.0%	12	4.0%	71	23.5 %	31.627	.000*
	Female	9	3.0%	2	0.7%	10	3.3%	168	55.6 %		
Education Level	Secondary Education	3	1.0%	4	1.3%	4	1.3%	59	19.5 %	59.988	.000*
	Diploma	10	3.3%	0	0.0%	5	1.7%	36	11.9 %		
	Higher Education	17	5.6%	1	0.3%	10	3.3%	141	46.7 %		
	Master degre	6	2.0%	0	0.0%	1	0.3%	2	0.7 %		
	PH. D	0	0.0%	0	0.0%	2	0.7%	1	0.3 %		
Monthly Income	< 5000	12	4.0%	3	1.0%	9	3.0%	135	44.7 %	25.996	.002*
	5000 – 10000	12	4.0%	2	0.7%	9	3.0%	71	23.5 %		
	10000-20000	12	4.0%	0	0.0%	3	1.0%	33	10.9 %		
	> 20000	0	0.0%	0	0.0%	1	0.3%	0	0.0 %		
Residence	Urban	34	11.3 %	4	1.3%	20	6.6%	220	72.8 %	1.314	0.726
	Rural	2	0.7%	1	0.3%	2	0.7%	19	6.3 %		
Nationality	Saudi	36	11.9 %	5	1.7%	22	7.3%	236	78.1 %	0.799	0.85
	Other	0	0.0%	0	0.0%	0	0.0%	3	1.0 %		
Job status	Unemployed	7	2.3%	4	1.3%	7	2.3%	140	46.4 %	24.591	.000*
	Employed	29	9.6%	1	0.3%	15	5.0%	99	32.8 %		

The previous table indicate that:

1. There was found a significant association between the Supernatural factors about epilepsy in Qassim region and Age, where the p.value of the test 0.000 less than 0.05
2. There was found a significant association between the Supernatural factors about epilepsy in Qassim region and Gender, where the p.value of the test 0.000 less than 0.05
3. There was found a significant association between the Supernatural factors about epilepsy in Qassim region and Education Level, where the p.value of the test 0.000 less than 0.05
4. There was found a significant association between the Supernatural factors about epilepsy in Qassim region and Monthly Income, where the p.value of the test 0.002 less than 0.05
5. No significant association between the Supernatural factors about epilepsy in Qassim region and Residence, where the p.value of the test 0.726 greater than 0.05

6. No significant association between the Supernatural factors about epilepsy in Qassim region and Nationality, where the p.value of the test 0.850 greater than 0.05
7. There was found a significant association between the Supernatural factors about epilepsy in Qassim region and Job status, where the p.value of the test 0.000 less than 0.05

Discussion:-

Epilepsy is a neurological disorder defined by two or more seizure events. A seizure is a temporary disruption of cerebral function brought on by aberrant brain spasms, which causes a rapid, excessive, disordered firing of cerebral neurons. Epilepsy is a prevalent yet misunderstood condition. As a result, epileptics experience serious stigma in society (Asnakew et al., 2021). The project seeks to raise an understanding of the nature of epilepsy among Qassim community members and reduce levels of discrimination towards its patients.

The age group between 18 and 25 years old made up the majority of those who took part in the survey (39.1%). Women made up 62.6% of the participants. Higher education was held by more than half of the participants (56.0%), and 52.6% of them made less than 5,000 Saudi Riyals monthly. However, approximately 50% of the participants (52.3%) missed a job. Both the participants (92.1%) and the Saudis (99.0%) were primarily from urban areas.

While 56.6% said epilepsy could result in death, 65.2% thought it could be treated. According to Alshahrani et al. (2019), more female contributors (82.30%) than male contributors (58.70%) thought that medicine may be used to treat epilepsy. According to Iannone et al. (2021), 33.0% of students and 43.9% of teachers believed that epilepsy was an incurable disease. In the survey, 44.4% of respondents indicated that epilepsy is a hereditary condition. According to Alshahrani et al. (2019), 28.38% of male and 46.92% of female respondents agreed that the hereditary causation of epilepsy existed.

Epilepsy was considered a mental disease by 40.4% of respondents. According to Kabel et al. (2020), 84.1% of the participants believed epilepsy to be a neurological condition. Educated participants, according to Alshahrani et al. (2019), connected epilepsy to an organic etiology. But 44.7% of respondents said they were unsure about epilepsy's origin. According to Iannone et al. (2021), less than 17% of teachers believe that epilepsy was caused by psychological issues, but students attribute the majority of epilepsy recurrences to head traumas (42.9%) and psychological illnesses (41.1%).

The percentage of individuals who were unaware of first aid for an epileptic fit was more than 50% (59.3%). The best action to take for an epileptic patient experiencing an acute seizure, according to 48.1% of respondents, was to remove him from a dangerous situation, according to Kabel et al. (2020). According to Iannone et al. (2021), while 50% of teachers claimed to know how to manage a seizure, half of those polled would always call an ambulance, regardless of duration, type, or other topic considerations, as suggested by guidelines.

According to 76.8%, evil spirits were not to blame for epilepsy. According to Alshahrani et al. (2019), among contributors, 10.96% of men and 9.23% of women connected epilepsy to an evil spirit. Epilepsy is not communicable, according to the majority of participants (91.1%). 62.4% of the participants had a moderate understanding of epilepsy, according to the analysis of the findings. According to Maiga et al. (2014), there were several misunderstandings about epilepsy in Mali. Although there was a high degree of epilepsy awareness, unfavorable attitudes and misunderstandings nevertheless persist, according to Kabel et al. (2020). As shown by Alshahrani et al. (2019), Saudi Arabia's local community had significantly improved in terms of knowledge, awareness, and attitudes concerning epilepsy.

Our research had several limitations. Children and adolescents, who were most impacted by the stigma of epilepsy, were not included in the study, which was primarily for adults. In addition, despite the significance of the subject, the study sample was limited. Influential groups of Qassim people were therefore disregarded because the technique of data collection was restricted to an internet questionnaire, which did not use by some people.

Conclusion:-

Epilepsy is a widespread condition, but according to the research population, it was based on a variety of factors, including mental illness, evil spirits, hereditary disease, or an absence of knowledge about it at all. The participants

were found to have a moderate knowledge of epilepsy. But it was shown that more than half of the participants lacked knowledge of how to treat a patient having an epileptic seizure. To fully understand epilepsy, its origins, risk factors, proper treatment options, and lastly how to interact with epileptic patients, it is vital to organize awareness and education programs for all the residents of Qassim.

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