

Prevalence of Helicobacter pylori infection in patients with dyspeptic symptoms in  
Damaturu metropolitan

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**Abstract**

AIM: To study the pervasiveness of Helicobacter pylori (H. pylori) contamination among dyspeptic patients in Damaturu and report on the connection between H. pylori predominance and age bunch over populace under investigation.

METHOD: A sum of 229 volunteers with dyspeptic side effect (140 females and 89 males; mean period of  $43.6 \pm 14.2$  years) have taken an interest in the investigation. The status of H. pylori disease was resolved dependent on serology test. Information was gathered by the utilization of self-managed survey while status of H. pylori was resolved dependent on the serological examine. (fast symptomatic test) The blood tests were gathered in sealed shut holder blood examine was performed utilizing invulnerable card STAT HPSA test

RESULTS: The general commonness of H. pylori disease was 51.96%. There was no noteworthy factual relationship among age and contamination rate p-value (0.1515). indeed even youthful gathering (under 11 years of age), the H. pylori contamination rate was moderately high (50.00%), the most extreme number of the positive patients was found in the age gathering of 50-59 years (69.23%) and the base pervasiveness was in the age gathering of 10-19 years (50.00%).

The commonness of H. pylori contamination between the gender are, out of 89 males, 55 were certain at (61.79%) while out of 140 females, 64 were sure (45.71%), yet there was no critical factual relationship between the genders and H.pylori disease ( $p=0.113$ ). The statistic qualities of members at the examination section demonstrate that out of 129 patients having a place with the upper lower class, 85 subjects (66.40%) were sure of the disease. The lower-middle-class result demonstrates that out of 89 subjects 30 were certain given a level of 33.70% while upper-middle outcome demonstrates that 12 subjects (4 were sure given level of 33.33%). This demonstrates subjects discovered living in packed and thickly populated have a high contamination rate of H.

31 pylori and there is a noteworthy factual relationship between socio-statistic factors and  
32 commonness of disease ( $p = 0.001$ )

33 CONCLUSION: We uncovered the commonness of H. pylori contamination in patients with  
34 dyspeptic side effects in Damaturu. The H. pylori contamination was a hazard factor for peptic  
35 ulcer and more grounded gastritis

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37 **Keywords:** *Helicobacter pylori, dyspepsia, occupation, sanitary habit, socio-economic status.*

### 38 INTRODUCTION

39 It has been known for over 100 years that microscopic organisms are available in human stomach [1].  
40 These microscopic organisms, be that as it may, were believed to be contaminants from processed  
41 nourishment as opposed to genuine colonizers. Barry Marshall and Robin Warren portrayed the  
42 effective disengagement and culture of a winding bacterial species, around 29 years back, later  
43 known as *Helicobacter pylori* [2], from the human stomach. Marshall [3] and Moris [4] felt free to  
44 lead the self-ingestion examination and later analysis with volunteers [5] demonstrated that these  
45 bacteria can colonize the human stomach, in this manner instigating irritation of the gastric mucosa.  
46 These underlying information emphatically animated further research which demonstrated that  
47 gastric colonization with *Helicobacter pylori* can prompt an assortment of upper gastrointestinal  
48 issue, for example, perpetual gastritis, peptic ulcer illness, gastric mucosa-associated lymphoid tissue  
49 (MALT), lymphoma and gastric malignancy.

50  
51 The genus *Helicobacter pylori* have place with subdivision of the Proteobacteria, order  
52 Campylobacterales, family Helicobacteriaceae. H. pylori are gram-negative bacterium estimating 2 to  
53 4  $\mu\text{m}$  in long and 0.5 to 1  $\mu\text{m}$  in width. Although usually spiral-shaped, the bacterium can appear as  
54 rod while the coccoid shapes appear after prolonged in-vitro culture or antibiotics treatment [6].  
55 These coccoid cannot be refined in vitro and are thought to represent dead cells [6]. It has been  
56 recommended that coccoid structures may represent a practical nonculturable state [7]. The organism  
57 has 2 to 6 unipolar, sheathed flagella of around 3  $\mu\text{m}$  in long which regularly conveys an  
58 unmistakable bulb toward it end [8]. The flagella present motility and permit quick development in  
59 goeey arrangement, for example, the mucosa overlying the gastric epithelial cell [8].

60

61 The essential issue which happens after colonization with *H. pylori* are perpetual  
62 dynamic gastritis. The condition can be seen in all *H. pylori*-positive subjects. The intra-gastric  
63 circulation and seriousness of this endless provocative procedure rely upon an assortment of  
64 components, for example, qualities of the colonizing strain, host heredity qualities, and insusceptible  
65 reaction, diet and degree of corrosive creation. *H. pylori*-induced ulcer infection, gastric malignant  
66 growth, lymphoma are all together confusion of this incessant irritation.

67  
68 *Helicobacter pylori* are found down the middle the number of inhabitants on the planet. Its  
69 pervasiveness indicates enormous topographical varieties, in different creating nations over 80%  
70 of the populace are *Helicobacter pylori*-positive even at a youthful age [9]. The commonness in  
71 industrialized nations by and large stay under 40% and is significantly lower in youngster and  
72 teenagers than in grown-up, the predominance of *Helicobacter pylori* contrarily connects with  
73 financial status, specifically in connection to living conditions during youth [10]. While the  
74 predominance of disease in creating nations remain generally consistent, the principal  
75 explanations behind this variety include the financial status contrasts between the two populace.

76  
77 The transmission of *H. pylori* is to a great extent by oral-oral fecal causes, absence of legitimate  
78 sanitation, safe drinking water, and essential cleanliness and terrible eating routines and  
79 congestion all assume a job in deciding the general predominance of the contamination.

80  
81 Various examinations have attempted to utilize the rate and pervasiveness of *H. pylori* disease, its  
82 method of transmission, and any hazard factor adding to the advancement of the contamination.  
83 The yearly occurrence reports in 3 grown-up concentrates in created nations were between 0.3%-  
84 0.5% for a considerable length of time [11], commonness evaluations change extraordinarily  
85 relying upon the area of the investigation gathering and attributes of the populace contemplated.  
86 By and large, predominance increments with ages and connects with low financial status during  
87 youth.

88 New information have likewise been distributed from African nations, Studies from Morocco  
89 and Ethiopia announced a pervasiveness of *H. pylori* contamination of 75.5% and 65.7%,  
90 separately. The two investigations additionally found a huge increment with age [12, 13]. A

91 review from Nigeria announced higher qualities: the pervasiveness was 80% when tried with  
92 histology and was considerably higher, achieving 93.6%, when serology was connected [14].

93  
94 *Helicobacter pylori* play a noteworthy etiologic factor in the pathogenesis interminable gastritis,  
95 peptic ulcer illness, gastric adenocarcinoma, and mucosa-associated lymphoid tissue lymphoma.  
96 In any case, the vast majority of the tainted subjects stay asymptomatic.

97 The examination intends to overview the nitty gritty investigation of *Helicobacter pylori* (*H.*  
98 *pylori*) disease in patients with different gastrointestinal manifestations going to Yobe State  
99 Specialist Hospital. In the overview, we revealed the disease rate of *H. pylori* in Damaturu by  
100 rapid determine tests (RDT), the status of gastric mucosa was examined based on serology.

101  
102 Material and methods

103 Study population

104 A sum 229 patients of both genders with dyspeptic indications (140 females and 89 males; age  
105 range 10 to 80 years of age) framed the investigation populace in 2018. Information was  
106 gathered by utilization of self-regulated surveys while the status of *H. pylori* was resolved  
107 dependent on serological measure (rapid diagnostic test). The blood tests were gathered in  
108 hermetically sealed holders and the blood test was performed utilizing invulnerable card STAT  
109 HPSA test

110 Composed educated assent was gotten from all members, and the convention was affirmed by  
111 the Ethics and Research Committee of Yobe State Ministry of Health preceding the  
112 investigation. Patients who had taken proton inhibitor or antibiotics for a month preceding the  
113 investigation were excluded.

114 Serological examination *H. pylori* disease

115 The test gadget and tests were brought to the room temperature, the test gadget was laid on a  
116 level dry surface and around 2 drops of the readied test were filled the example well. An  
117 understanding was done after 10mins, two-shading groups, one at a test band another at the  
118 control band demonstrate a positive outcome. The negative test outcome indicated just a solitary  
119 one shading band.

120  
121 Statistical examination

122 Information were analyzed utilizing SPSS, version 20 (SPSS Inc., Chicago, IL, United States),  
123 Differences in socio-financial aspects in each gathering were investigated to look at the  
124 relationship of factors, for example, age, sex, for H. pylori disease utilizing Pearson relationship  
125 correlation. P-value < 0.05 was viewed as noteworthy.  
126

## 127 Results

### 128 Pervasiveness of H. pylori contamination in Damaturu

129 Out of 229 patients, 119 were H. pylori-positive to immuno-card STAT HPSA test, giving a given an  
130 emergency clinic based predominance of 51.96% (Table 1). Out of 89 males, 55 were positive for H.  
131 pylori (61.79%) while out of 140 females, 64 were positive (45.71%). The predominance was  
132 evaluated in various age gatherings (Table 3). The greatest number of positive patients was found in  
133 the age gathering of 50-59 years (69.23%) and the base pervasiveness was in the age gathering of 10-  
134 19 years (50.00%). For financial status, out of 129 patients that have a place with upper lower class,  
135 85 subjects were certain for Helicobacter pylori given a level of 66.40%, for lower middle class, out  
136 of 89 subjects 30 were positive for H. pylori given a percentage of 33.70% and upper-middle-class  
137 out of 12 subjects 4 were positive given a level of 33.3% (Table 4).

138 The statistic attributes of members at the investigation section demonstrate that 129 patients have  
139 place with the upper lower class, 85 subjects at (66.40%) are positive. The lower middle class, out of  
140 89 subjects 30 were sure given a level of 33.70% while upper-middle had 12 subjects (4 were  
141 positive given percentage of 33.33%. this demonstrates subjects living in upper lower class subjects  
142 have a high infection rate to H. pylori and there is a critical factual relationship between soci –  
143 statistic and commonness of contamination ( p = 0.001)

144  
145

146 **Table 1. Prevalence of *Helicobacter Pylori***

Total subject	Positive	%
229	119	51.96

147  
148

149 **Table 2. Number of *Helicobacter pylori* positive patients according to sex.**

Sex	Total subject	Positive	%
Male	89	55	61.79
Female	140	64	45.71

150

151 **Table 3. Numbers of *Helicobacter pylori* positive patients according to age group.**

152

Age group	Subjects	Positive	%
10-19	30	15	50.00
20-29	95	43	45.26
30-39	55	30	54.54
40-49	26	16	61.53
50-59	13	9	69.23
60-69	6	4	66.66
70-79	3	1	33.33
80-89	1	1	100

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156 **Table 4. Number of *Helicobacter pylori* positive patients according to socio-economic status**

Socio-economics	Subjects	Positive	%
Upper lower	128	85	66.40
Lower middle	89	30	33.70
Upper middle	12	4	33.33

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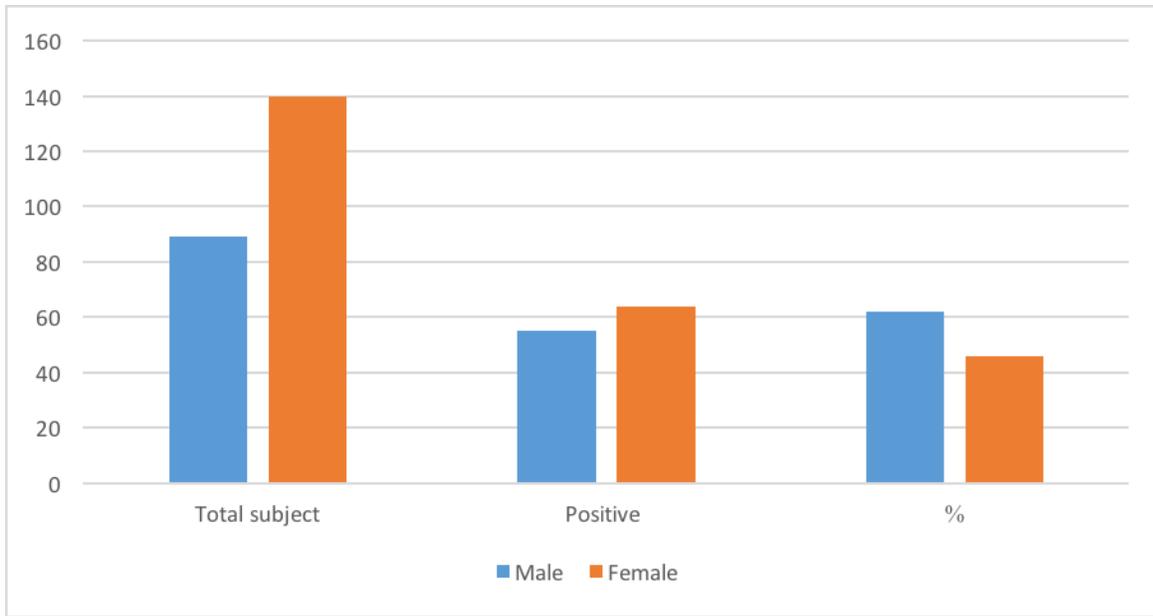
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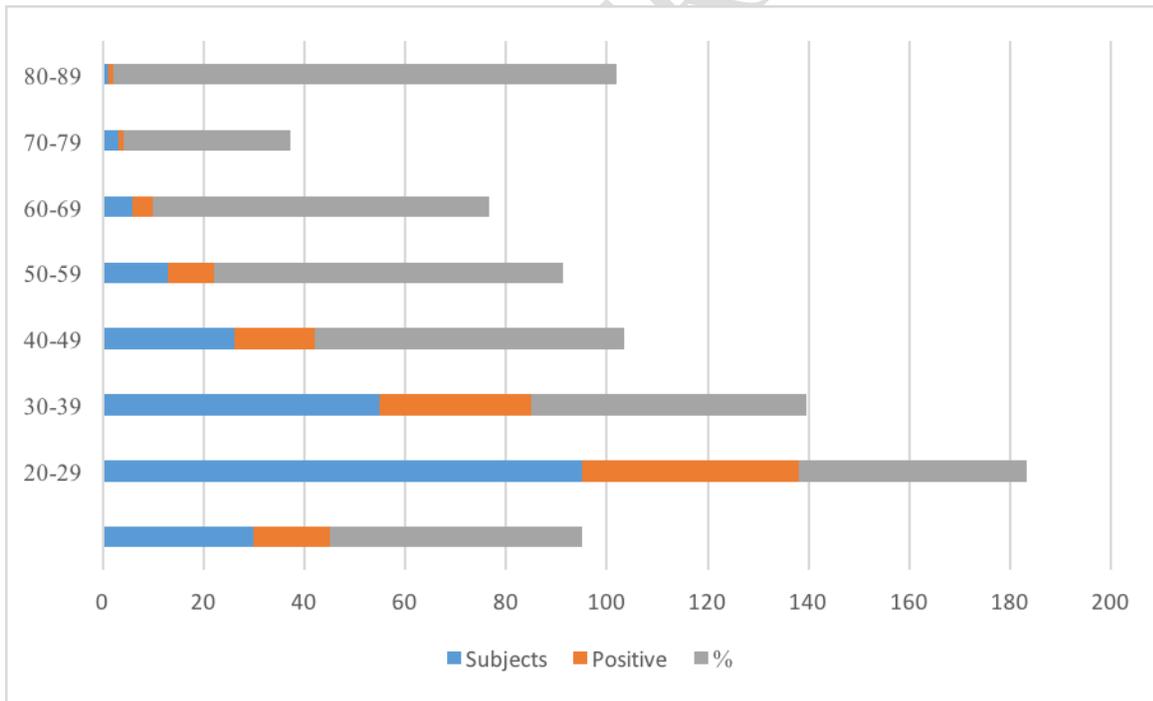
164 **Graph of Table 2: Bar chart showing *Helicobacter pylori* positive patients according to sex.**



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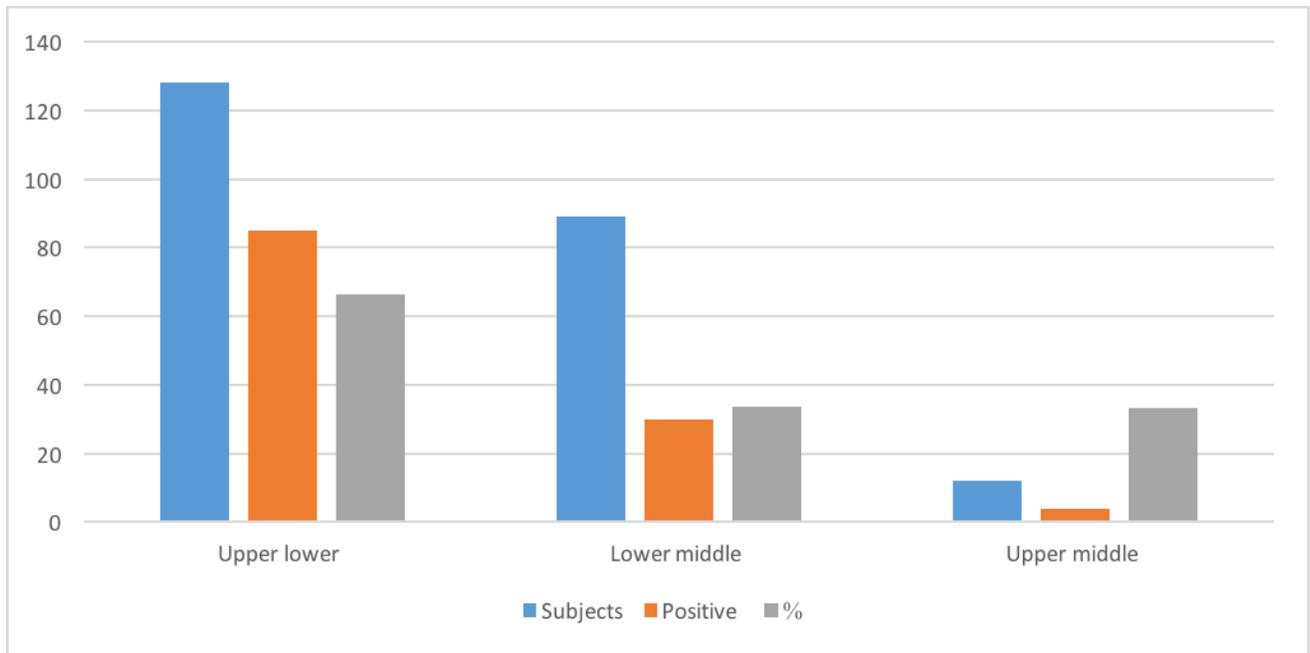
167 **Graph of Table 3:** Bar chart showing *Number of Helicobacter pylori positive patients according to age group.*



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170 **Graph of Table 4:** Bar chart showing *number of Helicobacter pylori positive patients according to socio-economic*  
 171 *status*



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173

#### 174 Discussion

175 The predominance of H.pylori contamination differs around world, however higher colonization  
 176 rates have been found in creating nations contrasted with developed nations [15]. Our investigation  
 177 was directed to discover the predominance of H.pylori among dyspepsia patients going YSSH. The  
 178 general pervasiveness of H.pylori among 229 dyspepsia subjects was 51.96%. An investigation  
 179 likewise from Chandigarh announced that 254 people were screened for H.pylori which was certain  
 180 in 56.7% of the asymptomatic individual [16].

181 In the present examination, among H. pylori-positive patients, 55 (61.79%) were males and 64  
 182 (45.7%) were females. There were shifting reports of higher prevasiveness of H. pylori in either males  
 183 or females, however with no critical relationship between the infectivity and gender [17]. The  
 184 investigation was likewise like Rajesh kumal et al [18], who detailed H.pylori positive patients in  
 185 which 64.13% were males and 35.86% were females.

186 In our examination, the age-wise dissemination indicates most predominance in the age gathering of  
 187 50-59 years and least in the age gathering of (10-19) years with 69.23 and 46.6 rates respectively.  
 188 The most extreme pervasiveness 69.23% gotten from this examination was like investigations in

189 Morocco and Ethiopia with predominance of H. pylori contamination rate of 75.5% and 65.7%  
190 respectively. Higher rates of peptic ulcer is somewhere in the range of 55 and 65 years old and this  
191 clarifies elderly folks individuals are at higher risk of H. pylori contamination [12, 13].

192 This is in contrast to an examination led by De Giacomo et al [29] who expressed that H. pylori are  
193 quite often procured in youth (ordinarily before the age of 10 years).

194 The pervasiveness of H. pylori in our examination was observed to be higher in lower financial  
195 gathering with 62% in the upper-lower class and 37% in the lower middle class. This is like past  
196 report which exhibited that pervasiveness of H. pylori connects conversely with financial status and  
197 living stage of huge families having poor cleanliness, poor sanitation rehearses, and stuffing [19, 20].  
198 A solid relationship between H. pylori and financial status, destitution or social hardship has been  
199 accounted for reliably for a long time by Bauer et al [22], Goh et al [23] and Sitas et al [24]. Raised  
200 pervasiveness rates in some Eastern and Southern European investigations have been connected  
201 already with higher dangers of contamination among the most denied gatherings in these nations,  
202 incorporating individuals staying in slums. [24, 25].

203 These dangers related with way of life and natural conditions, including stuffed living conditions,  
204 sharing of bed and poor cleanliness, with solid proof that H. pylori are for the most part colonized by  
205 youthful kids from guardians or kin or through tainted water supplies [24, 26,28]. Generally, packed  
206 living conditions in growing urban communities during mechanical development over the most  
207 recent couple of hundreds of years prompted the fact increments in H. pylori [28].

## 208 Conclusion

209 In crating nations, H.pylori contamination is general wellbeing significance, the high commonness  
210 recorded in our examination 56% and 62% among dyspeptic subjects with low financial status  
211 implies that general wellbeing intercessions are required, for example, appropriate cleanliness and  
212 improvement in the way of life.

## 213 Recommendation

214 Defiled nourishment arranged under unhygienic conditions might be the likely component for  
215 transmission of the ailments [21]. Legitimate water supply may help with forestalling the spread of  
216 maladies are revealed by past investigations that water from running metropolitant, underground

217 sources just as hand-burrowed well have been the repository H pylori.

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