Prof. Dr. Mufti Munsurar Rahman
Dept. of Medicine
Enam Medical College Hospital
Functional constipation: prevalence and life style factors in a district of Bangladesh

Perveen I, Rahman MM, Saha M, Parvin R, Chowdhury M
Functional constipation is defined as the reduced frequency of bowel movements and/or an altered act of evacuation. It is a symptom based diagnosis.

The prevalence rate of constipation is approximately 2-27 % among North Americans and around 14.3% among Asians.
Life style factors contributing to the development of this functional disorder include: diet, smoking, alcohol, lack of exercise and psycho social conditions such as anxiety, depression and chronic social stress.

In Bangladesh we have limited data about the prevalence of functional constipation and so we conducted this study.
This population-based study was designed to find out the prevalence and risk factors for functional constipation in our community.
Methods

- Study type: Observational
- Study design: Cross sectional
- Study setting: In Sylhet district from August to December in 2011.
Sample size and survey methods:

Cluster sampling method was used to select mahallas in the city and villages outside the city in Sylhet district.

A total of 3000 subjects were interviewed. Finally we obtained the relevant history of 1900 subjects only.

A questionnaire based on Rome III criteria was translated to Bangla for survey purposes.
**STUDY DEFINITIONS**

Rome III criteria for Functional Constipation (at least for 3 months with onset 6 months previously)

<table>
<thead>
<tr>
<th>A. Must include <em>two or more</em> of the following:</th>
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<tbody>
<tr>
<td>a. Straining during at least 25% of defaecations.</td>
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<td>b. Lumpy or hard stools in at least 25% of defaecations.</td>
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<tr>
<td>c. Sensation of incomplete evacuation for at least 25% of defaecations.</td>
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<tr>
<td>d. Sensation of anorectal obstruction/blockage for at least 25% of defaecations.</td>
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<tr>
<td>e. Manual manoeuvres to facilitate at least 25% of defaecations (e.g. digital evacuation, support of the pelvic floor).</td>
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<tr>
<td>f. Fewer than three defaecations per week.</td>
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</tbody>
</table>

| B. Loose stools are rarely present without the use of laxatives. |
| C. There are insufficient criteria for IBS. |
**EXCLUSION CRITERIA**

- Major psychotic episodes
- Mental retardation
- Proctalgia fugax
- Dementia
- Severe visual or hearing abnormalities
- Gastro-intestinal cancer
- Ulcerative colitis
- Crohn’s disease
- History of abdominal or gynaecological surgery
- Diabetes mellitus
- Hypothyroidism
- Other major organic disorders or drugs affecting GI motility and secretion
Prevalence of FC = 4.9% (n=148)

Male: Female = 67: 81

Mean age of FC patients: 40.38 ± 17.169 years

Self admitted constipation=6.50%.
Age distribution in Functional Constipation (FC)

Functional Constipation

- 15-20
- 21-30
- 31-40
- 41-50
- 51-60
- 61-70
- >= 71
Sex distribution of population and functional constipation (FC)

Total

- Male: 49.20%
- Female: 50.80%

Functional Constipation

- Male: 5.45%
- Female: 4.30%
Results (CONT'D.)
(SOCIO-DEMOGRAPHIC FEATURES)

Education levels of population and FC patients (in percentages)

- Illiterate
- Primary
- SSC
- HSC
- Graduate

Legend:
- Red: Total
- Purple: Functional Constipation
RESULTS (CONT'D.)
(SOCIO-DEMOGRAPHIC FEATURES)

Economic Condition of population and FC patients (in percentages)

- Total
- Functional Constipation

Poverty
- Lower class
- Middle class
- Upper class
RESULTS (CONT'D.)
(SOCIO-DEMOGRAPHIC FEATURES)

Occupation of population and FC patients (in percentages)

- Student
- Service holder
- Business man
- House wife
- Day labourer
- Farmer
- Others

- Total
- Functional Constipation
RESULTS (CONTD.)
(SOCIO-DEMOGRAPHIC FEATURES)

BMI of FC patients (in percentages)

![Bar chart showing BMI distribution for underweight, normal, overweight, and obese individuals with Functional Constipation as a measure. The chart indicates that obese individuals have the highest Functional Constipation rate.]
Marital status of population and FC patients

**Total**
- Unmarried: 0.40%
- Married: 60.40%
- Widow/widower: 6.10%
- Separated: 33.10%

**Functional Constipation**
- Unmarried: 3.30%
- Married: 7.10%
- Widow/widower: 9.10%
- Separated: 5.60%
Association of smoking, tobacco chewing and tea intake with functional constipation
RESULTS (CONT'D.)
(LIFE STYLE FACTOR ASSOCIATIONS)

Dietary association of functional constipation

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetable</td>
<td>4.38</td>
<td>7.35</td>
</tr>
<tr>
<td>Meat</td>
<td>4.86</td>
<td>4.35</td>
</tr>
<tr>
<td>Fruit</td>
<td>4.69</td>
<td>4.21</td>
</tr>
<tr>
<td>Milk</td>
<td>5.03</td>
<td>4.18</td>
</tr>
<tr>
<td>Spices</td>
<td>3.05</td>
<td>6.00</td>
</tr>
</tbody>
</table>
RESULTS (CONT'D.)
(SYMPTOM ASSOCIATIONS)
The prevalence of functional constipation was found to be lower than IBS in this first community-based study.

Possible explanation could be high intake of fibers (vegetables) and use of squatting toilets (which aids in straightening of the anorectal angle). Intake of rice at least twice daily by almost cent percent of the population could also be another factor.
CONCLUSION

- Constipation is a public health problem in Bangladesh. Prevalence is however less than that of the West.

- Old age was found as the most important factor for functional constipation. Female gender, marital status, low intake of vegetables and spices were other risk factors. Incomplete evacuation and ano-rectal blockade was the predictor symptom of FC.
Proper diagnosis of functional constipation, identification of associated risk factors and proper life style advice ameliorate the fear of underlying serious disorder, such as malignancy, and reduce unnecessary investigations and health cost in our country.