

CONSTIPATION PREVALENCE AND ASSOCIATED FACTORS IN THE URBAN POPULATION OF A CITY IN SOUTHERN BRAZIL

Hypothesis / aims of study

The current study is a population-based study that aimed to estimate the prevalence of constipation in adults from the general population at Londrina city, Paraná State, Brazil and also to identify the clinical and demographic factors associated to occurrence of constipation in this population.

Study design, materials and methods

This study is a secondary analysis from the epidemiological population-based study about bowel habit, that was descriptive and exploratory, cross sectional, and it was performed in 2008 at the urban area of Londrina city. Two thousand one hundred sixty two individuals (aged 18 and older) living at the selected streets through cluster sampling were interviewed. Two instruments were used for data collection: social-demographic data and the adapted and validated version of Bowel Function in the Community for Brazil. In the current study the original database variables were used to calculate the prevalence of constipation, according to the Rome Criteria III, and also to determine the associated factors. The data were analyzed using chi-square test (X^2) and multivariate logistic regression. The prevalence of constipation was estimated with a 95% confidence interval. The adjusted odds ratio was used to measure the association between variables, using regression analysis. To establish the relationships between the socio-demographic and clinical variables and between all of the significant variables, three multivariate analysis models were developed: a general model, with all the constipated individuals; and two stratified models for gender. The quality and the discriminating power of the adjusted models were analyzed by means of the C-statistics (statistics of the test related to the value of the areas under the ROC curve) for each of the three models performed. All statistical tests were performed at a significance level of 5%.

Results

The total prevalence of constipation was 14.6%, higher among women (21.9% women; and 5.3% men), increasing with age in male, and with an inverse proportion to the family income. The following factors showed statistically significant association to the constipated sample (n=315): female gender (ORadj: 4.5; CI95%: 3.3 – 6.2), low social economic status (ORadj: 1.9; CI95%: 1.2 – 3.0), fistula history (ORadj: 3.8; CI95%: 1.5 – 9.7), anal fissure (ORadj: 2.2; CI95%: 1.3 – 3.6), rectal prolapse (ORadj: 3.0; CI95%: 1.1 – 8.0), hemorrhoids (ORadj: 1.9; CI95%: 1.3 – 2.6), anorectal surgery (ORaj: 2.8; CI95%: 1.5 – 5.2), stroke (ORadj: 5.4; CI95%: 2.4 – 12.5) and nervous system disease (ORadj: 1.6; CI95%: 1.1 – 2.1). Among women, the statistically significant associated factors were: low social economic status (ORadj: 1.7 with CI-95%: 1.0 – 2.8 for income between 0 and 0.5 minimum monthly wage), fistula history (ORadj: 2.6; CI-95%: 0.9 – 7.8), anal fissure (ORadj: 2.0; CI-95%: 1.1 – 3.5), anorectal surgery (ORadj: 2.6; CI-95%: 1.2 – 5.3), trauma or wound around the anus (ORadj: 2.6; CI-95%: 1.0 – 6.6), rectocele (ORadj: 5.8; CI-95%: 1.2 – 42.0), hemorrhoids (ORadj: 1.9; CI-95%: 1.3 – 2.8), and stroke (ORadj: 5.9; CI-95%: 2.3 – 16.3). Among men, the statistically significant associated factors were: higher ages (ORadj = 5.6 with CI-95%: 1.8 – 15.3 in the age group ranging from 75 to 100 years old), low social economic status (ORadj: 4.6 with CI-95%: 1.4 -19.0 for income between 0 and 0.5 minimum monthly wage; and ORadj: 4.2 with CI-95%: 1.4-15.9 for income between 0.5 and 1 minimum monthly wage), anal fissure (ORadj: 6.6; CI-95%: 1.7 – 21.6), anorectal surgery (ORadj: 8.3; CI-95%: 2.3 – 27.7), stroke (ORadj: 6.9; CI-95%: 0.9 – 37.0), and nervous system disease (ORadj: 4.6; CI-95%: 2.1 – 9.3). The variables low social economic status, stroke, anal fissure history and anorectal surgery were statistically significant in all three tested statistical models. For the general model, it was observed C=0.75; for the female model C=0.64; and for the male model C=0.77.

Interpretation of results

In this study, the prevalence of constipation (14.6%) is consistent with data found in some international literature¹⁻³. However the prevalence rates reported by some studies are very heterogeneous. This may be attributed to the fact that these studies have been conducted using different methodologies and especially different criteria for the definition of constipation (self-report or Rome Criteria). Besides the associated factors usually showed by literature¹⁻³, the current study also obtained associations between constipation and other factors like fistula, anal fissure, anorectal surgeries, hemorrhoids and diseases of the nervous system which have not been analyzed in other based-population studies about prevalence of constipation. The variables commonly assessed in the studies available in the literature are the socio-demographic ones, which are also analyzed here. According to C-statistics, the results of the three models analyzed in the present study are favorable.

Concluding message

This study is important because it shows the epidemiology of constipation in the general Brazilian population, and it is one of the very few national based-population studies about this subject. The total prevalence of constipation according to Rome III Criteria was 14.6%, higher among women, increasing with age in male, and with an inverse proportion to the family income. The variables low social economic status, stroke, anal fissure history and anus-rectal surgery were statistically significant in all three tested statistical models. Other studies are recommended to verify the statistical associations between constipation and fistula, anal fissure, anorectal surgeries, hemorrhoids, diseases of the nervous system and trauma or wound around the anus.

References

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Disclosures

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