

In The View of *Helicobacter Pylori*, Perceptions about Eating Animal Originated Rare Cooked Food

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ABSTRACT

Purpose: *Helicobacter pylori* causes serious health problems including gastritis, peptic ulcer disease and gastric cancer [1,2]. Although many researches have been indicated animal originated rare cooked foods contain *h.pylori* [3-6], people still continue their eating habits. Mainly they are aware of the problem but don't realize how serious it is. The aim of this study is to indicate the perspective of people for eating animal originated undercooked food.

Methods: Survey is conducted with 193 (103 male, 90 female) participants above age 10, and all living in İzmir. Questions were explained for each participant and their awareness of preparing safety food and their eating habits were collected.

Results: There is a statistically significant relation between information about eating animal originated rare cooked food and eating habits (except red meat). However there is no significant relation between education levels and awareness of health problems regarding consumption of animal originated rare cooked food.

Conclusion: This survey indicates that education level does not have significant relation on food consumption habits for rare cooked animal originated food. A complementary education method should be sought to increase the awareness.

Keywords

Helicobacter Pylori, Cooked Food, Animals, Infections.

Background

More than a million people die every year due to gastric cancer and peptic ulcer. *Helicobacter pylori* infection in stomach is the most important reason for these diseases [1,2]. The transmission pathways of *Helicobacter pylori* in humans have not been fully known but, It is clear that, foods play a substantial role in the transmission of *Helicobacter pylori*.

As a result, researchers focus primarily food safety and eating habits. A 1993 survey of 100 street foods in 100 countries, conducted by WHO, revealed the major health threat facing the public comes from raw and undercooked food, infected food handlers and inadequate hygiene measures in processing and storing such food [7].

A holistic approach is needed to change eating habits also food processing and production habits. It is not related with education level.

An example:

“- Many people taste raw food during the cooking process?

- Is it a good habit?

- Definitely not. It is a risky behavior. “ [7]

And this behavior is not related with education level.

Raw or undercooked animal originated foods are clearly risky. A research on meat products in Iran, indicates that 11 out of 150 samples (7.33%) are positive for *H. pylori*. A total of 150 meat product samples were collected from supermarkets. All samples

were cultured and the susceptible colonies were then subjected to nested-PCR, PCR-based genotyping and disk diffusion methods [8].

Raw vegetables are also risky. A research on maritime workers in Chinese indicates that *Helicobacter pylori* infection is associated with raw vegetables consumption, pickle food consumption, family income and family history of gastrointestinal disease [9].

Statement of the Problem

Helicobacter pylori cause serious health problems including gastritis, peptic ulcer disease, gastric cancer and MALT-lymphoma. Although many researches have been indicated animal originated rare cooked foods contain *H. pylori* [3-6], people still continue their eating habits. Mainly they are aware of the problem but don't realize how serious it is. Previous researches indicate that prevalence of *H. pylori* is very high in Turkey [10] and it is also very high among university students [11]. The purpose of this study is to indicate the perspective of people for eating animal originated rare cooked food.

Methodology

Survey is conducted with 193 (103 male, 90 female) participants above age 10, and all living in İzmir. Questions were explained for each participant and their awareness of preparing safety food and their eating habits were collected. Twenty-eight percent (55) of the participants are between age 10 and 18, twenty-eight percent (54) of the participants are between age 19 and 60, and forty-four percent (84) of participants are over-60. Participants' level of education ranged from postgraduate study to a primary (elementary) school education. 48 of the participants (25%) are university or upper graduates, 67 of the participants (353%) are high school graduates, 78 of the participants (40%) are primary school graduates.

Chi-square test has been conducted to analyze relation between demographic information (age interval, sex and education level) and eating habits and information about eating rare cooked animal originated food.

Findings

There is no significant correlation between demographic information of people (sex, age interval and education level) and eating rare cooked animal originated food. There is a statistically significant relation between information about eating animal originated rare cooked food and eating habits (except red meat). However there is no significant relation between education levels and awareness of health problems regarding consumption of animal originated rare cooked food.

Education Level		Total	Primary School	Secondary School	University or upper
Red Meat	Information *	8.9 %	14.1%	7.5%	2.1%
	Eating *	78.1%	74.4%	79.1%	83.0%
Milk	Information *	5.7%	7.7%	3.0%	6.4%
	Eating *	3.6%	5.1%	1.5%	4.3%

Egg	Information *	9.4%	14.1%	4.5%	8.5%
	Eating *	39.6%	42.3%	32.8%	44.7%
Chicken	Information *	3.1%	5.1%	3.3%	0%
	Eating *	2.1%	2.6%	3.0%	0%

Age interval		Total	Age between 10 - 18	Age between 19-60	Age over 60
Red Meat	Information *	8.9 %	16.4%	5.7%	6.0%
	Eating *	78.1%	61.8%	77.4%	89.3%
Milk	Information *	5.7%	9.1%	0%	7.1%
	Eating *	3.6%	3.6%	0%	0%
Egg	Information *	9.4%	18.2%	1.9%	8.3%
	Eating *	39.6%	43.6%	37.7%	38.1%
Chicken	Information *	3.1%	7.3%	0%	2.4%
	Eating *	2.1%	3.6%	0%	2.4%

Ratio of eating food including rare-cooked meat (cow and sheep) is very high, despite the fact that most of them think that it is unhealthy. Ratios are better for chicken meat and milk.

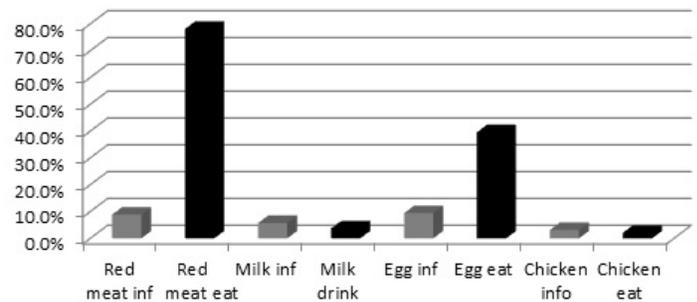


Figure 1: Grey columns indicate, positive perceptions about eating animal originated rare cooked food, e.g. 8.9% of overall sample, think there is no health problem in eating rare cooked red meat. Black columns indicate positive answers for eating animal originated rare cooked food.

Egg			Ever eating undercooked/ raw egg		Total
Knowledge about cooking process	Enough knowledge	n	116	58	
		%	66,7%	33,3%	100,0%
	Not enough	n	0	18	18
		%	0,0%	100,0%	100,0%
Total		n	116	76	192
		%	60,4%	39,6%	100,0%

Ki kare=30,316; p=0,000

All of the participants, who do not have enough knowledge about cooking process for egg, specified that they eat food including undercooked/raw food. On the other hand only 33.3% of participants with enough knowledge said that they eat food including undercooked/raw egg.

Results

Threat of *h. pylori* should be announced clearly to change food

consumption habits. This survey indicates that education level does not have significant relation on food consumption habits for rare cooked animal originated food. A complementary education method should be sought to increase the awareness.

Discussion

Helicobacter pylori is one of the most common human bacterial infections worldwide [1,2]; it plays a significant role in the pathogenesis of chronic active gastritis, peptic ulcer disease and gastric cancer [12]. However, the mode of transmission of the infection is not completely elucidated.

Helicobacter pylori are considered a public health problem, especially in developing countries.

There are many researchers conducted for determining the focus group. A research performed in Brazil, indicated that there were no significant differences in the prevalence of *H. pylori* infection, when patients were classified by age, smoking habit, educational level, alcohol consumption, the number of persons per room, the number of children per household, the number of adults per household, cup-sharing, household pets, toilet location, number of persons per bed and medical history of antibiotic and raw vegetable ingestion [13].

A research conducted in Shanghai, indicated that Hp infection rate was rather high in Shanghai and Hp infection was related to socio-economic status, and family dietary and sanitary habits [14].

In this research, not just give the questionnaire and get the answers but if participant declared that he or she had enough knowledge than additional questions were asked to him or her. Otherwise, everybody would say that they have enough knowledge about food safety.

For the questions eating food including raw/undercooked animal originated food, again it is asked to the participants that, due to social pressure or ignoring health problems or preferring its taste or any other reason do you ever eat food including raw/undercooked animal originated food. Normally nobody say that they would eat undercooked animal originated food. But when their limits were asked, their answers were changed.

Most critical point is to explain the risk of *helicobacter pylori* to people. Since it is relatively new, they ignore health problems caused by Hp (For example most participants were aware about Salmonella, salmonella-egg relation.). But it can also be said that, education system in Turkey can be improved in the area of food safety.

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