

*In the name of God*

Report of  
Antimicrobial susceptibility of  
*Helicobacter pylori* strains  
isolated from patients  
in Shiraz, Southern Iran

Developed by:

Shohreh Farshad

Abdolvahab Alborzi

Aziz Japon

Reza Ranjbar

Kazem Hosseini Asl

Parisa Badiie

Maneli Amin Shahidi

Marziyeh Hosseini

*Professor Alborzi Clinical Microbiology Research Center*

*Shiraz University of Medical Center*

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## Contents:

<b>Introduction</b>	<b>page 3</b>
<b>Table 1</b>	Rates of antibiotic resistance in <i>Helicobacter pylori</i> isolates in relation to patient gender <b>Page 4</b>
<b>Table 2</b>	Antibiotic resistance patterns of the <i>Helicobacter pylori</i> strains <b>Page 5</b>
<b>Table 3</b>	Range of minimum inhibitory concentrations for antibiotics tested against <i>Helicobacter pylori</i> strains in relation to patient gender <b>Page 7</b>
<b>Reference</b>	<b>Page 7</b>

## Introduction:

- To improve our understanding of Iranian regional variation in *Helicobacter pylori* (*H. pylori*) antibiotic resistance rates to find the best antibiotic therapy for eradication of *H. pylori* infections.
- A total of 266 patients undergoing endoscopy in Shiraz, Southern Iran, were included.
- *H. pylori* strains were isolated from antral biopsies by culture and confirmed by the rapid urease-test and gram staining.
- Antibiotic susceptibility of *H. pylori* isolates was determined by E-test.
- A total of 121 *H. pylori* strains were isolated, 50 from male and 71 from female patients.
- Data showed that 44% (n = 53), 20% (n = 24), 5% (n = 6), and 3% (n = 4) of all strains were resistant to the antibiotics metronidazole, amoxicillin, clarithromycin, and tetracycline, respectively.
- Resistance to metronidazole was significantly higher in female than in male patients ( $P < 0.05$ ).
- The results are presented in three tables.

**Table 1:**

Rates of antibiotic resistance in *Helicobacter pylori* isolates in relation to  
patient gender

Sex No.	No. of isolates (% of resistance)			
	MTZ	AMX	CLA	TET
Male ( <i>n</i> = 50)	17 (34)	9 (18)	1 (2)	1 (2)
Female ( <i>n</i> = 71)	36 (50)	15 (21)	5 (7)	3 (4)
Total ( <i>n</i> = 121)	53 (43)	24 (19)	6 (5)	4 (3)

MTZ: Metronidazole; AMX: Amoxicillin; CLA: Clarithromycin; TET: Tetracycline.

Table 2:

Antibiotic resistance patterns of the *Helicobacter pylori* strains

Antibiotic resistance patterns	<i>n</i>	Male	Female
MTZ	44	15	29
AMX	14	7	7
CLA	1	0	1
TET	1	1	0
MTZ-AMX	3	1	2
MTZ-TET	1	0	1
AMX-TET	1	0	1
AMX-CLA	1	0	1
MTZ-AMX-TET	1	0	1

The Susceptibility profile of Strains of *Helicobacter pylori* strains in Shiraz ,  
October 2008 - October 2009

Antibiotic resistance patterns	<i>n</i>	Male	Female
MTZ-AMX-CLA	4	1	3
Sensitive	50	25	25
Total	121	50	71

MTZ: Metronidazole; AMX: Amoxicillin; CLA: Clarithromycin; TET: Tetracycline.

**Table 3**

Range of minimum inhibitory concentrations for antibiotics tested against  
*Helicobacter pylori* strains in relation to patient gender

Sex	Range of MICs for antibiotics (mg/L)			
	MTZ	AMX	CLA	TET
Male	0.064 to > 256	< 0.016 to > 256	< 0.016 to 64	0.016 to 8
Female	0.047 to > 256	< 0.016 to > 256	< 0.016 to > 256	0.016 to 8

MIC: Minimum inhibitory concentration; MTZ: Metronidazole; AMX: Amoxicillin; CLA: Clarithromycin; TET: Tetracycline.

### Reference:

Farshad S1, Alborzi A, Japoni A, Ranjbar R, Hosseini Asl K, Badiie P, Amin Shahidi M, Hosseini M. Antimicrobial susceptibility of *Helicobacter pylori* strains isolated from patients in Shiraz, Southern Iran. *World J Gastroenterol*. 2010 Dec 7;16(45):5746-51.