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Health culture and the spread of epidemiological diseases in the desert environment: Field study about Brucellosis, Lishmaniasisin the Sahara of Laghouat

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***Abstract*---**The environment is the medium in which man lives and exercises his activity and obtains the essential elements of his life including food, health, shelter and other various needs. On this basis, the environment is not merely isolated physical or natural elements. Rather, it is a set of material, social, and cultural resources through which man seeks to satisfy his biological needs as well as aiding him in creating a pattern of relations throughout his interaction with others. Moreover, he can simply develop and secure his future and that of his successor. In this vein, Parsons explains, "the natural environment is at a lower level of organic patterns, and it is the source of all the energy required by human life." Health and disease are a cornerstone of human interaction with their environment, where their activity is closely related to these factors. Essentially, health and disease are measures of the degree to which human groups can adapt to their environments in the presence of available biological, physical or cultural elements. The desert environment was one of the environments known for its harsh climate and nature. Its nomadic

population tried to invest in natural and living components to obtain preventive and curative qualities for the diseases they encountered. Hence, the present study attempts to highlight the epidemiological diseases particularly Brucellosis and Leishmaniasis in the municipality of Tadjrouna in Laghouat. This study will tackle the injuries caused by this environment to all its inhabitants of the Bedouin. And to see how to exploit them for its aspects in the prevention and discovery of treatment through the so-called health culture.

***Keywords*---**health culture, epidemiological diseases, desert environment.

Introduction

The issue of health, its reality, and its culture have emerged as a major concern in confronting the spread of epidemic diseases, because this acquired health culture achieves safety, and this culture is carried out on several levels, levels, and health values in and of themselves. It is considered an entry point to increasing and raising production and accelerating the pace of economic and social development, as it is not possible to achieve a healthy, healthy society without improving and developing the reality of health and its conditions for the human being - who is considered the beating heart - because the fully healthy human being is the one capable of building lasting healthy development. And stable, given that the direct and main factor in the field of health is disease control and medicine to treat it, there are many critical factors that fall outside the scope of the direct control of the health sector and this is related to the sectors of water and sanitation, learning, urban and rural life, housing, and Energy, agriculture, and especially the environment, but the health factor or cultural factor remains one of the strong indicators of building interconnected health in its parts. We can also talk about the role of the individual, or rather his culture, in preventing disease and its seriousness.

It is worth noting that leishmaniasis and brucellosis are among the epidemic diseases widespread in our current era, which requires doctors and biologists to exert double efforts to find out the extent of the connection between the two diseases and the human preventive culture before the disease occurs in the first place. The municipality of Tadjrouna in Laghouat was our field station for diagnosing the phenomenon in patients with brucellosis and leishmaniasis during 2020.

First: Research objectives

The aim of the study is to try to achieve a number of specific objectives, and in view of the spread of the disease in the social environment and its relationship with health culture, we decided to address it considering that the spread of brucellosis and leishmaniasis poses a threat to the urban fabric, which prompts

local authorities, civil society and citizens to activate the principle of health culture before it appears.

In light of this, our current study seeks to achieve the following objectives:

1. Knowing the extent to which the environmental field controls epidemic diseases.
2. Determine the image that this cultural health interest reflects on the environmental appearance of the region.
3. Knowing the extent of patients' interest and response to awareness and cultural campaigns.
4. Knowing the nature of the plans used in the Hassi Dalaa region, the extent of their effectiveness and their obstacles.
5. Trying to identify the differences that health culture makes in changing citizens' behavior.

Second: The problem

Health has been and still occupies a prominent role on the development front, and is considered one of the basic indicators of countries' progress and development. Whereas the traditional view of health was dealt with and analyzed according to biological and natural causes and in isolation from other social factors related to development, the new modernization does not neglect social factors in determining the meaning of health.

Interest in health has increased at the present time and is no longer limited to doctors, but rather has become the focus of interest of sociologists, which led to the emergence of medical sociology. Hence, health has an important place in the development process, as improving the health conditions of the individual within society leads to a healthier population in the future, and health also gives the individual the effort to do more work for a longer productive urban life.

Neighborhood health institutions have played an important role in this aspect, as their improvement and how they perform depend on the services they provide, which are reflected in reducing the spread of epidemic diseases in society, whether from a social, economic or even demographic perspective. This confirms the existence of a reciprocal relationship between Neighborhood health institutions and the quality of their services for the sake of a healthy life away from the world of epidemic diseases. These institutions work to raise awareness of the human resource in the present and future and on the cultural dimension.

Algeria is one of the countries that has paid attention to the health field by providing health facilities and institutions, providing doctors, employees, and nurses, paying attention to school health, establishing culture, and providing neighborhood health institutions. However, the health situation in Algeria is still suffering, as serious diseases have spread in many areas of the country. In 1997, Algeria was ranked 82nd in the world in terms of health level, and Algerians do not benefit from adequate health care. Algeria strives to focus and pay attention to social factors such as the family by improving experts in this aspect. It has also prepared academics and specialists specifically for this field to urge citizens to

prevent prevention, with the participation of associations and clubs in the local community.

All these factors related to the health culture were reflected in the reality of those suffering from diseases, especially leishmaniasis and brucellosis patients, as the level of these institutions was raised and the individual within society, thanks to the health culture spread on several levels, became clear that he yearns for a future vision for the sake of a promising community health.

The municipality of Tajrouna, as a local community in Laghouat, is known for its activity at various levels, especially in the modern health field, where some epidemic diseases spread due to the nature of the social environment that contributes either negatively or positively to the type of disease. However, the municipality of Tajrouna has a neighboring health institution, and this is thanks to the development plans in the field of health and the attention it received from the state and specialists with the aim of upgrading the region, and the presence of a health culture and intellectual awareness in the medical field that led to controlling the disease and creating programs and plans. To be consistent with the financial and social conditions of the population.

In this context, the following questions are raised:

Questions

- To what extent can health culture be considered related to epidemic diseases in the desert environment?
- Does the individual's cultural level limit the spread of epidemic diseases?
- Does the Health and Municipal Corporations of the Municipality of Tadjrouna have a role in spreading or eliminating it within the city?

Third: Study hypotheses

- The patient's acquisition of health culture and health follow-up in hospital institutions, in addition to the performance of local departments, affects the spread of epidemic diseases in the municipality of Tadjrouna.

Partial hypotheses

The incidence of disease (leishmaniasis - brucellosis) is affected by health culture and the social environment. Health follow-up by the patient and the hospital institution affects recovery from the disease. The spread of epidemic diseases is related to the performance of municipal departments in Tajrouna.

Fourth: Defining concepts

The concept of health culture

"Health culture means providing health information, data, and facts related to health and illness to all citizens" [1] .

It may seem to some that health education means something of imposing the matter on people, forgetting that its primary goal is guidance and direction, and reaching a situation in which every individual becomes psychologically and emotionally ready to respond to health instructions.

It is worth noting that we clarify the difference between a healthy habit and a healthy practice. Whereas habit is what an individual does without thinking or feeling as a result of its frequent repetition, while practice is what an individual does intentionally stemming from his adherence to certain values[2].

The concept of health education

Health education, as defined by Thomas Wood: "certain experiences in school, and in places that constitute the reality of desirable habits, attitudes, and knowledge related to the individual, society, and health customs." This definition is divided into several directions and is proposed regarding the education process in order to achieve results, and this work draws attention to taking into account the status of health education and the extent of the need for it.

Ibrahim Ismat Mutawa defined "health education" as: "a style of education that regulates a person's relationship with his natural and psychological environment with the aim of providing students with an educational experience of facts, concepts, way of thinking, attitudes, and values related to environmental problems such as pollution..."[3]

The concept of health awareness

Health awareness is a concept that refers to citizens' familiarity with health information and facts, as well as their sense of responsibility towards their health and the health of others. In this context, health awareness is considered to be healthy practice intentionally as a result of understanding and conviction. Health awareness also means turning those healthy practices into habits that are practiced without feeling or thinking. In other words, health awareness is the goal

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[1] Bahaa Eddine Ibrahim Salama, Health Aspects in Physical Education, Dar Al-Fikr Al-Arabi, Cairo, 2001, p. 22.

[2] Bahaa Eddine Ibrahim Salama, previous reference, p. 23.

[3] Ibrahim Ismat Mutawa, Environmental Education in the Arab World, Dar Al-Fikr Al-Arabi, Cairo, p. 16.

that we must strive for and achieve, provided that health information does not remain only health information[4].

Desert environment

The generally accepted concept of the environment, which is the social environment in which a person grows and grows, starting from the family, to the group of comrades, to the school, and then to society as a whole; As for the contemporary concept of the environment in the integrated system that consists of a group of factors, and the natural, social, economic and cultural elements that surround a person and are linked to his life; The environment, in its comprehensive sense, consists of two main parts that complement each other, and they are as follows: the natural components of the environment, and the components created by humans.[5]

The word "desert" seems to be more general, comprehensive, and broader than the word "desert environment," because the latter defines a specific environment and a known geographical area whose attribution and naming ends with a homeland itself, as if we say, for example: the Algerian desert environment, the Libyan desert environment, and Northern environment and southern environment; As for the word "desert," it means a wide area spreading out in all directions, covered by sand dunes, adorned with palm oases, and wells spread here and there for watering livestock and sheep.[6]

Brucellosis

"It is an acute or chronic infectious disease that affects animals and is transmitted to humans through cows, goats, and camels"[7]. It is a common disease that infects humans and animals with the same pathogen. It causes brucellosis in humans and communicable abortus disease in animals. It is one of the diseases that health departments pay most attention to, because failure to address it leads to a major economic drain on the country, and since it is primarily a disease of domestic animals, it is placed at the top of the list when exporting and importing livestock and cows between countries.[8]

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[4] Mohamed El-Bustan, Health Education Curricula, Dar El-Kalam, Kuwait, 1981, pp. 22, 23.

[5] Kamal Hammadi, The Concept of Environment and Environmental Education, The Educator, a periodical magazine issued by the National Institute for Higher Training of Youth Educators, Tikserine, Dar Sharifa Press, Algeria, No. 07, November 1998, p. 15.

[6] Kamal Hammadi, op. cit., p. 15.

[7] Brucellosis in humans, Health Awareness Series, Issue 25, Al-Attar Offset Press, Kingdom of Saudi Arabia, p. 1.

[8] Tawfiq Zaazou, Brucellosis... its causes... its symptoms... and methods of prevention, in an interview with a doctor... El-Fidaa Magazine, Elwihda Foundation for Press, Printing and Publishing, Syria, 2009, p. 06.

Leishmanius

It is a serious contagious parasitic disease that often leads to death in the absence of early and strict treatment (about 90% of deaths). It is an infectious and contagious disease that is transmitted to humans by a very small mosquito called Phlebotomy after a painful bite at night. There are two types of leishmaniasis, one of which affects the internal organs and is more dangerous than the second, which affects the skin and mucus.[9]

Fifth: Methodological procedures for the study
Field of study
Spatial field

Tadjrouna is a municipality administratively affiliated with the state of Laghouat. It is 90 km from the state headquarters in the south of the state, and 50 km from the headquarters of Daira. With an area of 1,130 square kilometers, it is among the largest municipalities in the state in terms of area. It is bordered to the north by the municipality of Sidi Tayfour in El Bayadh Province, and by the municipality of Ain Madi in Laghouat; to the south by the municipality of Hassi R'mel, to the east by the municipality of El Houita, to the west by the municipality of the village of Lamaya, and by the municipality of Brizina in El Beidh Governorate. A large percentage of the population of Tajrouna depends on raising livestock, which exceeds 100,000 heads of sheep, distributed among a number of pastoral rural communities, in addition to what residents raise in homes within the city itself.

Human field

It represents a sample of patients with leishmaniasis and brucellosis in the municipalities of Tadjrouna and Hassi Dalaa for the years 2020/2021.

The approach used and its tools
The approach used

Based on the nature of the topic that we are about to study, which is represented by the shocking mechanisms, characteristics and dimensions of health culture and the spread of epidemic diseases in the desert environment, it required studying the reality of the phenomenon, treating it and diagnosing its indicators, using the descriptive and analytical approach. It is defined as “the approach used to study and clarify the characteristics of a particular phenomenon or situation as it exists in reality, interpreting it and determining its relationships within the framework of its phenomena and the variables surrounding it, in addition to the coordinates that lead to various generalizations.”[10]

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[9] http://www.sidiamer.com/ , le 28/09/2020 h20.32.
[10] Hamad Suleiman, Scientific Research Techniques and Methods, Dar Al-Maarifa University, Egypt, 2002, p. 177.

In other words, it quantizes the phenomenon and gives it a digital character in order to increase its scientific value, and so that we can get closer to reality by surrounding it. We have relied on the descriptive approach to diagnose the topic, know its aspects, analyze its dimensions, and reveal the causes of the phenomenon under study, in order to reach results and observations that can contribute to finding solutions to the problems discovered using multivariate analysis.

We also relied on the statistical approach, using the principles of this approach when classifying and analyzing data by using statistical tables, and finding the relationship between variables when measuring their statistical significance, using percentages to determine the degree of relationship or compatibility between these variables.

Search tools

In this research, we have relied on some methodological tools, including:

Interview

The interview is of great importance in the process of collecting information, as it is a direct verbal communication between the researcher and his subjects, as it allows for the disclosure of some information that is supposed to be said - publicly - because the interview can help the researcher obtain or generate a kind of trust from the other party. During which the subject is not restricted in his dialogue with the researcher.

During our field study, we relied on a free or unstructured interview, in which the questions are not set in advance. Rather, the researcher asks a general question about the research problem, and through the researched answer, he sneaks in asking questions. We used this type of interview with the President of the Municipal People's Council of the Municipality of Tajirona; A conversation was also held with some heads of associations and clubs, and some representatives of civil society about the role played by this segment in eliminating epidemic diseases, and that is the necessity of activating awareness campaigns and educating society about cleanliness, prevention, and imbibing a culture of health. The interview helped us greatly in the analysis process.

The form

The questionnaire is considered one of the most used tools for all data in the social sciences. It can be expressed as: a guide that includes a set of questions directed to the respondents with the aim of obtaining data that serves the topic; In addition to being a data collection tool, the questionnaire is: "a direct technique for scientific investigation used in relation to individuals and allows them to be questioned in a directed manner, and to carry out quantitative surveys with the aim of finding mathematical relationships and carrying out numerical comparison." We distributed the form to the group that was infected with leishmaniasis and brucellosis, whether within the city or in communities near the municipality.

The research sample and how to choose it

The research sample

The study sample is a part of the original research community chosen by the researcher using different methods that represents the original community to achieve the purposes of the research, and helps the researcher from the difficulty of studying the original community[11]. It is a technique that facilitates the research and study process, and selecting a sample provides results that are closer to reality and more generalizable[12].

The nature of the research that we discussed, which revolves mainly around health culture and the spread of epidemic diseases in the desert environment, forced the researcher to choose a quota sample, given that the subject of the research imposes the selection of this type of sample.

Steps for selecting the sample:

To obtain the numbers of patients with leishmaniasis and brucellosis in the years 2020 and 2021, as the total number of patients during these two years 2020 + 2021 = 596 individuals, and the sample was 15% of the original population.

$$\frac{15 \times 596}{100} = 89 \text{ individuals}$$

Lachmanius in the years 2020-2021 = 161
Percentage of occurrence of leishmaniasis patients

$$\frac{161 \times 100}{596} = 27{,}01\%$$

Number of individuals with leishmaniasis patients studied

$$\frac{27{,}01 \times 89}{100} = 24 \text{ individuals}$$

Brucellosis in the years 2020-2021 = 435
Percentage of occurrence of brucellosis patients

$$\frac{435 \times 100}{596} = 72{,}98\%$$

Number of individuals with leishmaniasis patients studied

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[11]Fodil Deliou, Ali Gharbi, Foundations of Methodology in the Social Sciences, Constantine, Mentouri University Press, 1999, p. 186.
[12] Rachid Zarawati, Scientific Research Methods and Tools, Al-Huda Publishing House, Algeria, 2007, p. 18.

$$\frac{72{,}98 \times 89}{100} = 65 \text{ individuals}$$

The selected sample is: 24 + 65 = 89 individuals.

Sample distribution

The sample of 89 individuals was distributed according to the percentages representing each type of disease. 65 questionnaires were distributed to patients with brucellosis, and 24 questionnaires were distributed to patients with leishmaniasis. Only 63 forms were retrieved out of a total of 65 forms directed to brucellosis patients, while 24 complete forms were retrieved from the forms directed to leishmaniasis patients.

Sixth: Presentation and analysis of the results

Table No1: The relationship between educational level and type of disease

Education level / N. disease	Illiterate	Primary	Middle	Secondary	University	Total
Brucellosis	7	1	11	10	34	63
	58.3%	33.33%	78.6%	55.6%	85.0%	72.4%
leishmaniasis	5	2	3	8	6	24
	41.7%	66.7%	21.4%	44.4%	37.6	27.6%
Total	12	3	14	18 %	40	87
	100%	100%	100%	100%	100%	100%

We note from the table above that 72.4% of the total sample are brucellosis patients, and 85% of them are university-level students. While we find that 27.6% of the total sample are infected with leishmaniasis, and in this percentage there are 66.7% of those with primary level.

It can be said that brucellosis is more widespread than leishmaniasis among university-level students, and this is due to the nature of the meals provided at the university, since most university students reside in university residence: such as milk and eating green lettuce, which is considered one of the main causes of brucellosis; In addition to the fact that the area is pastoral and the main activity is raising livestock and goats, and therefore the lack of control over goat milk, which poses a danger and threat to health, especially brucellosis, greatly affects the spread of this disease among society.

As for leishmaniasis, which is widespread in the educational community to a large extent, it may be due to neglect by administrative and health services because the region lacks medicines and antibiotics. It is also due to the lack of health education, lack of knowledge of the causes of the disease, and the lack of prior background on the factors behind the spread of this disease.

Table No. 2 shows the relationship between occupation and type of disease

profession / Type of disease	Livestock Breeding	Health Sector	Industry Sector	Education Sector	Administrative Sector	Total
Brucellosis	11	28	9	9	6	63
	78.6%	71.63%	75%	64.3%	75%	72.4%
leishmaniasis	3	11	3	5	2	24
	21.4%	28.2%	25%	35.7%	25%	27.6%
Total	14	39	12	14	8	87
	100%	100%	100%	100%	100%	100%

We note from the table that 72.4% of the total sample are infected with brucellosis, the majority of whom practice livestock breeding, at a rate of 78.6%. While 27.6% of the sample pool were infected with leishmaniasis, working in the education sector, with an estimated rate of 35.7%.

This is due to the fact that livestock breeders' main activity is raising livestock or trading in them, and most of them live in population centers adjacent to the municipality. Therefore, most meals consist of drinking natural milk, meaning that it comes from goats. Hence, drinking this type was inevitable due to their inability or neglect to buy sterilized milk. In addition to their inability to treat their livestock to the veterinarian, due to the lack of a regular veterinarian in the area.

As for leishmaniasis patients, the majority of whom are from the education sector, it can be attributed to the presence of some educational institutions on the outskirts of the municipality, where unjustified random throwing of waste is common, and the authorities and associations neglect to clean the place; In addition to the lack of a culture of hygiene, which remains one of the main factors in reducing or alleviating the suffering of this affected group.

Table No. 3: shows the relationship between the number of livestock and the type of disease

Nbr livestock / Type of disease	D'nt have	Less 10	More 10	More 100	More 100	Total
Brucellosis	5	14	28	10	6	63
	62.5%	60.9%	77.8%	71.4%	100%	72.4%
leishmaniasis	3	9	8	4	0	24
	37.5%	39.1%	22.2%	28.6%	0%	27.6%
Total	8	23	36	14	6	87
	100%	100%	100%	100%	100%	100%

From the table before us, we found that 72.4% of the total sample were infected with brucellosis; Among them, 77.8% own more than 10 livestock, while 27.6% of

the total sample are infected with leishmaniasis, and within this percentage represents a large group of 37.5% who do not own livestock.

Here it becomes clear that livestock owners in numbers exceeding dozens may be the most vulnerable to contracting brucellosis because they eat livestock milk and cheese. Some of their livestock may be infected with brucellosis and thus transmit it to humans. In these cases, it is difficult to identify sick livestock, due to the large numbers of livestock. Therefore, the spread of this disease can be attributed to the large number of livestock and the lack of knowledge of the source of the disease in the livestock unless a person is infected with the disease, because livestock infected with the disease do not show symptoms of the disease, and this is what It poses a danger to humans and their health.

As for leishmaniasis, we say that its infection is not linked to the number of livestock as much as it is linked to the nature of the surrounding environment, which is mainly represented by cleanliness and the extent of society's awareness of the necessity of adopting a culture of cleanliness, because the spread of this disease is related to other causes such as a direct insect bite; From this it can be said that the presence of this insect is the result of poor hygiene or something similar.

Table No.4: Shows the relationship between the animal processing entity and the type of disease

Treatment destin / Type of disease	Veterinarian	Treat it yourself	No answer	Total
Brucellosis	22	23	18	63
	68.8%	76.7%	72.0%	72.4%
leishmaniasis	10	7	7	24
	31.3%	23.3%	28.0%	27.6%
Total	32	30	25	87
	100%	100%	100%	100%

From the table above, we found that 72.4% of the total sample were infected with brucellosis, of whom 76.7% treated their animals themselves; While we found a percentage of 27.6% of those infected with leishmaniasis, representing a percentage of 31.3%, who treat their animals at a veterinarian.

We can summarize this by saying that the majority of those infected with brucellosis treat their animals themselves, as this is done in a traditional manner, far from modern inoculation and vaccination, since the majority of them acquired it from their parents and grandparents. In addition to the lack of veterinary transportation to the Bedouins for personal considerations, and also due to the distance of the pastoral area from the urban area, which poses a risk of the spread of this disease in the social environment, and the movement of this disease from the countryside to the cities.

Regarding the spread of leishmaniasis, whose spread we previously mentioned, it is primarily due to the cleanliness of the surroundings and environment, which plays an important role in reducing its spread.

Table No. 5: shows the relationship between the neighborhood environment and the type of disease

Neighborhood environ / Type of disease	Dirty water	Garbage	Insects	Total
Brucellosis	33	18	12	63
	67.3%	100%	60.0%	72.4%
leishmaniasis	16	0	8	24
	32.7%	0%	40.0%	27.6%
Total	49	18	20	87
	100%	100%	100%	100%

We note from the table above that 72.4% of the total sample has brucellosis, and a percentage estimated at 100% is that their neighborhood suffers from an abundance of garbage. While 27.6% of the total sample are infected with leishmaniasis, and 40% of them have a neighborhood suffering from an abundance of insects.

Therefore, it can be said that brucellosis has a direct relationship to the spread of dirty water, as this water may be a drinking source for livestock, so the livestock becomes infected and the infection is transmitted to humans through milk, and to a lesser extent through meat.

When we inquired about the source of this dirty water, we met with the head of the Municipal People's Council of the municipality of Tadjrouna that its source was from mobile tanks between livestock breeders. The water remains in these tanks for several days and is exposed to sunlight, as well as mixing with insects and dead animals, which leads to the water becoming turbid and unfit for drinking. According to him, livestock breeders' ignorance of this danger led to the spread of diseases among sheep and goats, and from there to being transmitted to humans.

As for leishmaniasis, it is primarily due to the abundance of insects in the region in general, and this is due to raising animals indoors without supervision and cleanliness. In addition, there are some families in which we found this disease raising dogs, both wild and urban, which were previously stray dogs that lacked the slightest health care.

Table No.6: Shows the relationship between the patient's self-interest and his health condition

Treatment destin / Health status	Follow up with your doctor	Adherence to hygiene and prevention rules	Not interested	Total
Complete recovery	15	4	5	24
	21.1%	50.0%	62.5%	72.4%
remarqable improvement	17	03	00	20
	23.9%	37.5%	00%	23.0%
Symptoms of the disease still remain	39	01	03	43
	54.9%	12.5%	37.5%	49.4%
Total	71	8	8	87
	100%	100%	100%	100%

From the table it became clear that 49.4% of the total sample said that the symptoms of the disease still remained, and 54.9% of those who follow up on their health at the doctor showed this; While a smaller percentage of the total sample is estimated at 27.6% among those who have completely recovered, and among them 62.5% are not concerned about their health after recovery. While the percentage of the total sample decreases further, reaching an estimated percentage of 23% of those whose health condition has noticeably improved, including 37.5% who adhere to the rules of disease prevention.

We can say that those who still have symptoms of the disease and whose health is being monitored by the doctor may have effects, either psychological or physical, such as deformities resulting from the disease, but we must point out those who have completely recovered and do not care about their health, as they are more vulnerable to the disease returning due to negligence, and they may Their cultural level is limited; As for those who are in noticeable improvement, it is due to their adherence to the rules of prevention and hygiene, their educational and cultural level is good, and they are health conscious, which has been reflected positively in their health condition.

Table No.7: shows the relationship between disease awareness campaigns by guardian bodies and the type of disease

Awareness campaigns / Type of disease	Every 03 months	Once a year	Total
Brucellosis	24	39	63
	61.5%	81.3%	72.4%
leishmaniasis	15	09	24
	38.5%	18.8%	27.6%

Total	39	48	87
	100%	100%	100%

From the table above, it was found that 72.4% of patients infected with brucellosis, including 81.3%, responded that the guardian bodies have seasonal campaigns to raise awareness of the disease only once a year. While there are 27.6% of the total sample infected with leishmaniasis, of which 38.5% responded that the guardian bodies carry out awareness campaigns about the disease every 3 months.

Where awareness campaigns are carried out by the health institution or associations at close intervals, they contribute to reducing the incidence of the disease and vice versa. When we inquired about the nature of the awareness campaigns, one of the representatives of the association, which is a cultural association concerned with heritage, said: We visit families in the region and in population centers, especially nomadic Bedouins, and we hold awareness days about the danger of this disease through awareness gatherings and advertisements; However, unfortunately, most people do not care about these campaigns, because the region is famous for this disease and therefore it has become normal for them.

Table No.8: shows the relationship between cleaning sewage channels by the municipality and infected cases

Cleaning sewage channels / Nbr cases per family	1 / year	At the request of citizens	Do not clean at all	Total
One case	13	08	19	40
	61.9%	44.4%	39.6%	46.0%
Two cases	5	4	11	20
	23.8%	22.2%	22.9%	23.0%
Three cases	2	3	12	17
	9.5%	16.7%	25.0%	19.5%
Four cases	1	2	2	5
	4.8%	11.1%	4.2%	5.7%
More than 5 cases	0	1	4	5
	0%	5.6%	8.3%	5.7%
Total	21	18	48	87
	100%	100%	100%	100%

The above table showed that 46% of the total sample had one infection within the family, and an estimated 61.9% responded that the municipality cleans the sewage channels once a year. The percentage of families who have two cases of the same disease is less than 23%, and 23.8% of them also answered that cleaning is done once a year. There is also an estimated rate of 5.7%, equal to the

number of cases of infection with the disease in the same family, for families with four cases of infection and more than five.

While we find 11.11% of families with more than five cases of infection with the disease acknowledge that the municipality does not clean the sewage channels. If we discover that the number of infections with the same disease within a single family depends on cleaning the sewage channels around which the types of insects from which the germs feed gather; Or livestock may drink from these canals, thereby transmitting various types of diseases, including brucellosis and leishmaniasis, so that the more the municipality periodically cleans the sewage canals, the less the spread of the disease within a single family.

In an interview with the mayor of Tadjrouna on the issue of regulating sewage channels, he confirmed that his departments clean these channels every two months, and he assured us that the spread of this type of disease is the result of the municipality's large well that has been contaminated for years, resulting, according to him, from the influx of breeders. Livestock around it, as well as the spread of garbage and insects, and they wrote to the state authorities in order to complete another well at the municipal level, and gradually close the old well.

Seventh: Results of the study

1. The environmental factor often led to the spread of the disease within the municipality.
2. The spread of the disease in the social environment of the municipality of Tadjrouna is primarily a result of the lack of health and environmental culture.
3. The nature of economic activity (livestock raising) in the urban environment contributed greatly to the spread of the disease in the social environment.
4. The reproduction of Bedouin culture in the region posed a threat to the urban fabric, which led to the spread of epidemic diseases.
5. Local authorities' neglect of cleanliness (sanitation) increased the risk of the spread of the disease.
6. Health cultural awareness work contributed to strengthening the principle of relying on disease prevention.
7. Awareness campaigns contributed to reducing the spread of the disease in the social environment in the region.
8. Activating the principle of social responsibility for local associations and health institutions has greatly contributed to the recovery of a large number of patients.
9. Cultural environmental factors, including social, cultural and economic factors, have an impact no less important than natural environmental factors in shaping the health status of the individual.
10. Through the nature of the inherent relationship between societal organization and spatial organization, the level of health culture of the individual and society directly affects the translation of the concepts of public and private into the spatial environment of epidemic diseases, and the higher the level of individual culture, the lower the degree of spread of the disease.

Conclusion

In the previous pages of this study, we tried to review the most prominent features of the picture of health and epidemic diseases in general, and in the municipality of Tajrouna in particular. We made many observations, but the thing that we must pay attention to in conclusion is that a person - or rather a patient - cannot fight back the disease if he does not have a culture of health in any form, whether high or moderate, and here lies the seriousness of the disease and its varying degree. From human to human. Many people may adhere to health and preventive rules, but the environment in which they live may not respect these rules, which leads to malfunctions and thus contracting the epidemic disease.

The educated person is part of this milieu that he lives next to or in the midst of, and we wanted to emphasize here that societies that are subject primarily to popular heritage, that is, simple traditional societies, are more susceptible to such diseases, due to the nature of agricultural, agricultural and pastoral activity; Even in terms of health treatment, they are interested in popular treatment methods and sometimes treatment with myths and alternative medicine. The severity of these diseases' spread depends on the performance of municipal departments. Hence, we carefully consider the dimensions of human cultural development in order to realize the reality of our specific steps and our place on the map of this development. We must be careful not to cut all the threads that connect us to the traditional health culture, whether it is based on a good heritage or high advanced science.

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