Knowledge of Mechanisms of Transmission and Complications of Salmonellosis in Over 18 Years of Pachuca, Hidalgo, Mexico

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ABSTRACT

Salmonellosis is an infectious disease transmitted from animals to humans , is caused by Salmonella, a Gram-negative bacillus and is part of the family Enterobacteriaceae , and other infectious agents such as animal foods , by contamination of meat, eggs , milk, poultry , and their derivatives , similarly pet turtles, iguanas , chickens , dogs , rabbits. This research was performed to measure the level of knowledge ofbout transmission mechanisms and complications regarding salmonellosis in a population over 18 years. An study transversal and was conducted in 196 population over 18 years the period from June to November 2013 in the city of Pachuca de Soto, Hidalgo, was observed mostly male population with high school level, no cases close observation, and awareness of salmonellosis, and with a poor grasp of 98% of the population, there was also no relationship between gender and level of knowledge. That it is more likely if you have no knowledge when nearby cases, and when the information is adequate, sufficient and spreading properly.

Key word: Salmonellosis, Zoonosis, Level of knowledge, Transmission, Complications.

INTRODUCTION

Salmonellosis is a self-limiting disease (recovery time is determined) is infectious and with campilobacteriosis are the most common forms of zoonosis, will be mentioned here only to salmonellosis[1]. Zoonosis are diseases transmitted from animals to humans, in the case of salmonellosis caused by Salmonella, a Gram negative rod and is part of the family Enterobacteriaceae, as well other infectious agents such as foods of animal origin by contamination of meat, eggs, milk, poultry products and their derivatives, similarly for pets such as turtles, iguanas, chickens, dogs, rabbits, and other animals[2-5]. The mechanisms by which they are produced by contact, ingestion, inhalation or bites[6].

Salmonellosis occurs most frequently in: children under three years, children with gastrointestinal diseases, cancer, people over 70 years old and immunocompromised by chronic diseases such as diabetes, renal failure, among others. Occur annually in the world 1.3 billion salmonellosis and 3 million deaths[7]. In several countries such as Latin America, it is estimated that the probability of a child dying from diarrheal diseases before seven years is 50%[8]. Just as there are different causes , symptoms are different, some

examples and their effect are : diarrhea (92.3 %), fever (73.1 %) , nausea (42 %), vomiting (27%), abdominal pain (90.3 %), then some other symptoms and signs of salmonellosis were mentioned[9].

Turning to the disease itself, as already mentioned is caused by Salmonella; it adheres to and infects cells, and causes damage to the small intestine,colon, inflammation of the intestinal tract, urinary tract inflammation and appendicitis. The time it takes to reproduce and infect our body is 24 hours, its duration is 7 days, but may last less 3 or more 20, and this depends on the person[8,10].

The Salmonella enters orally, passed several adverse conditions to infect one of these is heartburn and must survive a pH of 4.0, another attack is to bile salts,and antibiotics survive from cells of the small intestine. If it does happen, it will and here the lymphatic organs are destroyed by macrophages, mainly in bone marrow, spleen and Peyer's patches[7,8,11]. Its manifestations are gastroenteritis, bacteremia, enteric fever, localized infections. Clinically referred pain in the right lower quadrant, diarrhea, abdominal pain, fever , headache (headache), nausea, vomiting, dehydration, anorexia, fatigue, fatigue, drowsiness, among others[4,8,12]. The diagnosis may be due to clinical or laboratory tests because as mentioned clinical manifestations are diverse, microbial methods are needed to identify the organism, also serological tests for the type of microorganism and the recognition of specific antibodies, these tests are: blood culture, melocultivo, stool, and urine culture duodenal bile, also for serological diagnosis can be isolated from pink spots, bronchial secretions, joint fluid among others, and this behavior is known. Serotype in different phases and their reaction in foods[10,11].

The treatment will depend on the symptoms and treatments for this are different, one is symptomatic treatment, another antimicrobial treatment, complications, carriers and AIDS patients. Others note that it is only necessary to maintain the osmotic treatment because as mentioned earlier is an autoimmune infection[8,10,11,13]. In terms of the information is provided by WHO through political control of salmonellosis and covers all stages from " stable to table " and should have enough education to process the food and the population in general, as hygiene, technology, collection, storage[14] . At home things to do is cook food thoroughly, especially meat, wash your hands well , only previously chilled dairy products, avoid eating meat, eggs, raw chicken, and processed products egg, whether mayonnaise, dressings[15]. Based on the previous description, the following research question was raised. What is the level of awareness among the general population over 18 years in the city of Pachuca Hidalgo, Mexico regarding transmission mechanisms and complications of salmonellosis?

Objective

Determine the level of knowledge that the population over 18 years of the city of Pachuca Hidalgo, Mexico regarding transmission mechanisms and complications of salmonellosis in the run-have elements to suggest preventive programs.

MATERIAL AND METHODS

A descriptive cross-sectional study was performed by applying a survey of 196 people aged 18 years with a confidence level of 95% and an error of 0.05, the data analysis was performed using a database SPSS-17 with a type of systematic selection of the City of Pachuca, Hidalgo, Mexico under the following criteria.

Inclusion criteria	Exclusion Criteria	Elimination criteria
Over 18 years	Under 18 years	If the survey is not
Residents of the city of	If you do not reside in the	complete at the time of
Pachuca Hidalgo. Men and women.	city of Pachuca Hidalgo.	the capture of information.

RESULTS

In the period June to November 2013 conducted a cross-sectional research with a sample of 196 people in the city of Pachuca, Hidalgo to measure the level of knowledge about the mechanisms of transmission and complications of salmonellosis.The average age in the population was 34.3 years; the minimum age was 18, the maximum age was 80. Regarding gender, 54 % were male and 46% female (Table 1).

Regarding school level 5% were illiterate, 13% have a primary level, 22 % secondary, 32 % high school and 28 % college (Table 2).

According to SES 0.5% is high, 79 % medium and 20.4 % low(Table 3). Regarding the information on salmonellosis 41 % said it was easy access to information on salmonellosis and 59% said no. (Table 4)

As to the means by which information is disseminated salmonellosis 16% is from internet,

television 5 % , 2 % radio, 14% by the health, 1 % information from person to person , and by more than half, the figures are as follows 4% internet and health sector, 1% for television and radio, while television, radio and newspapers, television, newspapers and health sector, radio, newspapers and health sector; internet and television and television health sector were 0.5 % each, and 54.5 % of the population said that has not been informed by any means (Table 5).

Regarding the experience of having taken nearby cases of salmonellosis, 18 % reported having had this experience and 82 % have not observed any case of domestic salmonellosis, relatives or bystanders (Table 6). The level of knowledge of the population is 2 % fair and 98% poor (Table 7).

Bivariate analysis by gender and level of knowledge found that the knowledge level is 3.54 times higher in women than in men (p > 0.05). Another analysis in the presence of close cases and the knowledge level is 15 times more likely to have been observed if (p < 0.05) and finally the ease of getting information refers to the probability that it

Table 1: Gender of distribution

Gender	Quantity	Percentage
Man	105	54
Woman	91	46
Total	196	100

Source: Direct. Structured interview people over 18 years of Pachuca, Hidalgo, 2013

Table 2: School level

Level	Quantity	Percentage
Illiterate	10	5
Primary	25	13
Secondary	44	22
Baccalaureate	62	32
University	55	28
Total	196	100

Source: Direct. Structured interview people over 18 years of Pachuca, Hidalgo, 2013

Table 3: Socioeconomic level

Level	Quantity	Percentage
High	1	0.5
Medium	155	79
Low	40	20.4
Total	196	100

Source: Direct. Structured interview people over 18 years of Pachuca, Hidalgo, 2013

Table 4: Easy access to information

Easy	Quantity	Percentage
Yes	80	41
No	116	59
Total	196	100

Source: Direct. Structured interview people over 18 years of Pachuca, Hidalgo, 2013

Table 5: Obtaining information on salmonellosis

Means of information	Quantity	Percentage
Internet	31	16
Television	9	5
Radio	4	2
Newspaper	0	0
Health sector	27	14
None	107	54.5
People	3	1
Internet and health sector	8	4
Television and radio	2	1
Television, radio and newspaper	1	0.5
Television, newspaper and health sector	1	0.5
Radio, newspaper and health sector	1	0.5
Internet and television	1	0.5
Television and health sector	1	0.5
Total	196	100

Source: Direct. Structured interview people over 18 years of Pachuca, Hidalgo, 2013

Table 6: Close cases

Gender	Quantity	Percentage
Yes	35	18
No	161	82
Total	196	100

Source: Direct. Structured interview people over 18 years of Pachuca, Hidalgo, 2013

Table 7: Level of knowledge about salmonellosis

Gender	Quantity	Percentage
Sufficient	4	2
Deficient	192	98
Total	196	100

Source: Direct. Structured interview people over 18 years of Pachuca, Hidalgo, 2013

is aware is 4.48 times if it is easy to have this. (P > 0.05)

45.5 % reported difficulty in obtaining information on salmonellosis and source of information was the internet, radio, health sector, but 54.5 % reported not having received any information even with the observation of near salmonellosis cases persisted a level of poor knowledge no statistical significance between the level of knowledge and gender and with 4.5 times more likely to have sufficient knowledge if you have the right information.

DISCUSSION

In the present investigation the same or similar other research was found, so the only results to be analyzed are own. At the level of knowledge as expected the population does not have a sufficient level, but the concern is obtained as 2% was obtained knowledge in the study sample. This was demonstrated that there is no relationship between gender and knowledge.Another review to know why the difference in knowledge was the relationship of close cases and the level of knowledge and found that it is 15 times more likely to have if you have had close cases, since it is interested in how

it was obtained , how to prevent getting and more importantly avoid future complications.Although the sample was mostly high school, more than half reported they had not received any information is had not heard, nor knew what it was and the minority referred receive or obtain information from the health sector and internet among other means, but to a lesser extent, although it appears that the information is not sufficient or clear and that is evidenced by the above mentioned percentage of sufficient knowledge in the population.

According to the answers given by the respondents, the lack of dissemination and interest from industry and population health is what makes the result of 2% sufficient knowledge in Pachuca, Hidalgo.Therefore the solution of this problem should be addressed by understanding both sides , reporting and informed, promote interest and setting goals or other means to constantly evaluate the population and public servants, not as is commonly done, giving or leaving information loose without even assessing the level and scope of this having .

CONCLUSIONS

As hypothesized population arose not have enough knowledge about this zoonosis and is only interested in her own nearby as salmonellosis cases, although this is not for the knowledge factor is sufficient to reduce the incidence of salmonellosis.

45.5% reported difficulty in obtaining information on salmonellosis, their sources are media and health sector, and 54.5% reported having received no information.

The observation of cases of salmonellosis persisted near a level of lack of knowledge, no statistical significance between the level of knowledge and gender, is 4.5 times more likely to have sufficient level of knowledge if you have the right information.

Proposed Solution

Due to the occurrence of zoonosis such as salmonella, it is important to have adequate knowledge of the causes and consequences of these. Observed in this investigation is adverse to that effect, for this reason the following strategies are suggested:

Based on the responses obtained from research, what is suggested is to improve the information provided by media such as the Internet, and given by the health sector as well as the assessment of scope and impact that this will have, and the education appropriation from home-toilet incorrect dietary habits. To avoid infection, complications and deaths that these can cause.

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