

## The effect of psychological stress on mucosal IL-6 and Helicobacter pylori activity in functional dyspepsia

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### Abstrak

**Background:** pathophysiology of functional dyspepsia remains poorly understood. Many factors such as gastric motility disorder, visceral hypersensitivity, Helicobacter pylori (Hp) infection, psychological stress and excessive gastric acid secretion play roles in this symptom. Psychological stress may promote peptic ulcer and has an effect on ulcers-associated Hp. This study aimed to determine Helicobacter pylori activity and expression of mucosal IL 6 and their association with psychological stress.

**Methods:** a cross-sectional study was done among 40 outpatients with dyspeptic syndromes in M. Djamil General Hospital and two community health centers in Padang. The subjects were divided into two groups, with and without psychological stress, which were identified using DASS 42. Gastric biopsy specimens and peripheral blood samples were taken while performing esophagogastroduodenoscopy.

Immunohistochemistry methods was used to determine the expression of IL 6 and Hp in gastric mucosa. The correlation of each variable in the group experiencing psychological stress and non stress was analyzed using Chi square test.

**Results:** there were 40 patients with functional dyspepsia with average age of 37.58(SD 11.82) years old. The cortisol levels were significantly different between both groups (non stress vs. stress groups); moreover, morning cortisol level in psychological stress group was higher beyond normal limit. Interleukin 6 expression, as the evidence of inflammatory activity, seemed higher in non stress group than the group with psychological stress (8.25% vs. 7.25%). Helicobacter pylori activity was seemed to be increased in the stress group as characterized by higher numbers of invasion to the sub mucosa epithelium compared to the non stress group (11 vs. 7 subjects).

**Conclusion:** psychological stress seems to have no correlation with IL-6 in gastric mucous of patients with functional dyspepsia; however, there is an evidence of increasing activity of Helicobacter pylori.