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# RISK FACTORS FOR HIGH OCCURRENCE OF H. PYLORI IN CHILDREN SUFFERING FROM DISEASE OF PEPTIC ULCER

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**Abstract:**

***Objective:*** *The main reason behind the peptic ulcer disease among children as well as adults is helicobacter pylori. The occurrence of helicobacter pylori is increasing day by day from past few years. Majority of the evidences have displayed patients got infection in their childhood. This research work conducted for the recognition of the risk factors of H. pylori among children suffering from anomalies of gastro intestines who had underwent assessment under endoscopy in Indus Hospital MSSH Lahore.*

***Methodology:*** *This is a case control research work. There were forty-seven participants in each group. The patients & healthy controls were match is gender and age. The data form was in use for the collection of the demographic information of all the patients. Urease test as positive was available for patients and urease test as negative was available for healthy controls. The evaluation of every risk factor for the infection of helicobacter pylori carried out for the participants of both group and the confidence interval among the participants was ninety-five percent. T test & Chi square test methods were in use for the analysis of the collected information. The calculations of odds ratio & CI with ninety-five percent carried out. SPSS V. 13 was in use for the analysis of the data.*

***Results:*** *The amount of the members of family were 4.10 ± 1.20 in members of group of controls & 5.70 ± 1.20 in the group of patients. The average age of the patients was 9.80 ± 2.90 & average age of the healthy controls was 8.50 ± 2.80 years. We found the high attitude in the group of patients toward the utilization of fruits, oil of seeds, vegetables, past history of smoking in family, low parent's education level, blood group A & parent's dyspepsia. In all the risk factors confidence interval greater than 1.0 & P value of less than 0.050 was significant.*

***Conclusion:*** *The utilization of fruits, oil of seeds, vegetables, no smoking in family are the causes for the reduction of the infection of helicobacter pylori among children as well as adults.*

***KEYWORDS:*** *H. Pylori, Infection, Smoking, Bacteria, Helicobacter, Enteropathy, Diarrhea, Malnutrition Gastro Intestines.*

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## INTRODUCTION:

H. pylori (Helicobacter Pylori) is a type of bacteria known as gram negative bacillus. This is accountable for one of the very frequent infections available in the human beings in the whole world [1]. It is usually occurring in the initial years of life in the countries which are under development and majority of the population got infection under the age of ten years [2]. Greater than fifty percent children in the population of our country found with the infections of helicobacter pylori [3]. There are some amazing published case reports which put a great emphasis on the uncommon manifestations of the infections of helicobacter pylori among children as enteropathy of losing protein [4] diarrhea & malnutrition [5] and anemia in the deficiency of iron [6]. This research work carried out to assess the factors of risks for the infections of helicobacter pylori among the children having the age from four to fourteen years who visited the Indus Hospital MSSH Lahore for treatment of these infections.

## METHODOLOGY:

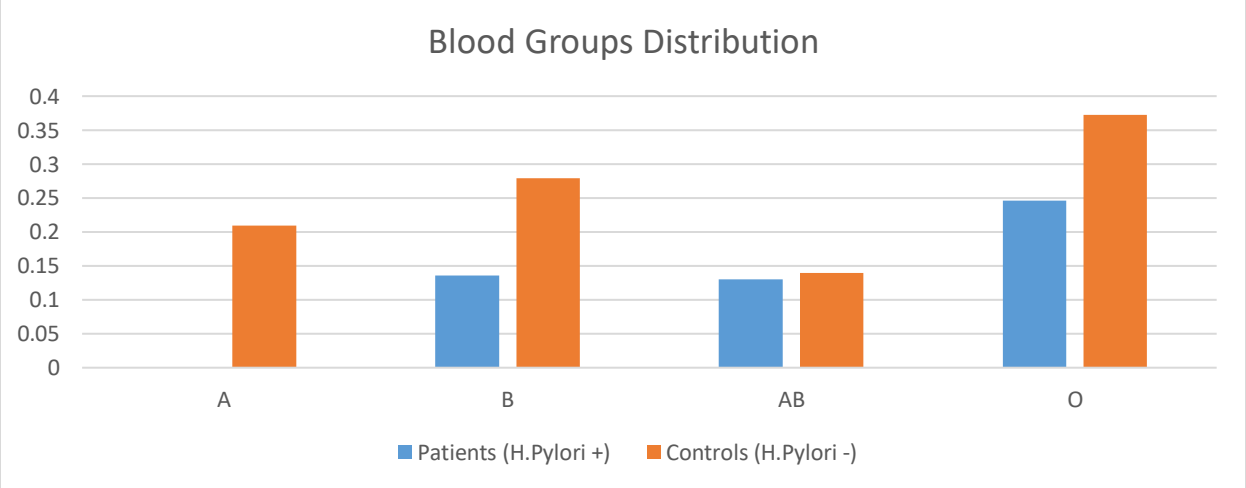
This was case control research work. This research work was conducted on the children of four to fourteen year of age who were suffering from the infections of gastro intestines like epigastric aching, nausea, vomiting & heart burn. Endoscopy of all these patients carried out. Parents of those children gave the permission for the participation of their children. The patients found with the past background of treatment with antibiotics in last one month and past history of omeprazole since fourteen days ago and well known knowledge of the prevalence of helicobacter pylori were not the part of this research work.

There were total forty-seven patients in this research work and in the same manner there were forty-seven healthy controls with same age and gender were also the participants of this research control study. The information about the patients like age of the patient, gender of patient & identification of the risk factors carried out and recorded in the special organized questionnaire. Identification of the blood group carried out before the application of endoscopy. All the children who were positive in urease test form the group of patients and all the children available as negative in urease test were the members of group of healthy controls. We matched the sex and age of the participants of both groups.

T test & Chi square test methods were in use for the analysis of the collected information. The calculations of odds ratio & CI with ninety-five percent carried out. SPSS V. 13 was in use for the analysis of the data. We observed that blood group A was very frequently available among patients in comparison with the members of the group of healthy controls. We found no disparities between the members of both groups for other blood groups of O, AB & B as elaborated in Table-1.

**Table-I: Distribution of Patients and Controls Based on Blood Group. (* p<0.05)**

| Group | A | B | AB | O |
|---|---|---|---|---|
| Patients (H.Pylori +) | 48.800%* | 13.600% | 13.000% | 24.600% |
| Controls (H.Pylori -) | 20.900% | 27.900% | 14.000% | 37.200% |

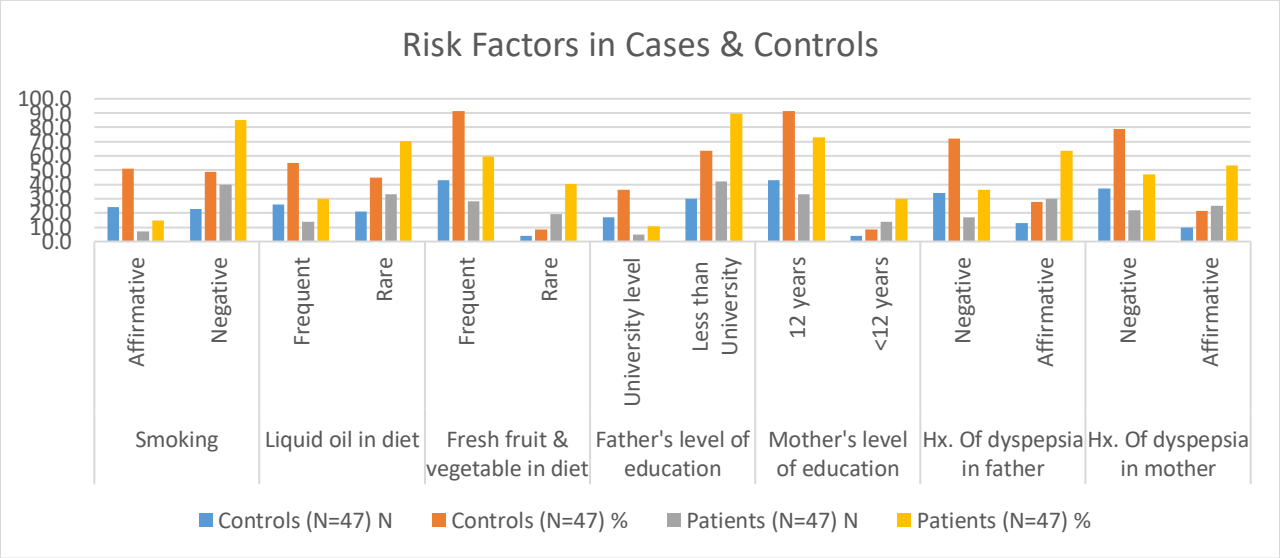


## RESULTS:

There were total forty-seven patients and forty-seven controls in this research work. The average age of the patients was 9.80 ± 2.90 & average age of the healthy controls was 8.50 ± 2.80 years. All the membered of both groups were match for age and their gender. There were twenty-four girls and twenty-three boys in every group. The amount of the household in the groups of patients and healthy controls were 4.10 ± 1.20 and 5.70 ± 1.20 correspondingly. The findings of this research work for all groups of blood and risk factors are available in Table-1 & Table-2. Habit of smoking, uncommon utilization of the liquid oil, poor regimen for vegetables and fruits, less level of parent's education, positive past background of dyspepsia among patients were very high in the group of patients. In the above-mentioned factors of risks, less fresh fruits and less consumption of vegetables are available with greatest odd ratios of 7.30.

**Table-II: Risk factors in patients and controls groups.**

| Risk Factors | | Controls (N=47) | | Patients (N=47) | | P value | OR (Sample) | OR (Population) |
|---|---|---|---|---|---|---|---|---|
| | | N | % | N | % | | | |
| Smoking | Affirmative | 24.0 | 51.10 | 7.0 | 14.90 | <0.0005 | 5.96 | 2.20-15.90 |
| | Negative | 23.0 | 48.90 | 40.0 | 85.10 | | | |
| Liquid oil in diet | Frequent | 26.0 | 55.30 | 14.0 | 29.80 | 0.0300 | 2.90 | 1.20-6.80 |
| | Rare | 21.0 | 44.70 | 33.0 | 70.20 | | | |
| Fresh fruit & vegetable in diet | Frequent | 43.0 | 91.50 | 28.0 | 59.60 | <0.0005 | 7.30 | 2.20-23.70 |
| | Rare | 4.0 | 8.50 | 19.0 | 40.40 | | | |
| Father's level of education | University level | 17.0 | 36.20 | 5.0 | 10.60 | <0.0100 | 4.70 | 1.50-14.0 |
| | Less than University | 30.0 | 63.80 | 42.0 | 89.40 | | | |
| Mother's level of education | 12 years | 43.0 | 91.50 | 33.0 | 73.20 | <0.0100 | 4.50 | 1.30-4.90 |
| | <12 years | 4.0 | 8.50 | 14.0 | 29.80 | | | |
| Hx. Of dyspepsia in father | Negative | 34.0 | 72.30 | 17.0 | 36.20 | <0.0005 | 4.60 | 1.90-10.90 |
| | Affirmative | 13.0 | 27.70 | 30.0 | 63.80 | | | |
| Hx. Of dyspepsia in mother | Negative | 37.0 | 78.70 | 22.0 | 46.80 | <0.0010 | 4.20 | 1.70-10.20 |
| | Affirmative | 10.0 | 21.30 | 25.0 | 53.20 | | | |




## DISCUSSION:

This research work showed that children suffering from the problems of gastro intestines & with positive in the test of helicobacter pylori are very high exposure for the act of smoking in their family, low utilization of the diet with liquid oil, low vegetables and fruit in

their diet, low level of education of their parents, found with positive background of dyspepsia in parents and with blood group of A. Hunt concluded that the size of household is also factor of risk for the infection of helicobacter pylori [7]. Not direct evidences from most of the research work has stated that transmission of the disease may be from mother to her child [8] while other research works have concluded that this transmission of the disease is more likely from the father to his child.

Walker displayed that the very frequent site for the transmission of the helicobacter pylori is from person to other person. The secretion of saliva and oral contact are risk factors for the transmission of the helicobacter pylori. The most important factor of risk of this particular infection is the adverse social and economic status in the childhood days [9-11]. Hollander concluded that the routine diet full of unsaturated fatty acid has the ability to decrease the frequency of infection of helicobacter pylori with increasing the secretion of mucosal prostaglandin. Some research works displayed that fresh fruits and vegetables have very beneficial impact against the infection of the helicobacter pylori [12].

Kuarta concluded in his research work that mucosal injuries related to the act of smoking has the ability to increase the infection of the helicobacter pylori [13]. In recent research work, almost all the patients were available as passive smoker & there was no research work or written paper available in this regard. Niv concluded in his research work that infection of the helicobacter pylori is very high in the people having O blood group in comparison with the people having blood group A [14]. We also saw discrepancy in current research work that was because of the disparity in the specification of hereditary & genetic factors among the children. The restriction to the act of smoking and increase in the consumption of the vegetables as well as fruits have the ability to decrease the frequency of the infections of helicobacter pylori among children.

## CONCLUSION:

The usage of fruits, oil of seeds, vegetables, no smoking in family are the causes for the reduction of the infection of helicobacter pylori among children as well as adults.

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